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Deterrence, Extended Deterrence, Assurance and Missile Defense in the Emerging Threat Environment

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SPECIAL ISSUE

DETERRENCE, EXTENDED DETERRENCE, ASSURANCE AND MISSILE DEFENSE IN THE EMERGING THREAT ENVIRONMENT

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EDITOR's NOTE

Welcome to Volume 2, Number 4 of the *Journal of Policy & Strategy*—a quarterly, online and peer-reviewed journal. This *Special Issue* is devoted to presenting the results of a year-long study addressing three wholly interconnected issues in a threat environment that is significantly changed from that of the Cold War and immediate post-Cold War eras: trilateral deterrence; contemporary extended deterrence; and the emerging roles for missile defense. These three topics are thoroughly interrelated and a useful analysis of each must take into account their interrelationships. The study results presented in this *Special Issue* address multiple, interrelated pertinent questions: How should the United States conceptualize and plan for strategic deterrence, including identifying force adequacy standards, given a trilateral Great Power context? What are the implications for U.S. extended deterrence strategies of Russia's and China's apparent efforts to expand at the expense of U.S. allies and partners? What are the implications of contemporary deterrence and extended deterrence requirements for missile defense postures? And, how could different plausible U.S. and allied missile defense force postures shape U.S. deterrence and extended deterrence goals/strategies? The three articles in this issue of the *Journal of Policy & Strategy* address these questions and more.

*Deterrence in the Emerging Threat Environment***.** The threat-based nature of deterrence has endured for millennia, but its application as a strategy must adapt to different circumstances. U.S. Cold war approaches to deterrence that were developed primarily to deter a single Great Power nuclear adversary, i.e., the Soviet Union, must now be updated to reflect contemporary realities, particularly including the presence of three great nuclear powers and Russia's and China's revanchist, expansionist goals that Moscow and Beijing say are of existential importance. Both Russia and China are increasingly hostile to the United States, have extensive ongoing nuclear modernization and expansion programs, and seek to overturn the established Western-led world order. They also increasingly appear to be collaborating. These unprecedented realities challenge U.S. freedom of action, undermine the allied confidence in the United States, and call into question the continued credibility of U.S. extended deterrent guarantees. There is a critical need to reassess the requirements for effective deterrence in this trilateral Great Power context.

Alliance Politics in a Multipolar World. With a revanchist, militarized Russia and rise of a comparably revanchist China, the need for and pressure on U.S. extended deterrence goals has increased. NATO allies, once members of the Warsaw Pact or parts of the Soviet Union, now neighbor a revisionist Russia; Taiwan is in unofficial diplomatic limbo and faces an increasingly aggressive China. Just as the U.S. deterrence approach must adapt to differing conditions, so too must U.S. extended deterrence strategies. The great question facing the United States is how to establish approaches to extended deterrence and assurance that adapt to these dynamic threats.

The Benefits of Expanded Homeland Missile Defense. Adversaries increasingly feature missile-based coercive threats as key elements of their "theories of victory." They pursue local advantages in conventional forces and the deterrence of U.S. intervention via threats to U.S. homeland. A question now is: can the United States maintain deterrence and extended deterrence when opponents' "theories of victory" feature missile-based threats to the U.S. homeland, and the U.S. homeland is largely vulnerable to missile attack? Throughout most of the Cold War, the ultimate U.S. policy answer to that question was "Yes," and that strategic defenses undermine the desired deterrence "stability." Past U.S. policy answers to this question must now be reassessed in the light of dramatically different threat and deterrence conditions.

The editors would like to thank the Smith Richardson and Sarah Scaife foundations for making possible this study and *Special Issue* of the *Journal of Policy & Strategy*. As always, our goal is to ensure that this and every issue is in the public interest and well worth the read.

DETERRENCE IN THE EMERGING THREAT ENVIRONMENT: WHAT IS DIFFERENT AND WHY IT MATTERS*

By Keith B. Payne and David J. Trachtenberg

EXECUTIVE SUMMARY

Deterrence theorists, policy makers, and commentators are now discussing "trilateral deterrence." This, of course, refers to the simultaneous deterrence engagement of three great nuclear powers, the United States, Russia and China. It is commonplace to hear that trilateral deterrence is different and must affect U.S. deterrence policy—explaining why that is true and how policy should adjust is not commonplace, but it is important to start.

The unprecedented character of the emerging deterrence context is not simply that there now are three great nuclear powers involved. Rather, the critical additional condition is the reality that two of those three great nuclear powers have revanchist goals that put them in sharp conflict with the United States and long-standing U.S. deterrence redlines, and both show their willingness to exploit conventional and nuclear forces in pursuit of their expansionist goals. We are accustomed to thinking of nuclear weapons as serving defensive deterrence purposes. We convinced ourselves that the goal of all rational leaderships must be strategic stability—only an "unhinged" leadership supposedly could think otherwise. However, the reality now is that we confront opponents' threatened use of nuclear weapons to support offensive, revanchist purposes. That is unprecedented and compels us to rethink our deterrence policies. This particular character of the emerging deterrence context is more novel and significant than the corresponding simple reality that there are now three great nuclear powers involved vice the bipolar context of the Cold War.

This is not to suggest that it is unimportant that the emerging deterrence dynamic involves three great nuclear powers. However, it is the characteristics of those three participants and their relationships that are most significant for U.S. deterrence policy. In this particular trilateral context, projections based on positing the interaction among three *non-descript* countries A, B, and C simply washes out the key factors that are likely to determine if and how deterrence actually functions. Commentary based on such projections is as likely to mislead as to enlighten.

Confident expectations about deterrence and deterrent threats presume the ability to know the mind of a potential aggressor and how it will calculate prospective loss versus gain and risk. There are, however, inherent unknowns in this regard that render deterrence a more or less uncertain business. This is so in a bilateral deterrence context; *but those uncertainties expand in the emerging multilateral deterrence context*.

* This article is adapted from Keith B. Payne and David J. Trachtenberg, *Deterrence in the Emerging Threat Environment: What is Different and Why it Matters*, *Occasional Paper*, Vol. 2, No. 8 (August 2022).

The question is how should the United States now prepare to meet its enduring deterrence goals given these new realities?

Inconvenient Truths About Deterrence Prognostication

Discussions about how changes in the structure of international relations will affect the functioning of deterrence can be interesting and more or less informed, but it is important to acknowledge that no one can be high on the learning curve regarding the functioning of deterrence in the emerging trilateral (or more, multilateral) deterrence dynamic. Analysts and scholars are quite early in the process of trying to understand deterrence in a very different international context and current commentary often is dogged by continued reference to accepted wisdom inherited from the 1960s.

The problem is that the functioning of deterrence can be affected by an extremely wide range of factors—some of which may be well-known; others may be somewhat obvious (but not their significance in decision making); and others may be completely obscure. Consequently, aside from the most obvious points about deterrence, the United States is now unavoidably in the world of speculation and conjecture, including uncertainty over what the ubiquitous word "stability" means and what in practice will help or hinder it. The prevalence of unavoidable uncertainties demands great humility rather than hubris.

This harsh reality was true in the bipolar world of the Cold War; it is even more significant in the emerging context of the three great nuclear powers. Those factors key to deterrence working or failing are multiplied with every new entry into a hostile deterrence dynamic—the imponderables multiply with every new possible interaction. It is for this reason, among others, that the emerging deterrence context is different and significant. The reality is that deterrence is more complex and unpredictable—the uncertainties, imponderables and unknowns are multiplied. In short, reality matters and predicting the functioning of deterrence in this multilateral context confronts expanding uncertainties and unknowns; that is an inconvenient truth.

The Past as Prelude

Scores of case studies from antiquity to the present demonstrate that deterrence often fails to function as expected for many different reasons in many different contexts, often surprisingly. A common theme in cases of deterrence failure is that the party hoping to deter misjudged the situation because it largely misunderstood the opponent's goals, motivations, attention, determination, risk tolerance, perceptions of necessity, opportunity, and the stakes in contention, along with many other possible factors that tend to shape how leaderships calculate risk, cost and gain. In the emerging context, the functioning of deterrence now appears to be even more complex in this regard.

Recent Developments

Recently, different commentators have observed with confidence that the likelihood of Russian nuclear employment in the Ukraine War is now increasing or, to the contrary, that it is highly unlikely, i.e., that deterrence of that event will respectively fail or succeed. Yet, there is an inadequate basis for the many seemingly knowledgeable, confident predictions in this regard. What we know is that Russia either will or will not employ nuclear weapons or other WMD. There can be very little basis for great confidence in predictions as to which is more or less likely because that decision will depend on the uncertain perceptions, values and psyches of a small number of foreign individuals in unique and stressful circumstances—hardly the basis for highly-confident prediction. This limitation in the ability to anticipate the functioning of deterrence has become more pronounced in the emerging multilateral deterrence context.

What we do know with confidence is that for deterrence to function by design in any context, opponents must decide that some level of accommodation or conciliation to U.S. demands is more tolerable than actions that would risk the U.S. deterrent threat. There must be this space for deterrence to work. Projections on the matter—whatever their opinion—must be speculative. We can *hope* that Moscow and Beijing will make decisions based on parameters that seem reasonable to us, and thus are predictable, but that expectation has often proved wrong in the past and hope is not a strategy.

The priority deterrence question that now follows from this discussion is important and should be stated plainly: How do we simultaneously deter multiple revanchist great powers, Russia and China, that appear driven by the common belief that their respective expansionist goals are of such existential importance that they are willing to brandish nuclear first-use threats to advance them, and may see limited nuclear threats and employment as ways to work around U.S. deterrence policies?

We do not know how deterrence will be tested; we can only prepare as best we can and hedge against a wide range of plausible deterrence challenges. That hedging becomes much more complicated, and likely demanding, in this multilateral deterrence context because Russia and China have goals that are significantly incompatible with those of the United States and their leaderships can perceive and define "rational" in surprising ways—which will affect if and how deterrence can function.

The Analytical Challenge

How and why should the emerging multilateral deterrence context affect U.S. deterrence considerations and practice? The most basic point in this regard is the need to understand, to the extent feasible, those basic factors that can drive multiple opponents' relevant decision making, i.e., their goals, motivations, attention, determination, risk tolerance, perceptions of necessity, opportunity, and the stakes in contention, *inter alia*.

The goal is a greater awareness of the opponent so that basic mistakes in U.S. deterrence strategies can better be avoided and deterrence is thus more likely to work in practice. The

need to do so is not new, but the analytical challenge of usefully reducing ignorance in a hostile, multilateral deterrence context is greater than in the Cold War bilateral context because the number of factors to understand expands. Equally important, the interactions of those factors become more complex as multiple leaderships observe the interactions of each party, which may shape the perceptions and decision making of all those involved and thus U.S. deterrence requirements. The United States is not simply deterring Russia and China sequentially or in isolation, but with each watching each and possibly shifting calculations based upon what they see in each engagement.

The need, therefore, is for great attention to the identification and understanding of the many different (and in some cases unique) decision-making drivers and how they interact across an increasing number of leaderships—most obviously including China and Russia, but also those countries whose behavior could seriously play in deterrence engagements among the three great nuclear powers, e.g., North Korea and Iran.

Deterrence Policy and Practice: Hedging in the Emerging Deterrence Context

Given a deterrence context in which two great nuclear powers are hostile to the United States, and the associated uncertainties of prognostication, it is important to emphasize at least three directions in U.S. deterrence policy. There is the need to hedge against: 1) coordinated Sino-Russian actions; 2) the increased uncertainty in deterrence requirements; and, 3) the likely increased uncertainties regarding the potential for deterrence failure.

Hedging Against Prospective Sino-Russian Coordination

In the emerging deterrence context, two of those great powers, i.e., Russia and China, see a third, i.e., the United States, as preventing the realization of their respective expansionist goals. In short, Russia and China have external goals that are inimical to long-standing U.S. interests and deterrence goals. Both have worked assiduously to find ways to defeat U.S. deterrence strategies.

In this emerging context, the United States must consider the possibility that Russia and China will coordinate their actions to advance their respective goals in confrontations with the United States. The thread that binds Russia and China appears to be their common belief that it is the United States that prevents their necessary and rightful expansion and their common goal to overcome this impediment to their revanchist aspirations.

The danger of a coordinated, anti-American "entente" appears real and growing. This is an unprecedented possibility (likelihood?) with numerous implications, including, for example, the possibility of Russia and China confronting the United States with two simultaneous and coordinated regional wars and the corresponding U.S. need to deter their threats of limited theater nuclear escalation in two different geographical locations simultaneously. This is a deterrence challenge that U.S. conventional and theater nuclear

capabilities may be unprepared to meet given the apparent near elimination of U.S. theater-range nuclear weapons proportional to the potential Sino-Russian theater nuclear threats.[1]

The Two-War Standard Left Behind

For years following the Cold War, U.S. military planners designed a strategy that called on the United States to prepare to fight two major regional contingencies (MRCs) simultaneously in multiple theaters. This two-MRC construct was embedded in various open U.S. military strategy documents and required U.S. forces to be sized and capable of successfully engaging adversaries in both Europe and Asia. It required a military that was sufficiently forward deployed and equipped to ensure a U.S. advantage on the battlefield.

This two-war standard became the benchmark against which the adequacy of U.S. forces was judged. Yet, by 2010, the United States had revised the two-MRC construct as a force sizing measure to focus on counter-terrorism and irregular warfare.

Restoring the two major regional contingency construct for U.S. force planning appears now to be logical and prudent to bolster deterrence. This would likely require greater regional power projection capabilities, including an expanded U.S. force presence abroad, along with a greater number of more flexible, technologically sophisticated, and survivable offensive and defensive military assets both in theater and capable of rapid deployment to theater as needed.

If the United States today is seen to be unprepared to respond to simultaneous, coordinated aggression, China and Russia may be spurred to action that otherwise could be deterred. Moscow and Beijing may see such a condition as providing them with an exploitable opportunity, and thus embolden both countries to seek to achieve their goals via the use of force—undercutting U.S. extended deterrence goals. History has repeatedly demonstrated that perceived weakness can be highly provocative to revisionist powers and lead to deterrence failure.

Addressing this deterrence gap likely is necessary now for extended deterrence purposes, but not sufficient. The shadow of nuclear threat will overhang any regional conflict that involves a coordinated Sino-Russian attack on U.S. and allied interests. The harsh deterrence reality is that establishing the U.S. conventional capability to counter a two-front conventional war could compel Russia and China to accept the risk of engaging in nuclear escalation, if needed, to paralyze U.S. support for allies or to secure a slowly grinding military campaign. U.S. conventional and nuclear capabilities must provide an integrated approach to deterrence which helps to ensure that Russia and China have overwhelming disincentives to initiate coordinated conventional campaigns or to engage in nuclear escalation in the event that they decide to pursue such a campaign.

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[1] Mark Schneider, "Does the United States Have Any Real Capability to Forward Deploy Nuclear Weapons Rapidly Outside of NATO?," *RealClearDefense*, August 27, 2021, available at https://www.realcleardefense.com/articles/2021/08/27/does_the_united_states_have_any_real_capability_to_forward_deploy_nuclear_weapons_rapidly.

Sino-Russian Coordination: Potential Deterrence Challenges at the Strategic Force Level

Given the potential for Sino-Russian strategic coordination in hostilities against the United States, the adequacy of U.S. deterrence capabilities must be measured against the *combined forces* of two nuclear great powers, not each separately—a wholly unprecedented condition. For example, at the strategic nuclear level of consideration, the potential for Sino-Russian coordination includes the possibility that Beijing's and Moscow's combined strategic nuclear and advanced conventional capabilities will present a challenge to the continuing survivability of U.S. strategic retaliatory forces akin to when the massive Soviet ICBM deployments of the 1970s and early 1980s created a "window of vulnerability" for U.S. ICBM capabilities.

The survivability of U.S. strategic retaliatory forces against a Sino-Russian attack may come to the forefront of U.S. concerns given the combination of: 1) the large reductions in U.S. strategic force levels following the Cold War; 2) the contemporary buildup of Russian and Chinese strategic nuclear forces, and; 3) the prospective enormous combined numbers of Russian and Chinese strategic nuclear warheads.

Deterrence Implications of the Potential for Sino-Russian Coordinated Strikes: U.S. Deterrence Threat Options

In addition to the possible vulnerability of U.S. retaliatory forces is the corresponding question of the strategic deterrence threat options that the United States can credibly brandish against two hostile great nuclear powers who may be acting in concert and simultaneously—each of which has an expansive number of targets the United States may need to hold at risk for deterrence purposes. The question is whether that portion of the U.S. force posture that could survive a combined Sino-Russian strategic attack would have sufficient capacity and flexibility to support credible U.S. deterrence threat options against both Russia and China simultaneously. For example, if a sizable portion of the number of U.S. strategic warheads on ballistic missile carrying submarines were to survive a Sino-Russian strategic attack, would that level of U.S. retaliatory potential provide a credible deterrent to a Sino-Russian attack in the first place, or to follow-on Sino-Russian strikes if deterrence fails to prevent their first strike? It may well be true that, "Just one boat can carry enough nuclear warheads to place two warheads on each of Russia's fifty largest cities."[2] But that claim tells us nothing about deterrence, per se. The critical question is whether that type of threat, referred to as "counter-city," or "minimum deterrence," is an acceptable measure of capability for U.S. deterrence purposes.

A minimum deterrence ("counter-city") posture has long been rejected by all U.S. administrations on a fully bipartisan basis. The United States has explicitly rejected such a policy—sometimes also referred to as an "assured destruction" threat—because of its

[2] William Perry and Tom Collina, *The Button* (Dallas, TX: BenBella Books, 2020), p. 119.

incredibility as a deterrent and its moral repugnance. Instead, the United States has pursued a "flexible response" deterrence policy intended to hold at risk credibly a range of opponents' critical assets while avoiding societal damage to the greatest extent practicable. The desirability of flexible response options has been captured in multiple official, open policy documents. The targets to be held at risk for deterrence purposes potentially include opponents' military capabilities, command and control capabilities, and civilian leadership, "while minimizing to the maximum extent possible collateral damage to population and civilian infrastructure."[3] This approach to deterrence has been made explicit in open U.S. policy documents for decades.

However, the potential for a combined Sino-Russian attack, whereby a fraction of their combined strategic potential might essentially destroy much of the U.S. retaliatory capability, suggests the possibility that the United States would essentially be left with a minimum deterrent. In addition to the moral and legal issues associated with threatening to destroy an opponents' cities, such an approach to deterrence may well not be credible in numerous critical deterrence contexts—particularly including a Sino-Russian attack focused on U.S. retaliatory forces. If U.S. retaliatory options were reduced substantially, a relatively small number of surviving U.S. assets could easily be incapable of holding at risk the extensive assets that may be needed for the credible deterrence of these two great power adversaries, including their military forces and leadership. Such a limited U.S. deterrence posture could actually increase the risk of deterrence failure by presenting an incredible, ineffective U.S. retaliatory threat to two revanchist great powers. This possibility now warrants careful consideration.

Sino-Russian Coordination: Potential Deterrence Challenges at the Theater Nuclear Level

Sino-Russian coordination could also present deterrence challenges at the level of non-strategic (theater) nuclear forces. How so? The United States must now hedge against the threat or reality of opponents' regional nuclear first use in *two* theaters *simultaneously*. This is a novel challenge that the United States must be prepared to confront if U.S. extended deterrence commitments to allies are to be credible and seen as such by allies and adversaries alike.

Is the United States currently prepared to deter credibly two simultaneous regional conflicts in which Sino-Russian nuclear escalation is threatened or carried out in Europe and Asia, without risking escalation to a highly-destructive strategic nuclear war? The significant imbalance in theater nuclear capabilities and deployments suggests otherwise and calls into question the credibility of U.S. extended deterrent threats. Should Moscow and Beijing believe that the United States lacks either the will or the capability to respond *proportionally* to their regional first use of nuclear weapons, extended deterrence will likely be undermined,

[3] Adm. Richard Mies, USN (Ret.), "Strategic Deterrence in the 21st Century," *Undersea Warfare*, Spring 2012, p. 16, available at https://igs.berkeley.edu/sites/default/files/files/events/mies_831_strat.in_21st_century_0.pdf.

and the risks of regional military aggression will grow. In this context, the assurance of allies currently protected by the U.S. extended nuclear deterrent (the "nuclear umbrella") may also be compromised. To hedge against this unprecedented deterrence challenge, a reconsideration of the size, characteristics, and deployment of U.S. theater nuclear forces is warranted, with the goal of having an overall deterrence force posture that is more flexible and adaptable to the new trilateral strategic environment.

Hedging Against Expanded Uncertainties Regarding Deterrence Requirements

The multiplication of uncertainties related to deterrence in the emerging international context increases the imponderables involved in predicting "how much is enough?" for U.S. deterrence needs. Defining that standard has always been more art than science, but it is made even more problematic by the expansion of participants, their revanchist goals and corresponding hostility to the United States.

Done properly, the application of deterrence requires understanding, to the extent feasible, the opponent to be deterred in the context of the engagement. However, rational leadership decision making can vary greatly because unique decision-making factors can drive leaders' perceptions and calculations of value, cost and risk in surprising, unpredictable directions. There is a wide variety of operating factors, some seen, others unseen, that can be decisive in determining if and how deterrence will function. As a consequence, the functioning of deterrence is heavily context dependent. There can be no single "assured destruction" standard that defines the U.S. strategic deterrent, as was declared U.S. practice for more than a decade during the Cold War.

In the emerging multilateral deterrence context—given the expanded number of intensely-hostile opponents and wide range of plausible contexts in which U.S. deterrence must function—multiple, simultaneous measures of adequacy are needed. Those measures must take into account the many uncertainties involved in their definition, including how opponents' leaders perceive and define acceptable risks in relation to their various goals. The variety of unavoidable uncertainties involved in setting multiple deterrence adequacy standards to sustain deterrence over the course of decades is daunting. Nevertheless, it is necessary to plan now for that timeframe. As a result, the need to hedge against setting those standards incorrectly, particularly too narrowly, is acute.

The current U.S. nuclear modernization program was largely set in a time of great optimism regarding U.S. relations with Russia and China. The intensification of Russian and Chinese hostility related to their respective revanchist goals, and the associated *expanded deterrence uncertainties* of the emerging multilateral deterrence context highlight the potential danger of missing the need now to hedge adequately against these expanded uncertainties in U.S. considerations of "how much is enough?" for deterrence.

Hedging Against the Possibility of Deterrence Failure

Finally, the expansion of uncertainties and unknowns regarding deterrence applies to both *how* and *whether* deterrence will function. During the Cold War and after, commentators and officials alike frequently expressed unbounded confidence in this regard; but, even then, this confidence was largely speculative. To the extent that the United States is unprepared for the possibility of deterrence failure, it is unprepared for the realities of the emerging multilateral context. This point is not to detract whatsoever from the priority that must be placed on deterring conflict, but to recognize that even our best efforts to do so are not foolproof.

The implications of this harsh reality are profound. Most obvious perhaps is the potential value of active and passive strategic defenses to help mitigate the prospective destruction from Chinese, Russian or North Korean limited, coercive nuclear attacks, and to reduce the coercive value of their threats to launch such attacks. If deterrence can be expected to prevent attack reliably and predictably, the need for defensive capabilities to limit damage in the event of deterrence failure is reduced. Yet, as confidence in the reliable, predictable functioning of deterrence wanes in the multilateral context, the capability to reduce damage in the event of deterrence failure can only be regarded as increasingly prudent. That is, in the emerging deterrence context in which confidence in the predictable functioning of deterrence is increasingly open to question, the *potential* value of defenses must increase, particularly for protection against limited, coercive nuclear attacks. This is another inconvenient truth.

Consequently, the United States should again consider the potential roles for active and passive defenses to hedge against the prospect for deterrence failure. This is a considerable departure from the prevalent missile defense policy orientation during much of the Cold War that unmitigated U.S. societal vulnerability is a useful and necessary component of deterrence stability, and that defenses can provide no meaningful protection against attack.

Arms Control in the Emerging Deterrence Context

In the emerging deterrence environment in which Moscow and Beijing seek to overturn the existing world order, the prospects for meaningful arms control agreements may appear bleak. Over the past half century the U.S. reliance on arms control as a means to reduce the relevance of nuclear weapons has not produced the desired results—actual results have often been the reverse of U.S. hopes and expectations. Nevertheless, President Biden has emphasized U.S. readiness to resume negotiations and some commentators assert that arms control with Russia is essential now more than ever.

Given the need to hedge against unprecedented deterrence challenges and uncertainties in the emerging threat environment, having greater flexibility to deal with the challenges posed by multiple nuclear adversaries—potentially operating in concert—is likely a necessary approach to minimize the chances of deterrence failure. There must be adequate U.S. deterrent capabilities to hedge against the unprecedented deterrence challenges of this

context. This reality could call into question the adequacy of current U.S. nuclear force levels for deterrence and the prudence of continued adherence to New START limitations that were agreed to in a bilateral deterrence context very different from today's.

Consequently, the United States may need to reassess a deterrence force posture constrained by New START ceilings. In particular, a deterrent force with great resilience and flexible options may help to offset the combined numerical advantages and greater diversity of nuclear forces possessed by Russia and China. Establishing strict numerical force limits in any arms control agreement and locking in those limits for a period of years likely is incompatible with the flexibility and range of options that may be needed to hedge against the realities of the emerging threat context and changing circumstances. Any future arms control agreement that does not ensure that needed flexibility correspondingly may undermine "stability."

In the past, the U.S. approach to strategic arms control was premised on an expectation that Soviet or Russian forces were the pacing measure, and that a high degree of continuity (i.e., continued mutual reductions via ever more restrictive agreements) in the direction of Soviet/Russian strategic forces provided a level of predictability and stability in the bilateral relationship. On that basis, Washington deemed reasonable long-term agreements with precise ceilings and limits "locked in." However, in the dynamic trilateral strategic environment, the prospects for past expected continuities and predictable Russian or Chinese behavior appear highly problematic. The U.S. approach to arms control must recognize this reality.

Conclusion

The emergence of a multilateral deterrence context in which two great nuclear powers share intense hostility toward the United States presents some unprecedented challenges for the United States. The emerging deterrence context is materially different from a bilateral context. It expands the uncertainties, imponderables and unknowns regarding the functioning of deterrence—which remains essential for U.S. and allied security, while being more uncertain. The basic principles of deterrence are enduring and unchanged, but the application of deterrence must adjust to different opponents and contexts. For U.S. deterrence planning, those differences must be taken into account in planning for deterrence at all levels, in planning for the possible failure of deterrence at all levels, and in planning for any future arms control negotiations.

Identifying the additional many ways in which the multilateral deterrence context is different from the past and the significance of those differences for U.S. deterrence planning is likely to be a generational process. That said, it is time to get beyond noting that this is an important topic and then defaulting to Cold War accepted wisdom. The "greatest generation" of deterrence scholars did the heavy intellectual lifting for their time and helped to preserve superpower peace through the Cold War. Deterrence conditions have changed dramatically, however, and it is time for a new generation to get back to this serious work.

INTRODUCTION

Deterrence theorists, policy makers, and commentators are now eagerly discussing "trilateral deterrence." This, of course, refers to the simultaneous deterrence engagement of three great nuclear powers, the United States, Russia and China. Although the United States has for some time understood the importance of tailoring deterrence to specific adversaries, that tailoring becomes more complicated and complex when the number of peer adversaries increases. As ADM Charles Richard, Commander of U.S. Strategic Command, has rightly stated, "We have never before in our history faced two peer nuclear capable, potential opponents that we have to deter at the same time, that we have to deter differently."[4]

The unprecedented character of the emerging deterrence context is not simply that there now are three great nuclear powers involved. Rather, the critical additional condition is the reality that two of those three great nuclear powers have revanchist goals that put them in sharp conflict with the United States and long-standing U.S. deterrence redlines, and both show their willingness to exploit conventional and nuclear forces in pursuit of their expansionist goals. We are accustomed to thinking of nuclear weapons as serving defensive deterrence purposes. We convinced ourselves that the goal of all rational leaderships must be strategic stability—only a leadership that is "unhinged" could think otherwise. However, the reality now is that we confront opponents' threatened use of nuclear weapons to support offensive, revanchist purposes. That is unprecedented and compels us to rethink our deterrence policies. This particular character of the emerging deterrence context is more novel and significant than the simple fact that there are three great nuclear powers involved vice the bipolar context of the Cold War.

The question is how should the United States now prepare to meet its enduring deterrence goals given these new realities? It is commonplace to hear that the emerging threat context is different and must affect U.S. deterrence policy—explaining why that is true and how policy should adjust is not commonplace, but it is important to start.

INCONVENIENT TRUTHS ABOUT DETERRENCE PROGNOSTICATION

Discussions about how changes in the structure of international relations will affect the functioning of deterrence can be interesting and more or less informed, but it is important to acknowledge that no one can be high on the learning curve regarding the functioning of deterrence in the emerging trilateral (or more, multilateral) deterrence dynamic.

It took over three decades during the Cold War for the United States to reach a bipartisan consensus on U.S. deterrence goals and related measures of force requirements—not for a lack of brilliant minds working on the subject. Analysts and scholars are quite early in the process of trying to understand deterrence in a very different international structure; the

[4] Rebeccah L. Heinrichs, "Transcript: A Conversation with Admiral Richard," The Hudson Institute, September 14, 2021, available at https://www.hudson.org/research/17264-transcript-a-conversation-with-admiral-richard.

subject seemingly has become a priority again after decades of relative inattention. In 2017—following increasingly egregious behavior by Russia and China—Gen. Kevin Chilton, former Commander of U.S. Strategic Command, lamented a continuing lack of attention to the general subject:

> Unfortunately, since the end of the Cold War…there has been a dearth of attention paid to the rationale for the nuclear deterrent. The underlying principles and rationale for the deterrent have not gone away, but we have stopped educating, thinking, and debating, with informed underpinnings, the necessity and role of the US nuclear deterrent in today's world. Even more concerning has been the lack of informed debate on the subject. We have raised three generations of Air Force officers who may not have been exposed to the most fundamental and yet relevant arguments surrounding deterrence….[5]

Aside from the most obvious points about deterrence, the United States is now unavoidably in the world of speculation and conjecture, including uncertainty over what the ubiquitous word "stability" means and what in practice will help or hinder it. A former Secretary of the Navy, Richard Danzig, has quipped with regard to forecasting international relations in general that we are "driving in the dark."[6] Another has rightly suggested: "To state the obvious, this is not an exact science. It's more like looking at a fog bank and trying to see what shape is in the fog. What is it that you can kind of see but can't fully make out?"[7]

The prevalence of unavoidable uncertainty was highlighted by the noted scholar Colin Gray:

> If you spend a lot of time talking about the future you can forget that you do not really know the subject. It is especially easy to forget one's basic ignorance when one is a defense planner…. Alas, the facts are that the future has not happened, and no amount of planning can make it visible to our gaze today. This incongruence is not to say that we are entirely ignorant about the future. Of course, we are not. It does mean that we would be well-advised not to use the all-too-familiar phrase, "the foreseeable future." The future is not foreseeable, at least not in a very useful sense. The challenge is to cope with uncertainty, not try to diminish it. That cannot be done reliably. Such ill-fated attempts will place us on the road to ruin through the creation of unsound expectations.[8]

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[5] Gen. Kevin Chilton, "On US Nuclear Deterrence," *Strategic Studies Quarterly*, Vol. 11, Issue 4 (Winter 2017), p. 2, available at https://www.airuniversity.af.edu/Portals/10/SSQ/documents/Volume-11_Issue-4/Chilton.pdf.

[6] Richard Danzig, *Driving in the Dark: Ten Propositions About Prediction and National Security* (Washington, D.C.: Center for a New American Security, 2011), available at https://s3.us-east-1.amazonaws.com/files.cnas.org/documents/CNAS_Prediction_Danzig.pdf?mtime=20160906081652&focal=none.

[7] Newt Gingrich, "Newt Gingrich: My Predictions for the next 10 years—I expect these big changes," *FoxNews.com*, January 3, 2021, available at https://www.fox news.com/opinion/future-predictions-for-2020s-newt-gingrich.

[8] Colin S. Gray, "The 21st Century Security Environment and the Future of War," *Parameters*, Vol. 38, No. 4 (Winter 2008), p. 15, available at https://press.armywarcollege.edu/cgi/viewcontent.cgi?article=2450&context=parameters.

There is nothing wrong with speculation and conjecture about the future functioning of deterrence, as long as everyone understands that informed speculation is the limit of what now is possible. Obviously, planning must be done and policy makers must establish some basis for doing so—there is no pause button on history. But, in contrast to the thousands of commentators' confident claims since the 1960s that one step or another surely would make or break deterrence, the prevalence of unavoidable uncertainties demands great humility rather than hubris.

Indeed, the most pervasive myth in this field is that confident prediction about the precise functioning of deterrence is possible. The difficulty in reaching confident conclusions beyond the most obvious is not a matter of finding the right analyst or methodology. The problem is our unavoidable uncertainties regarding many factors and conditions that can lead to deterrence failure or success. That is, the functioning of deterrence can be affected by an extremely wide range of factors—some of which may be well-known; others may be somewhat obvious (but not their significance in decision making); and others may be completely obscure. And, unfortunately, we do not know the importance for deterrence of what we do not know.

This harsh reality was true in the bipolar world of the Cold War; it is even more significant in the particular context of the three contemporary great nuclear powers. Those factors key to deterrence working or failing are multiplied with every new entry into a hostile deterrence dynamic—the imponderables increase with every new possible interaction. It is for this reason, among others, that the emerging deterrence context is different and significant. The reality is that the expanded uncertainties, imponderables and unknowns render this multilateral deterrence environment more complex and unpredictable. In short, reality matters and predicting the functioning of deterrence in this multilateral context confronts expanding uncertainties and unknowns; that is an inconvenient truth.

Those who make or comment on deterrence policy often implicitly or explicitly fill in the unknowns and imponderables about the functioning of deterrence with their own presumptions—based on incomplete evidence or sheer speculation—about opponents and contexts. There are more- and less-informed ways to do so, but the U.S. understanding of opponents and context will likely never be adequate for highly confident predictions in many contexts. Simply put, regardless of the deterrence model underlying predictions about how deterrence will function—whether on paper or in mind—for virtually any actual engagement it will not be possible to know with confidence how close or far it is from capturing reality.

Even explaining why deterrence worked or failed *in the past* is a challenge given our frequent ignorance of the specific factors that led to its apparent functioning or failure. With an abundance of historical evidence, we still often only know with confidence that deterrence either failed or failed to apply. We typically do not know with precision *why* deterrence failed because opponents do not often explain *why* they took an action that we hoped they would be deterred from taking. And, only rarely is evidence available to tell us *why* deterrence worked because all we see is that nothing much

happened. Again, opponents rarely tell us why they decided *not* to do something they otherwise would have done, i.e., why they were deterred.

THE PAST AS PRELUDE

An examination of scores of case studies from antiquity to the present demonstrates that deterrence often fails to function for many different reasons in many different contexts, often surprisingly.

A common theme in cases of deterrence failure is that the party hoping to deter misjudged the situation because it largely misunderstood the opponent's goals, motivations, attention, determination, risk tolerance, perceptions of necessity, opportunity, and the stakes in contention, along with many other possible factors that tend to shape how leaderships calculate risk, cost and gain. More than any other apparent single factor, the deterrer's lack of realistic expectations about the opponent is a condition that has contributed to deterrence failure when it was expected to provide security. This uncertainty can be lessened with serious effort, but not eliminated.

In most cases involving the United States, deterrence failures came as surprises to Washington. For example, on September 19, 1962, *Special National Intelligence Estimate 85-3-62*, *The Military Buildup in Cuba*, essentially reported that the Soviet Union would not likely place missiles in Cuba because doing so "would indicate a far greater willingness to increase the level of risk in US-Soviet relations than the USSR has displayed thus far and consequently would have important policy implications with respect to other areas and other problems in East-West relations."[9] Less than one month later, photographic evidence proved that the Soviets had placed missiles in Cuba. Sherman Kent, then-head of the National Board of Estimates, stated of this mistake regarding Soviet decision making, "There is no blinking the fact that we came down on the wrong side." Kent concluded, that "We missed the Soviet decision to put the missiles into Cuba because we could not believe that Khrushchev could make a mistake."[10]

There are many additional cases in which the uncertainties surrounding deterrence and the motivations of various actors led to unanticipated results, including the failure of deterrence.[11] For example, in the 1973 Yom Kippur War, Egypt and Syria attacked Israel despite their reported expectation that Israel possessed nuclear weapons at the time.[12] The Arab attack demonstrated that a desire to reclaim lost honor due to territorial losses in the

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[9] Sherman Kent, "A Crucial Estimate Relived," in, *Sherman Kent and the Board of National Estimates, Collected Essays* (Washington, D.C.: Center for the Study of Intelligence, Central Intelligence Agency, 1994), accessed at <www.cia.gov/csi/books/shermankent/toc.html> on August 9, 2000.

[10] Ibid.

[11] One Israeli scholar has attributed the Western propensity to miscalculate the motivations of aggressive states as indicative of "serious fallacies in Western, and especially United States, strategic thinking in respect to cross-cultural situations." See Yehezkel Dror, *Crazy States* (Millwood, NY: Kraus-Thomson, 1980), p. xv.

[12] As reported in Avner Cohen, *Israel and the Bomb* (New York: Columbia University Press, 1998), p. 342; and John J. Mearsheimer, *The Tragedy of Great Power Politics* (New York: W.W. Norton & Co., 2001), p. 132.

1967 "Six Day War" was a sufficient impetus to run great risk.[13] As noted historian Donald Kagan has pointed out, "The reasons for seeking more power are often not merely the search for security or material advantage. Among them are demands for greater prestige, respect, and deference, in short, honor."[14] U.S. leaders were surprised by this large-scale attack because, according to then-Secretary of State Henry Kissinger, "Our definition of rationality did not take seriously the notion of [Egypt and Syria] starting an unwinnable war to restore self-respect. There was no defense against our own preconceptions."[15] An examination of such occasions of apparent deterrence failure helps to explain such misunderstandings: "Other states have challenged substantially stronger nations for reasons that appear difficult to understand, at least to those observers who are not conversant with the weaker state's culture…. Such hard to comprehend attacks by weaker states pose a special danger to stronger nations. The attacks may be unanticipatable because the stronger nation cannot comprehend the weaker nation's cost-benefit calculus."[16]

The Japanese attack on Pearl Harbor in 1941 is another case in point. Japan believed that if it could decimate the U.S. naval fleet "then U.S. power would be effectively neutralized during the time required for the Japanese to build up a strong defensive system, which the United States would not want to challenge in a prolonged struggle."[17] As Yale Professor Bruce Russett explained, "Japan's sole strategy involved dealing maximum losses to the United States at the outset, making the prospects of a prolonged war as grim as possible, and counting, in an extremely vague and ill-defined way, on the American people's 'softness' to end the war."[18] Clearly, the Japanese leadership misread the situation and miscalculated the effect such an attack would have on American resolve. The Japanese miscalculation was compounded by an American reluctance to believe Japan would actually attack. As then-Assistant Secretary of State Dean Acheson put it, "No rational Japanese could believe an attack on us could result in anything but disaster."[19]

Other examples demonstrate how the uncertainties of leadership decision making can lead to deterrence failures. These include the conflict over the Falkland Islands in 1982, when Argentina sought to reclaim the territory from Great Britain by the use of military force, despite Britain's possession of a nuclear arsenal. In this case, Argentinian President Gen. Leopoldo Galtieri clearly underestimated the resolve of then-British Prime Minister

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[13] See Gordon A. Craig, Alexander L. George, *Force and Statecraft: Diplomatic Problems of Our Time*, Third Edition (New York: Oxford University Press, 1995), pp. 188, 191.

[14] Donald Kagan, *On the Origins of War and the Preservation of Peace* (New York, NY: Anchor Books, 1995), p. 569.

[15] Henry Kissinger, *Year of Upheaval* (Boston: Little Brown & Co., 1982), p. 465.

[16] Barry Wolf, *When the Weak Attack the Strong: Failures of Deterrence* (Santa Monica, CA: RAND, 1991), pp. 6-7, available at https://www.rand.org/pubs/notes/N3261.html.

[17] Ibid, p. 12.

[18] Bruce M. Russett, "Pearl Harbor: Deterrence Theory and Decision Theory," *Journal of Peace Research*, Vol. 4, No. 2, 1967, p. 99.

[19] Quoted in, Paul J. Sanders, "When Sanctions Lead to War," *The New York Times*, August 21, 2014, available at https://www.nytimes.com/2014/08/22/opinion/when-sanctions-lead-to-war.html#:~:text=American%20officials%20at%20the%20time, to%20Tokyo%20%E2%80%94%20only%20a%20weak.

Margaret Thatcher (known as the "Iron Lady") to deploy the British Navy 8,000 miles from the United Kingdom and to go to war to defend British sovereignty over the small South Atlantic territory. Galtieri declared, "Though an English reaction was considered a possibility, we did not see it as a probability. Personally, I judged it scarcely possible and totally improbable. In any case, I never expected such a disproportionate answer…. It seems so senseless to me."[20] In short, "the Argentinian leadership simply did not believe that the British would consider the Falklands worth fighting over."[21] The defeat of Argentina led to Galtieri's ouster.

The 1991 Gulf War also provides ample evidence of a leadership unexpectedly undeterred and motivated by drivers considered to be of greater significance than U.S. posturing. Saddam Hussein invaded Kuwait to reclaim what he considered Iraq's "19th province." Saddam miscalculated American resolve and did not believe the United States would actually respond in force.[22] His launching of SCUD missile attacks on Israel was intended to widen the conflict by drawing the Israelis into the war and causing the Arab states in the anti-Iraq coalition to break off their military support. As one assessment concluded:

> Here was a non-nuclear power engaged in what can only be described as a "blatantly offensive" and high-risk provocation of a putative nuclear power, possibly seeking not to discourage but *to encourage its retaliation.* The central balance of terror proposition that universal rationality and prudence in the face of a nuclear retaliatory threat ensures the deterrence of such high-risk behavior is here again contradicted by actual leadership behavior.[23]

More recently, Russia's invasion of Ukraine occurred despite U.S. warnings that it would lead to severe economic consequences for Russia. The Russian invasion of Ukraine demonstrated the fallacy of what some have called "Deterrence by Detection" or "Deterrence by Disclosure."[24] Simply informing Russia that the United States knew what Moscow was up to by publicly releasing information about the Russian military buildup on Ukraine's borders was clearly inadequate to prevent Russia from invading. Nor did the forewarning of severe sanctions serve as an effective deterrent. Secretary of State Antony Blinken declared, "The

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[20] Oriana Fallaci, "Galtieri: No Regrets, No Going Back," *Times* (London), June 12, 1982, p. 4, cited in Keith B. Payne, *Deterrence in the Second Nuclear Age* (Lexington, KY: The University Press of Kentucky, 1996), p. 115.

[21] Wolf, op. cit., p. 12.

[22] "Interrogator Shares Saddam's Confessions," *CBS News 60 Minutes*, January 24, 2008, available at https://www.cbsnews.com/news/interrogator-shares-saddams-confessions/.

[23] Keith B. Payne, *The Great American Gamble* (Fairfax, VA: National Institute Press, 2008), p. 277. (Emphasis in original).

[24] See, for example, Justin Katz, "US Should Pursue 'Deterrence By Detection,' Says Marine Corps Commandant," *Breaking Defense*, September 1, 2021, available at https://breakingdefense.com/2021/09/us-should-pursue-deterrence-by-detection-says-marine-corps-commandant/; also see Eric Edelman, "The Pros and Cons of 'Deterrence by Disclosure'," *The Dispatch*, February 21, 2022, available at https://thedispatch.com/p/the-pros-and-cons-of-deterrence-by?utm_source=url.

purpose of those sanctions is to deter Russian aggression;"[25] Pentagon spokesman John Kirby stated, "we believe there's a deterrent effect" to sanctions;[26] and National Security Advisor Jake Sullivan stated, "The president believes that sanctions are intended to deter."[27] Clearly, this is another example of how deterrence can fail when the parties do not understand or misperceive the objectives or resolve of each other.

These are only a handful of the numerous historical examples that demonstrate the uncertainties associated with the functioning of deterrence. Confident expectations about deterrence and deterrent threats presume the ability to know the mind of a potential aggressor and how it will calculate prospective loss versus gain and risk. There are, however, inherent unknowns in this regard that render deterrence a more or less uncertain business. This is so in a bilateral deterrence context; *but those uncertainties expand in the emerging multilateral deterrence context*.

As these historical cases illustrate, U.S. and others' expectations regarding opponents' calculations of risk and benefit have *not* always been based on a firm understanding of the opponent or the context. This is *not* a criticism of U.S. intelligence efforts; it is a reflection of the limits on prediction in international relations. If an opponent's behavior is shocking, rather than acknowledge uncertainty, U.S. commentators and some officials often assert that the opponent must suffer from a lack of reason; we could not otherwise so misjudge their perceptions and calculations. In truth, only infrequently in history do leaders long remain in power if they suffer from serious psychopathologies. Much more likely is that we misunderstand how opponents perceive their goals, risks and opportunities.

The "so what" following from this discussion of theory and history is that even the most confident-sounding claims about whether and how deterrence will work in real-world cases reflect more or less informed speculation. The future now appears to be even more complex in this regard, with additional uncertainties, imponderables and unknowns. That is another inconvenient truth.

RECENT DEVELOPMENTS

Recently, different commentators have observed with confidence that the likelihood of Russian nuclear employment in the Ukraine War is now increasing or, to the contrary, that it is highly unlikely,[28] i.e., that deterrence of that event will respectively fail or succeed. Yet,

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[25] Yacob Reyes, "Blinken: Sanctioning Russia now will undercut deterrence," *Axios*, January 23, 2022, available at https://www.axios.com/2022/01/23/blinken-sanctioning-russia.

[26] Ronn Blitzer, "Pentagon spox says threat of Russia sanctions has 'deterrent effect', but admits invasion may be 'days away'," *Fox News*, February 13, 2022, available at https://www.foxnews.com/politics/pentagon-spox-kirby-us-not-considering-sanctions-against-russia.

[27] The White House, "Press Briefing by Press Secretary Jen Psaki and National Security Advisor Jake Sullivan, February 11, 2022," available at https://www.whitehouse.gov/briefing-room/press-briefings/2022/02/11/press-briefing-by-press-secretary-jen-psaki-and-national-security-advisor-jake-sullivan-february-11-2022/.

[28] See for example, Adm. James Stavridis, "Putin Won't Use a Nuke, Chemical Weapons, Maybe," *Bloomberg Opinion*, July 20, 2022, available at, https://www.bloomberg.com/opinion/articles/2022-07-20/ukraine-russia-war-why-putin-won-t-use-a-nuclear-weapon.

there is an inadequate basis for the many seemingly knowledgeable, confident predictions in this regard.[29] The Russian decision to use nuclear weapons, if it occurs, will follow from Moscow's calculation of incentives and disincentives about which Western commentators can only speculate. In the unavoidable absence of understanding those incentives and disincentives, and how President Putin weighs them, predictions about Russian nuclear use must be speculative, and often sheer guesswork.

What we know is that Russia either will or will not employ nuclear weapons or other WMD. There can be very little basis for great confidence in predictions as to which is more or less likely because that decision will depend on the uncertain perceptions, values and psyches of a small number of foreign individuals in unique and stressful circumstances—hardly the basis for highly-confident prediction. This limitation in the ability to anticipate the functioning of deterrence has become more pronounced in the emerging multilateral deterrence context.

Moscow's incentives to employ WMD may increase if Putin doubles down to prevent a loss he cannot tolerate. CIA Director William Burns has stated that Putin "doesn't believe he can afford to lose" because he has "staked so much on the choices that he made to launch this invasion."[30] This may be a key consideration because cognitive studies suggest that individuals often are highly risk tolerant in this type of condition—it is called the "gamblers' fallacy."[31] The risks for Moscow of employing nuclear weapons, however, may be sufficient to overcome the motivations. As noted above, projections on the matter—whatever their opinion—must be speculative. We will become more aware with enough strategic warning or only after the fact, but we simply cannot be confident which factors will be decisive in Putin's decision making. We can *hope* that Moscow and Beijing will make decisions based on parameters that seem reasonable to us, and thus are predictable, but that expectation has often proved wrong in the past and hope is not a strategy.

What we do know with confidence is that for deterrence to function by design in any context, opponents must decide that some level of accommodation or conciliation to U.S. demands is more tolerable than actions that would risk the U.S. deterrent threat. There must be this space for deterrence to work.

The priority deterrence question that now follows from this discussion is important and should be stated plainly: How do we simultaneously deter multiple revanchist great powers, Russia and China, that appear driven by the common belief that their respective expansionist goals are of such existential importance that they are willing to brandish nuclear first-use

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[29] See for example, the discussion in, Eric Schlosser, "What If Russia Uses Nuclear Weapons In Ukraine," *The Atlantic*, June 20, 2022, available at https://www.theatlantic.com/ideas/archive/2022/06/russia-ukraine-nuclear-weapon-us-response/661315/?utm_source=email.

[30] Lawrence Richard, "Putin believes 'doubling down' key to winning in Ukraine, thinks he 'can't afford to lose'," *Fox News*, May 8, 2022, available at https://www.foxnews.com/world/putin-doubling-down-win-ukraine-cant-afford-to-lose-cia-chief-warns.

[31] See for example, William J. Gering and Adrian R. Willoughby, "The Medial Frontal Cortex and the Rapid Process of Monetary Gains and Losses," *Science*, Vol. 22, March 22, 2002, pp. 2279-2282.

threats to advance them, and may see limited nuclear threats and employment as ways to work around U.S. deterrence policies?

For example, a Russian decision to threaten or employ nuclear weapons could be a coercive tactic to paralyze further Western support for Ukraine and thereby enable Moscow to achieve a bloody victory, i.e., "escalate to win."[32] Russia reportedly already has warned the United States in a demarche of "unpredictable consequences" if it provides "sensitive" arms to Ukraine,[33] amid many other explicit nuclear threats.

NATO's *2022 Strategic Concept* states that a fundamental Alliance goal is the deterrence of nuclear coercion and tactics.[34] That is a goal that already appears to be slipping away given the number of brazen Russian nuclear first-use threats surrounding its aggression in Ukraine. The deterrence of actual Russian employment of nuclear weapons, of course, also is a fundamental NATO goal. The prominent Cold War "balance of terror" model of deterrence stability tells us that this should not be a deterrence problem because no *rational* leadership would actually employ nuclear weapons in this way. And, in fact, commentators often now again assert with confidence that Putin's nuclear threats are a bluff or that he must be "unhinged." The latter conclusion likely reflects an enduring inadequacy in our understanding of how differently opponents can define what is rational behavior. There may be comfort in projecting onto opponents, including Putin, Western notions of what is rational because that means Putin's nuclear threats are only a bluff—what a relief. Yet, Russia's, and to some extent China's, nuclear first-use threats, and the possibility of employment, are here and now;[35] they demand that we consider anew how best to deter in contemporary conditions and the capabilities needed to support deterrence best practice.

We do not know how deterrence will be tested; we can only prepare as best we can, while "driving in the dark," and hedge against a wide range of plausible deterrence challenges. That hedging becomes much more complicated and likely demanding in the emerging deterrence context in which two great nuclear powers have goals that are significantly incompatible with those of the United States.

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[32] See for example, Mark Schneider, "Russian Nuclear 'De-Escalation' of Future War," *Comparative Strategy*, Vol. 37, No. 5 (March 2019), pp. 361-372; and, Dave Johnson, *Russia's Conventional Precision Strike Capabilities, Regional Crises, and Nuclear Thresholds*, Livermore Papers on Global Security, No. 3, February 2018, pp. 66-99, available at https://cgsr.llnl.gov/content/assets/docs/Precision-Strike-Capabilities-report-v3-7.pdf.

[33] DeYoung, op. cit.

[34] NATO, *NATO 2022 Strategic Concept*, pp. 1, 7, available at www.nato.int/strategic-concept/#StrategicConcept.

[35] While China expresses an official nuclear "no first use policy," the veracity of that claim is highly problematic and is inconsistent with other Chinese expressions. For a discussion of this point see, Keith B. Payne, Matthew Costlow, and David Trachtenberg, et al., "Deterring China in the Taiwan Strait," *Journal of Policy & Strategy, Special Issue*, Vol. 2, No. 2, pp. 22-23, C-5. See also, "China threatens Japan with nuclear war over intervention in Taiwan," *Business Standard*, July 23, 2021, available at https://www.business-standard.com/article/international/china-threatens-japan-with-nuclear-war-over-intervention-in-taiwan-121072300030_1.html.

CONTEMPORARY DETERRENCE CONDITIONS AND THEIR IMPLICATIONS FOR U.S. DETERRENCE STRATEGIES

Recognition of the inconvenient truths about deterrence prediction and contemporary conditions leads to the second part of this discussion: How and why the emerging international context should affect U.S. deterrence considerations and practice.

The most basic point in this regard is the need to understand, to the extent feasible, those basic factors that can drive multiple opponents' relevant decision making, i.e., as noted above, their goals, motivations, attention, determination, risk tolerance, perceptions of necessity, opportunity, and the stakes in contention, *inter alia* (even the personal health conditions of a given leader can be important in this regard).[36] The need to do so is not new with the condition of multilateral deterrence, but pursuing an understanding of opponents for deterrence purposes is a task made much more challenging by the expansion of uncertainties regarding opponents and contexts to be so understood. During the bipolar Cold War, the focus was on the Soviet Union; other countries were considered "lesser included cases,"[37] i.e., if the Soviet Union could be deterred reliably with available forces, others would be too. In addition, for more than a decade during the Cold War, U.S. declaratory policy identified a single "all-purpose" type of strategic deterrence threat as being effective against Moscow and all "rational" foreign leaderships, i.e., a nuclear threat to population and industry.[38] The emerging deterrence context does not afford those convenient shortcuts in the formulation of U.S. deterrence policy because the potential for great variation in the values, goals and decision-making calculations of multiple foreign leaderships cannot be so dismissed.[39] In short, different leaderships can perceive and define "rational" in different ways—which will affect if and how deterrence can function.

All attempts to improve understanding will be frustrated, at least in part, by a lack of data, ambiguous data, and conflicting data; this is unavoidable. However, the goal of reducing ignorance for deterrent purposes is *not* perfect knowledge, which is unobtainable. The goal

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[36] See, for example, John Stoessinger, *Why Nations Go to War* (New York: St. Martin's Press, 1993), p. 213; Donald Kagan, *On the Origins of War* (New York: Doubleday, 1995), pp. 8, 569; Bert E. Park, M.D., *Ailing, Aging, Addicted* (Lexington, KY: University Press of Kentucky, 1993), passim; Richard Ned Lebow, *Between Peace and War* (Baltimore, MD: Johns Hopkins University Press, 1981), pp. 220-231; and, Jonathan Clemente, "In Sickness, In Health," *Bulletin of the Atomic Scientists*, Vol. 63, No. 2 (March/April 2007), pp. 38-44.

[37] James Anderson, "China's Arms Buildup Threatens the Nuclear Balance," *The New York Times*, July 29, 2020, available at https://nyti.ms/3f6A4NH; and, Rachel Cohen, "USAF Rethinks Relationship Between Conventional, Nuclear Weapons," *Air Force Magazine Online*, August 19, 2020, available at https://www.airforcemag.com/usaf-rethinks-relationship-betweenconventional-nuclear-weapons/.

[38] *Draft Memorandum for the President*, Secretary of Defense [Robert S. McNamara] to the President [Lyndon B. Johnson], Subj: Strategic Offensive and Defensive Forces, January 15, 1968, p. 8. (Originally classified; sanitized and declassified on January 5, 1983).

[39] See the discussion in, Keith B. Payne, "Deterrence is Not Rocket Science: It is More Difficult," *Information Series*, No. 527 (July 6, 2022), available at https://nipp.org/information_series/keith-b-payne-deterrence-is-not-rocket-science-it-is-more-difficult-no-527-july-6-2022/.

is a greater awareness of the opponent so that basic mistakes in U.S. deterrence strategies can better be avoided and deterrence is thus more likely to work in practice.

The Analytical Challenge

As noted, the analytical challenge of usefully reducing ignorance in the emerging multilateral deterrence context is greater than in the Cold War bilateral context because the number of factors to understand expands. Equally important, the interactions of those factors become more complex as multiple leaderships observe the interactions of each party, which may shape the perceptions and decision making of all those involved and thus U.S. deterrence requirements. The United States is not simply deterring Russia and China sequentially or in isolation, but with each watching each and possibly shifting calculations based upon what they see in each engagement.

An obvious example of this added complication is now trying to understand how the war in Ukraine may influence China's perception of the opportunities, costs and risks of moving violently against Taiwan, and how that may affect needed U.S. efforts to deter China from doing so. In short, the task includes trying to understand how developments in one geographic area could affect the decision making of opponents in distant areas, and thereby shape U.S. deterrence goals and practice in those distant areas. This is the opposite of the U.S. Cold War focus on the Soviet Union, with the apparent expectation that all others were "lesser included cases."[40]

The need, therefore, is for great attention to the identification and understanding of the many different (and in some cases unique) decision-making drivers and how they interact across an increasing number of leaderships—most obviously including China and Russia, but also those countries whose behavior could seriously play in deterrence engagements among the three great nuclear powers, e.g., North Korea and Iran.

The Cold War analytic practice of some commentators to posit non-descript countries A and B, and then essentially use game theory to deduce conclusions about the functioning of deterrence and the U.S. requirements for deterrence was woefully inadequate at the time. In the emerging trilateral deterrence context, the leaderships of the participants are in many ways unique decision makers, and Russia and China have worldviews that conflict sharply with that of the United States. In this particular trilateral context, projections based on positing the interaction among three *non-descript* countries A, B, and C simply washes out the key factors that are likely to determine if and how deterrence actually functions. Commentary based on such projections is as likely to mislead as to enlighten.

[40] Anderson, op. cit. See also, Cohen, op. cit.

DETERRENCE POLICY AND PRACTICE: HEDGING IN THE EMERGING DETERRENCE CONTEXT

There are several additional implications for the practice of deterrence in the new multilateral deterrence dynamic. For example, given a deterrence context in which two great nuclear powers are hostile to the United States, and the associated uncertainties of prognostication, it is important to emphasize at least three directions in U.S. deterrence policy. There is the need to hedge against: 1) coordinated Sino-Russian actions; 2) the increased uncertainty in deterrence requirements; and, 3) the likely increased uncertainties regarding the potential for deterrence failure.

Hedging Against Prospective Sino-Russian Coordination

As noted above, the existence of three great nuclear powers is not the only unprecedented feature of the new era. Equally important is that two of those great powers, i.e., Russia and China, see a third, i.e., the United States, as preventing the realization of their respective expansionist goals. In short, Russia and China have external goals that are inimical to long-standing U.S. interests and deterrence goals. Both have worked assiduously to find ways to defeat U.S. deterrence strategies. As one *Washington Post* writer has rightly put it: "The idea that the United States can choose between confronting Russian aggression or Chinese aggression is attractive, until it meets reality. In truth, these two expansionist dictatorships are working together to undermine our security, prosperity and freedom. Moscow and Beijing view their struggles against the West as intertwined, so we must acknowledge that connection as well."[41]

The nature of the emerging deterrence context demands U.S. consideration of the possibility that Russia and China will coordinate their actions to advance their respective goals in confrontations with the United States. Indeed, despite their long-standing historical animosities and past territorial disputes, Russia and China have moved decidedly closer in their level of military and political cooperation and coordination. The thread that binds them together appears to be their common belief that it is the United States that prevents their necessary and rightful expansion and their common goal to overcome this impediment to their revanchist aspirations.

Some argue that China and Russia are unlikely to overcome decades of mutual suspicion and form a true alliance.[42] Yet, the danger of a coordinated, anti-American "entente" appears real and growing. As one commentary noted:

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[41] Josh Rogin, "The U.S. can confront both China and Russia," *Washington Post*, August 5, 2022, p. A15.

[42] See, for example, the comments of various analysts in "Ask the Experts: Will China and Russia Stay Aligned?," *Foreign Affairs*, June 21, 2022, available at https://www.foreignaffairs.com/ask-the-experts/2022-06-21/will-china-and-russia-stay-aligned.

> This entente will last. Economic and political interests are mutually complementary for the foreseeable future. Russia is a significant source of hydrocarbons for energy-poor China and a longtime supplier of advanced weapons. Russia has hegemonic aspirations in the former Soviet territory, Eastern Europe and the Middle East. China has comparable aspirations in the Indo-Pacific region and the Middle East (and world-wide in due course). The entente is growing stronger, as China's unambiguous support for Russia in Europe's current crisis proves.[43]

Putin himself has declared that "the era of a unipolar world order has come to an end," noting that "new powerful and increasingly assertive centers have been formed." He chastised the West for "stubbornly clinging to the shadows of the past," saying that Western states "seem to believe that the dominance of the West in global politics and the economy is an unchanging, eternal value." However, he noted, "Nothing lasts forever."[44] At the same time, Xi Jinping hailed the closer relationship with Russia, declaring, "Cooperation between China and Russia is currently ascending in all spheres," and stating that "This is evidence of the high resilience and ingenious potential of Chinese-Russian cooperation."[45] Moreover, China's Foreign Ministry noted, "Since the beginning of this year, Russia-China practical cooperation has developed steadily," adding that China is "willing to, together with Russia, continue to support each other on issues concerning core interests and major concerns such as sovereignty and security, intensify strategic coordination between the two countries, and strengthen communication and coordination in major international and regional organizations."[46]

This cooperation is increasingly evident in the military sphere. Russia and China reportedly have participated in a growing number of joint military exercises, including joint naval drills and an extensive military exercise in China last year.[47] In February 2022, Putin and Xi announced that Moscow and Beijing had agreed to a "friendship" with "no limits."[48] As the Commander of U.S. Indo-Pacific Command, ADM John Aquilino, declared, "If those two

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[43] John Bolton, "Entente Multiplies the Threat From Russia and China," *The Wall Street Journal*, February 15, 2022, available at https://www.wsj.com/articles/entente-multiplies-the-threat-from-russia-and-china-foreign-policy-alliance-beijing-moscow-xi-putin-11644943618.

[44] Address by Vladimir Putin to the St. Petersburg International Economic Forum Plenary Session, June 17, 2022, available at http://en.kremlin.ru/events/president/transcripts/68669.

[45] Remarks of Xi Jinping to the St. Petersburg International Economic Forum Plenary Session, June 17, 2022, available at http://en.kremlin.ru/events/president/transcripts/68669.

[46] Mike Brest, "China pursuing 'largest military buildup in history since WWII,' US commander says, *Washington Examiner*, June 27, 2022, available at https://www.washingtonexaminer.com/policy/defense-national-security/chinas-enacting-largest-military-buildup.

[47] Yusuf Çetiner, "Joint Russo-Chinese ZAPAD/INTERACTION-2021 Exercise Comes To An End," *overtdefense.com*, August 16, 2021, available at https://www.overtdefense.com/2021/08/16/the-zapad-interaction-2021-exercise-carried-out-by-russian-and-chinese-forces-comes-to-an-end/.

[48] *Joint Statement of the Russian Federation and the People's Republic of China on the International Relations Entering a New Era and the Global Sustainable Development*, February 4, 2022, available at https://fm.cnbc.com/applications/cnbc.com/resources/editorialfiles/2022/03/31/Joint_Statement_of_the_Russian_Federation_and_the_Peoples_Republic_of_China_on_the_International_Relations_Entering_a_New_Era_and_the_Global_Sustainable_Development__President_of_Russia.pdf.

nations were to truly demonstrate and deliver a 'No Limits policy,' I think what that means is that we're currently [in an] extremely dangerous time and place in the history of humanity, if that were to come true."[49]

A detailed "think-tank" study notes in this regard, "The Chinese and Russian armed forces have become each other's most important foreign exercise partner."[50] Moreover, it states, "In terms of functional capabilities, China and Russia seem prepared to extend their drills to novel domains like cyber and outer space. Beijing and Moscow have already been aligning their arms control policies regarding these areas."[51] The Director of the Defense Intelligence Agency, Lt. Gen. Scott D. Berrier, has called the level of cooperation "their deepest since any time before the Sino-Soviet split" and an effort "to maximize their power and influence."[52]

In May 2022, China and Russia reportedly conducted their fourth joint bomber exercise since 2019, involving patrols over the Sea of Japan and maneuvers to the east of Taiwan.[53] As one analyst described it, "these China-Russia bomber exercises are the most visible indicator they are engaged in some level of offensive nuclear coordination." In addition, "Joint exercises with nuclear-capable bombers…indicate possible Chinese-Russian coordination of other offensive nuclear weapons like intermediate-range and intercontinental-range ballistic missiles."[54] Russia and China recently stepped up their naval patrols in the Pacific near Japan, and 10 Russian and Chinese warships reportedly circumnavigated the Japanese archipelago last October,[55] with additional transits reportedly taking place more recently. Japan's Defense Minister Nobou Kishi stated, "The fact that about 10 Russian and Chinese ships sail around Japan on the same route in a short period of time is a display of the military presence of both countries around Japan."[56]

Russia apparently also has assisted China with development of an early warning system to detect strategic missile launches. Russian President Putin has called this "a very serious thing, which will radically improve the defense capability of the People's Republic of

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[49] Brest, op. cit.

[50] Richard Weitz, "Assessing Chinese-Russian Military Exercises," Center for Strategic and International Studies, July 2021, p. 1, available at https://csis-website-prod.s3.amazonaws.com/s3fs-public/publication/210709_Weitz_Chinese-Russian_Exercises.pdf?sVj9xEhVUrzel_Mbf5pOdJqAQwUvn2zq.

[51] Ibid., p. 5.

[52] Scott Berrier, *Statement for the Record, Worldwide Threat Assessment*, before the Senate Armed Services Committee, May 10, 2022, p. 20, available at https://www.armed-services.senate.gov/imo/media/doc/Berrier%20Statement%20to%20SASC.pdf.

[53] Rick Fisher, "A War Over Taiwan Raises the Threat of Combined China-Russia Nuclear Operations," *The Epoch Times*, June 4, 2022, available at https://www.theepochtimes.com/a-war-over-taiwan-raises-the-threat-of-combined-china-russia-nuclear-operations_4511201.html.

[54] Ibid.

[55] "Russian warships pass south of Tokyo: Japan's Defense Ministry," *Nikkei Asia*, June 1, 2022, available at https://asia.nikkei.com/Politics/International-relations/Indo-Pacific/Russian-warships-pass-south-of-Tokyo-Japan-s-Defense-Ministry.

[56] Dzirhan Mahadzir, "Chinese, Russian Warships Continue to Circle Japan, Defense Minister Says," *U.S. Naval Institute News*, June 24, 2022, available at https://news.usni.org/2022/06/24/chinese-russian-warships-continue-to-circle-japan-defense-minister-says.

China."[57] As one Russian analyst noted, "integration of the two countries' early warning systems facilitates further convergence of Russia and China's defence strategies—resulting in the formation of a common defence policy."[58] Moreover, Sino-Russian coordination in missile defense activities reportedly has included "simulated command post-level missile defense exercises."[59]

China has openly expressed its desire to overcome what it refers to as a "century of humiliation" by Western powers and Japan,[60] and its military buildup—according to ADM Richard—includes a "breathtaking" expansion of its nuclear forces.[61] He has called this a "strategic breakout" by China, stating, "A strategic breakout denotes the rapid qualitative and quantitative expansion of military capabilities that enables a shift in strategy and requires the DoD to make immediate and significant planning and/or capability shifts."[62] He further noted that this "points towards an emboldened PRC that possesses the capability to employ any coercive nuclear strategy today."[63] Beijing's aggressive actions against Taiwan and its brandishing of nuclear threats against those who might stand in the way of its forceful absorption of the island appear to be an attempt to coerce other powers, particularly the United States, into accepting as a *fait accompli* China's efforts at territorial aggrandizement. This is a unique deterrence challenge for the United States.

Russia has shocked the world by using military force and coercive nuclear threats in its attempt to reconstitute a Russian empire. Russia's invasion of Ukraine—a democratic neighbor that poses no military threat to Russia—has as its goal not only to destroy that country's independence and territorial sovereignty but, as Russia's Ambassador to the United States declared, to overturn the U.S. and NATO-led "world order."[64]

As part of its coercive efforts, Russia has threatened nuclear use against NATO and non-NATO states, and has long been engaged in an extensive nuclear modernization program, building exotic new nuclear weapons systems—a number of which are unaccountable under the New START Treaty. New systems reportedly include a heavily-MIRVed ICBM, a nuclear torpedo, a hypersonic glide vehicle launched from an ICBM, a nuclear-powered cruise

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[57] "Russian warships pass south of Tokyo: Japan's Defense Ministry," op. cit.

[58] Alexander Korolev, "China–Russia cooperation on missile attack early warning systems," *East Asia Forum*, November 20, 2020, available at https://www.eastasiaforum.org/2020/11/20/china-russia-cooperation-on-missile-attack-early-warning-systems/.

[59] "Russian warships pass south of Tokyo: Japan's Defense Ministry," op. cit.

[60] Christopher A. Ford, *Defending Taiwan: Defense and Deterrence, Occasional Paper*, Vol. 2, No. 2 (Fairfax, VA: National Institute Press, 2022), available at https://nipp.org/wp-content/uploads/2022/02/Vol.-2-No.-2-Ford.pdf.

[61] *Statement of Charles A. Richard, Commander, United States Strategic Command, Before the Senate Armed Services Committee*, March 8, 2022, p. 2, available at https://www.armed-services.senate.gov/imo/media/doc/2022%20USSTRATCOM%20Posture%20Statement%20-%20SASC%20Hrg%20FINAL.pdf.

[62] Ibid., p. 2.

[63] Ibid., p. 5.

[64] Natalie Colarossi, "Putin Using Ukraine Invasion to Change 'World Order': Russian Ambassador," *Newsweek*, April 18, 2022, available at https://www.newsweek.com/putin-using-ukraine-invasion-change-world-order-russian-ambassador-1698657.

missile, and other systems intended to defeat U.S. missile defenses and which Russian President Putin has referred to as "invincible."[65]

The potential for Sino-Russian coordinated hostilities is an unprecedented possibility (likelihood?) with numerous implications, including, for example, the possibility of Russia and China confronting the United States with two simultaneous and coordinated regional wars and the corresponding U.S. need to deter their simultaneous threats of limited theater nuclear escalation in two different geographical locations. As several retired military analysts have noted, "The United States must now seriously consider its options to counter a new collective nuclear blackmail."[66] In this case, Russia and China may be more successful in deterring the United States from responding to their aggression than the United States may be in deterring Sino-Russian aggression in the first place. The consequences of this would call into sharp question the credibility of U.S. extended deterrence for allies.

Those who contend that relative nuclear force numbers do not matter for deterrence should consider the implications of Sino-Russian collaboration. This is a deterrence challenge that U.S. conventional and theater nuclear capabilities may be unprepared to meet given the apparent near elimination of U.S. theater-range theater nuclear weapons proportional to the potential Sino-Russian theater nuclear threats.[67]

The Two-War Standard Left Behind

For years following the Cold War, the United States was considered the sole superpower and the U.S. military was the preeminent fighting force in the world. In the wake of the demise of the Soviet Union, U.S. military strategy transitioned from a focus on deterring global conflict to one centered on regional contingencies. As the 1992 *National Military Strategy of the United States* explained, "Because of the changes in the strategic environment, the threats we expect to face are regional rather than global…. [therefore] our plans and resources are primarily focused on deterring and fighting regional rather than global wars."[68] Accordingly, U.S. military planners designed a strategy that called on the United States to prepare to fight two major regional contingencies (MRCs) simultaneously. This two-MRC construct was embedded in various open U.S. military strategy documents and required U.S. forces to be sized and capable of successfully engaging adversaries in both Europe and Asia. It required a military that was sufficiently forward deployed and equipped with the most modern and sophisticated military technology that would ensure a U.S. advantage on the battlefield. This

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[65] Nathan Hodge, Barbara Starr, Matthew Chance and Emma Burrows, "Putin claims new 'invincible' missile can pierce US defenses," *CNN*, March 1, 2018, available at https://www.cnn.com/2018/03/01/europe/putin-russia-missile-intl/index.html.

[66] Dan Leaf and Howard Thompson, "U.S. Must Counter Collective Nuclear Blackmail," *RealClear Defense*, June 18, 2022, available at https://www.realcleardefense.com/articles/2022/06/18/us_must_counter_collective_nuclear_blackmail_838067.html.

[67] Schneider, "Does the United States Have Any Real Capability to Forward Deploy Nuclear Weapons Rapidly Outside of NATO?,"op. cit.

[68] Joint Chiefs of Staff, *National Military Strategy of the United States*, January 1992, p. 11, available at https://history.defense.gov/Portals/70/Documents/nms/nms1992.pdf?ver=AsfWYUHa-HtcvnGGAuWXAg%3d%3d.

two-war standard became the benchmark against which the adequacy of U.S. forces was judged.[69]

This standard carried over into the 2001 *Quadrennial Defense Review* (QDR), which noted: "For planning purposes, U.S. forces will remain capable of swiftly defeating attacks against U.S. allies and friends in any two theaters of operation in overlapping timeframes."[70] However, the 2001 QDR adjusted U.S. military planning to focus on decisively defeating an adversary in one theater of operations before securing victory in another while conducting "a limited number of lesser military and humanitarian contingencies."[71] As the strategy explained, "At the direction of the President, U.S. forces will be capable of decisively defeating an adversary in one of the two theaters in which U.S. forces are conducting major combat operations by imposing America's will and removing any future threat it could pose."[72]

The notion of fighting a two-front war against major powers is not simply theoretical. The United States did so in World War II. In the late 1930s and early 1940s, the United States was ill-prepared militarily to prosecute a conflict against Germany and Japan simultaneously. Consequently, as recounted by one historian, U.S. leaders agreed on "a global strategy for the United States in the event of a two-front, coalition war against Germany and Japan which called for a defensive effort in the Far East so that American and Allied forces could concentrate in the European theatre to defeat Germany first."[73] This sequential approach to warfighting was considered half a century later as the Clinton Administration drafted a military strategy that was dubbed "Win-Hold-Win," but which reportedly was abandoned as untenable.[74]

In 2006, the Department of Defense revised its "Force Planning Construct" to focus on irregular warfare and to "consider a somewhat higher level of contributions from international allies and partners" that would allow the United States to "wage two nearly simultaneous conventional campaigns (or one conventional campaign if already engaged in a large-scale, long-duration irregular campaign), while selectively reinforcing deterrence against opportunistic acts of aggression."[75] By 2010, however, the United States apparently

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[69] Department of Defense, *Report of the Quadrennial Defense Review*, May 1997, p. 12, available at https://history.defense.gov/Portals/70/Documents/quadrennial/QDR1997.pdf?ver=qba2TZwCFGClTKIgPlPnvg%3d%3d.

[70] Department of Defense, *Quadrennial Defense Review Report*, September 3, 2001, p. 21, available at https://history.defense.gov/Portals/70/Documents/quadrennial/QDR2001.pdf?ver=AFts7axkH2zWUHncRd8yUg%3d%3d.

[71] Department of Defense, *Quadrennial Defense Review Report*, February 6, 2006, p. 36, available at https://history.defense.gov/Portals/70/Documents/quadrennial/QDR2006.pdf?ver=2014-06-25-111017-150.

[72] Department of Defense, *Quadrennial Defense Review Report*, September 3, 2001, op. cit., p. 21.

[73] Mark A. Stoler, "The 'Pacific-First' Alternative in American World War II Strategy," *The International History Review*, Vol. 2, No. 3, July 1980, p. 432.

[74] John T. Correll, "Back to Win-Hold-Win," *Air Force Magazine*, October 1, 1999, available at https://www.airforcemag.com/article/1099edit/.

[75] Department of Defense, *Quadrennial Defense Review Report*, February 6, 2006, op. cit., p. 38.

had revised the two-MRC construct as a force-sizing measure to focus on counter-terrorism and irregular warfare.[76]

The 2014 QDR further scaled back U.S. planning objectives, seeking to defeat one regional adversary while imposing severe costs on another. It called for a force,

> …capable of simultaneously defending the homeland; conducting sustained, distributed counterterrorist operations; and in multiple regions, deterring aggression and assuring allies through forward presence and engagement. If deterrence fails at any given time, U.S. forces could defeat a regional adversary in a large-scale multi-phased campaign and deny the objectives of—or impose unacceptable costs on—another aggressor in another region."[77]

With the re-emergence of sharp great power conflicting interests as outlined in the 2017 *National Security Strategy of the United States of America* and the 2018 *National Defense Strategy*, the United States shifted its conceptual focus from irregular warfare and lesser regional contingencies to threats posed by Russia and China. The 2021 *Interim National Security Strategic Guidance* noted, "Both Beijing and Moscow have invested heavily in efforts meant to check U.S. strengths and prevent us from defending our interests and allies around the world." The critical question is whether the U.S. armed forces today have adopted a revised force-planning construct that prepares for simultaneous regional conflicts against nuclear peer adversaries in Europe and the Indo-Pacific.

The prospect of a revanchist China and Russia working together to challenge U.S. national security interests worldwide suggests that the time has come to consider restoring the two major regional contingency force-sizing construct as a means of bolstering deterrence. This would likely require greater regional power projection capabilities, including an expanded U.S. force presence abroad, along with a greater number of more flexible, technologically sophisticated, and survivable offensive and defensive military assets both in theater and capable of rapid deployment to theater as needed.

Such a force expansion may well require additional fiscal resources than those currently budgeted; however, some in Congress have shown a willingness to go beyond the levels of defense spending requested by the Biden Administration. For example, the Senate Armed Services Committee and the Senate Appropriations Committee approved a level of defense funding for fiscal year 2023 well in excess of the administration's budget request.[78] And the

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[76] Department of Defense, *Quadrennial Defense Review Report*, February 2010, available at https://history.defense.gov/Portals/70/Documents/quadrennial/QDR2010.pdf?ver=vVJYRVwNdnGb_00ixF0UfQ%3d%3d.

[77] Department of Defense, *Quadrennial Defense Review*, 2014, p. 44, available at https://history.defense.gov/Portals/70/Documents/quadrennial/QDR2014.pdf?ver=tXH94SVvSQLVw-ENZ-a2pQ%3d%3d.

[78] The Senate Armed Services Committee approved a level of defense funding roughly $45 billion more than what the administration requested. See Senate Armed Services Committee Press Release, "Reed and Inhofe File Fiscal Year 2023 National Defense Authorization Act," July 18, 2022, available at https://www.armed-services.senate.gov/press-releases/reed-and-inhofe-file-fiscal-year-2023-national-defense-authorization-act. The Senate Appropriations Committee also added significantly to the administration's defense request. See "Senate appropriators seek $850 billion for defense,

House approved version of the National Defense Authorization Act for Fiscal Year 2023 also exceeds the level of defense funding requested by the administration by approximately $37 billion.[79]

Deterrence Implications of the Potential for Sino-Russian Coordination in Regional Wars

During World War II, Japan was essentially spurred to take action against the United States by U.S. sanctions at a time when the United States was ill-prepared militarily to defeat Japanese and German aggression simultaneously. Similarly, if the United States today is seen to be unprepared to respond to simultaneous, coordinated aggression, China and Russia may be spurred to action that otherwise could be deterred.

What does this mean for U.S. extended deterrence goals in the emerging international environment? If the United States were manifestly unable to respond adequately to simultaneous, regional conflicts with Russia and China, that U.S. inadequacy could easily provoke the violation of long-standing U.S. redlines that are meant to deter attacks on allies and partners. Moscow and Beijing could see such a situation as providing them with an exploitable opportunity to achieve their goals via the use of force—undercutting the U.S. capacity to deter coordinated aggression and U.S. extended deterrence goals.

In short, U.S. military planning and capabilities unprepared for Sino-Russian regional aggression on two fronts could lower the apparent risks for Sino-Russian aggression, and thus embolden both countries to seek to achieve their goals via the use of force. A U.S. force posture that does not sufficiently prepare for the prospect of Sino-Russian coordination may convey weakness to opponents looking for U.S. weakness; such perceived weakness can be highly provocative to revisionist powers and lead to deterrence failure.

This is a realistic concern as Russia and China have goals that essentially demand their violation of expressed U.S. redlines in Europe and Asia, respectively. A prudent U.S. strategy to deter coordinated Sino-Russian aggression in Asia and Europe must be backed by a force structure and posture that takes preparedness for this possibility seriously and conveys a strong determination and capability to enforce the U.S. extended deterrence redlines that both Russia and China find inimical to their respective goals.

Addressing a deterrence gap at the conventional force level likely is necessary now for extended deterrence purposes, but not sufficient. The shadow of nuclear threat will overhang any regional conflict that involves a coordinated Sino-Russian attack on U.S. and allied interests. The harsh deterrence reality is that establishing the U.S. conventional capability to counter a two-front conventional war could compel Russia and China to accept

largest total of 4 key committees," *Breaking Defense,* July 28, 2022, available at https://www.google.com/amp/s/breakingdefense.com/2022/07/senate-appropriators-seek-850-billion-for-defense-largest-total-of-4-key-committees/amp/.

[79] Sandra Erwin, "House of Representatives passes 2023 defense authorization bill," *Space News*, July 14, 2022, available at https://spacenews.com/house-of-representatives-passes-2023-defense-authorization-bill/.

the risk of engaging in nuclear escalation if needed to paralyze U.S. support for allies or to secure a slowly grinding military campaign. The war in Ukraine has conclusively illustrated this prospective danger.

Consequently, U.S. nuclear deterrence capabilities must complement U.S. regional forward-deployed and power projection capabilities to help deter Sino-Russian aggression and to deter their possible nuclear escalation in the event of regional conflict. That is, U.S. conventional and nuclear capabilities must provide an integrated approach to deterrence that helps to ensure that Russia and China have overwhelming disincentives to initiate coordinated conventional campaigns or to engage in nuclear escalation in the event that they decide to pursue such a campaign.

In this new strategic environment, the prospect of coordinated Sino-Russian military moves presenting the United States with two simultaneous, major regional wars in their bids to overturn the existing world order necessitates renewed thinking about the strategy and resources needed to ensure the continued functioning of extended deterrence. This is true with regard to U.S. conventional force and nuclear force preparations for deterrence.

Sino-Russian Coordination: Potential Deterrence Challenges at the Strategic Force Level

At the strategic nuclear level of consideration, Beijing's and Moscow's combined strategic nuclear and advanced conventional capabilities could, in the future, present a challenge to the continuing survivability of U.S. strategic retaliatory forces akin to when the massive Soviet ICBM deployments of the 1970s and early 1980s created a "window of vulnerability" for U.S. ICBM capabilities.[80] Those who may deem such a threat to be far-fetched should recall that in 1969, at the height of the Sino-Soviet split, the Soviet Union reportedly raised the possibility of a Soviet-U.S. "joint attack on China's nuclear facilities."[81]

Some estimates suggest that China could deploy at least 4,000 nuclear weapons by the early 2030s if it deploys MIRVed ICBMs in the new ICBM fields under construction.[82] When combined with Russia's 1,550 New START-accountable deployed strategic nuclear weapons, its unaccountable strategic nuclear weapons and its arsenal of non-strategic nuclear weapons, the potential deterrence implications of combined Sino-Russian capabilities become much more significant.

For example, given the potential for Sino-Russian strategic coordination in hostilities against the United States, the adequacy of U.S. deterrence capabilities must be measured

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[80] See for example, President's Commission on Strategic Forces, *Report of the President's Commission on Strategic Forces* (April 1983).

[81] Robert Farley, "How the Soviet Union and China Almost Started World War III," *National Interest*, February 9, 2016, available at https://nationalinterest.org/feature/how-the-soviet-union-china-almost-started-world-war-iii-15152. See also, Callum Hoare, "World War II: Moscow Probed US Over 'Joint Attacke on China's Nuclear Faciltites,'" *Express* (UK), August 13, 2020, available at https://www.express.co.uk/news/world/1322440/world-war-3-moscow-nuclear-attack-china-us-soviet-union-cold-war-beijing-spt.

[82] China's new DF-41 ICBM reportedly can carry "up to 10 warheads." See, Center for Strategic and International Studies, *DF-41 (Dong Feng-41/CSS-X-20*), July 31, 2021, available at https://missilethreat.csis.org/missile/df-41/.

against the *combined forces* of two nuclear great powers, not each separately—a wholly unprecedented condition. To serve deterrence purposes, U.S. nuclear forces must be *manifestly* survivable against a potential strike by this prospective combination of forces.

It has long been recognized that forces that are vulnerable to attack may invite an attack in a crisis rather than deter attack. As ADM Richard Mies, former Commander of U.S. Strategic Command, has pointed out, "…below certain [U.S. force] levels, potential adversaries may be encouraged to challenge us. A smaller arsenal may appear to be a more tempting and easier target for preemption…."[83]

The survivability of U.S. strategic retaliatory forces against a Sino-Russian attack may come to the forefront of U.S. concerns given the combination of: 1) the large reductions in U.S. strategic force levels following the Cold War; 2) the contemporary buildup of Russian and Chinese strategic nuclear forces; and, 3) the prospective enormous combined numbers of Russian and Chinese strategic nuclear warheads. The "window of vulnerability" that developed decades ago may become a significant renewed challenge as both Russia and China deploy strategic nuclear forces in ever greater number and sophistication with the explicit purpose of negating the U.S. strategic deterrent and providing coercive cover for their own expansionist aggression. Preserving the survivability of forces needed for a credible retaliatory deterrent threat may again become a challenge given the limited number of U.S. retaliatory forces and the potential number of Sino-Russian forces that could be targeted against them.

This reality may be disturbing because for many commentators this concern has been considered part of a happily forgotten past. But, it is not "worst-case analysis." It simply recognizes the harsh realities of the emerging deterrence context.

For example, every U.S. administration has recognized the unique contributions for deterrence made by ICBMs. To preserve their survivability over time, the United States may well need to consider the number, type, and basing mode of this land-based deterrent.

In the 1980s, the United States considered multiple deployment options for the MX ("Peacekeeper") ICBM, including a multiple protective shelter basing scheme, deployment on small submarines, and an air-basing mode.[84] These options were ultimately rejected due to cost, operational, environmental, and other considerations. These options may still be unacceptable, but the question of preserving a survivable, land-based deterrent in the face of a prospective combined Sino-Russian force warrants consideration.

In principle, some protection of the ICBM force could be achieved through a variety of measures, including dispersal, mobility, concealment, and measures of active and passive defense (to include missile defense and silo hardening). An "adaptive preferential defense" concept may be useful in minimizing the vulnerability of U.S. ICBMs to preemptive attack. As described in a 1981 Office of Technology Assessment report, "Preferential defense is a tactic

[83] Adm. Mies, USN (Ret.), op. cit.

[84] Office of Technology Assessment, *MX Missile Basing* (Washington, D.C.: U.S. Government Printing Office, September 1981), available at https://ota.fas.org/reports/8116.pdf.

for multiplying the effectiveness of a defensive system if it is only required to defend a subset of the targets under attack."[85]

In addition, a survivable bomber force also provides unique deterrence value. As ADM Richard has noted, "Bombers are among the most flexible, visible, and versatile leg of our nation's delivery platforms."[86] It reportedly has been more than 30 years since U.S. bombers have been on alert.[87] Given the prospective Sino-Russian strategic threat, attention to the alert status of the bomber force may again be in order. Restoring the bomber alert status could improve its survivability and send a clear deterrent message to adversaries.

Deterrence Implications of the Potential for Sino-Russian Coordinated Strikes: U.S. Deterrence Threat Options

Corresponding to the survivability of U.S. retaliatory forces is the question of the strategic deterrence threat options that the United States can credibly brandish against two hostile great nuclear powers who may be acting in concert and simultaneously—each of which has an expansive number of targets the United States may need to hold at risk for deterrence purposes. The question is whether that portion of the U.S. force posture that could survive a combined Sino-Russian strategic attack would have sufficient capacity and flexibility to support credible U.S. deterrence threat options against both Russia and China simultaneously.

For example, if a sizable portion of the number of U.S. strategic warheads on ballistic missile carrying submarines were to survive a Sino-Russian strategic attack, would that level of U.S. retaliatory potential provide a credible deterrent to a Sino-Russian attack in the first place, or to follow-on Sino-Russian strikes if deterrence fails to prevent their first strike? It may well be true that, "Just one boat can carry enough nuclear warheads to place two warheads on each of Russia's fifty largest cities."[88] But that claim tells us nothing about deterrence, per se. The critical question is whether the type of deterrent threat typically associated with reduced U.S. force numbers, referred to as "counter-city," or "minimum deterrence," is an acceptable measure of capability for U.S. deterrence purposes, which is the fundamental reason for the existence of U.S. strategic forces.

For over five decades and on a fully bipartisan basis, the United States has explicitly rejected a "counter-city," "minimum deterrence" policy—sometimes also referred to as an "assured destruction" threat—despite its relatively modest retaliatory force requirements, because of its potential incredibility as a deterrent and its moral repugnance. Instead, the

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[85] Ibid.

[86] *Statement of Charles A. Richard, Commander, United States Strategic Command, Before the Senate Armed Services Committee*, April 20, 2021, p. 14, available at https://www.armed-services.senate.gov/imo/media/doc/Richard04.20.2021.pdf.

[87] Robert Hill, "Why America Should Place Some Bombers (And Tankers) Back On Nuclear Alert," *19fortyfive.com*, May 21, 2021, available at https://www.19fortyfive.com/2021/05/why-america-should-place-some-bombers-and-tankers-back-on-nuclear-alert/.

[88] Perry and Collina, op. cit., p. 119.

United States has pursued a deterrence policy intended to provide a range of U.S. threat options to support credible deterrence in a variety of possible circumstances. The targets to be held at risk for deterrence purposes potentially could include opponents' military capabilities, command and control capabilities and civilian leadership, "while minimizing to the maximum extent possible collateral damage to population and civilian infrastructure."[89] This "flexible response" approach to deterrence has been made explicit in multiple open U.S. policy documents for decades.

However, the potential for a combined Sino-Russian attack suggests the future possibility that the United States would essentially be left with a minimum deterrent. In addition to the moral and legal issues associated with threatening to destroy an opponents' cities with nuclear weapons, such an approach to deterrence may well not be credible in numerous critical deterrence contexts—particularly including a Sino-Russian attack focused on U.S. retaliatory forces. U.S. retaliatory options could be reduced substantially, and a relatively small number of surviving U.S. assets could be incapable of holding at risk the extensive assets that may be needed for the credible deterrence of these two great power adversaries, including their military forces and leadership. Such a limited approach to deterrence could actually increase the risk of deterrence failure by presenting an incredible, ineffective U.S. deterrence threat to two revanchist great powers.

As ADM Mies has rightly observed, if the number of U.S. retaliatory forces is reduced, the "greatest concern" is that there would be a corresponding reduction in "the range of flexible response options designed to provide the president with *minimum use of force*. Ultimately, below a certain level, to remain credible our targeting doctrine and policies would have to shift away from our traditional flexible response targets to counter-population targets… This transition would be counter to our historical practice, politically less tolerable, and morally repugnant."[90]

The figure below is ADM Mies' notional illustration of this practical relationship between survivable strategic force numbers and U.S. deterrence threat options.[91] As noted, a minimum deterrence ("counter-population") posture has long been rejected by U.S. administrations on a bipartisan basis. For example, the Clinton Administration concluded:

> We will retain strategic nuclear forces sufficient to deter any future hostile foreign leadership with access to strategic nuclear forces from acting against our vital interests and to convince it that seeking a nuclear advantage would be futile. Therefore, we will continue to maintain nuclear forces of sufficient size and capability to hold at risk a broad range of assets valued by such political and military leaders.[92]

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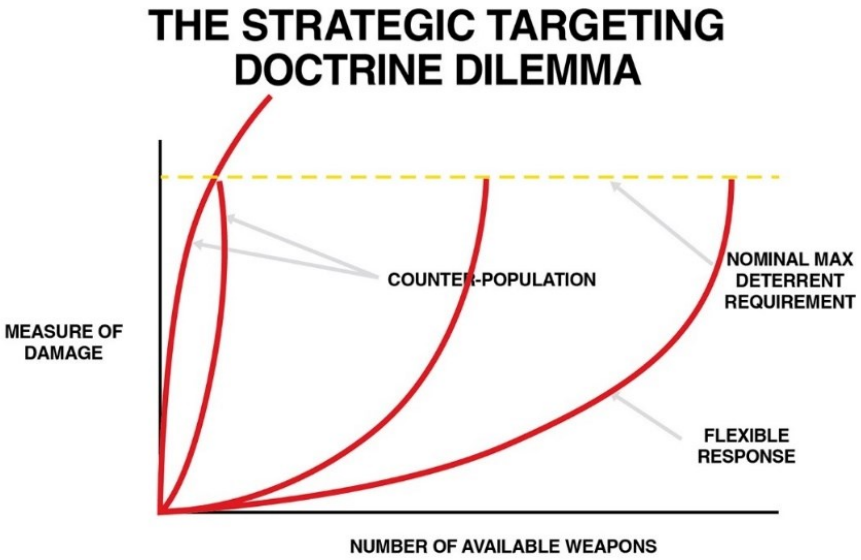
[89] Mies, op. cit., p. 16.

[90] Ibid., p. 16.

[91] Ibid., p. 15. Used here with permission.

[92] The White House, *A National Security Strategy of Engagement and Enlargement*, July 1994, p. 12, available at https://history.defense.gov/Portals/70/Documents/nss/nss1994.pdf?ver=YPdbuschbfpPz3tyQQxaLg%3d%3d.



Similarly, the Obama Administration noted that the United States will "maintain significant counterforce capabilities against potential adversaries. The new [nuclear employment] guidance does not rely on a 'counter-value' or 'minimum deterrence' strategy."[93] Moreover, it stated that the United States seeks "to minimize collateral damage to civilian populations and civilian objects" and "will not intentionally target civilian populations or civilian objects."[94] And the Trump Administration concluded that the United States must be able to "respond to a broad range of contingencies with tailored options,"[95] declaring "the United States will field nuclear and non-nuclear capabilities that provide U.S. leadership a range of tailored response options to deter escalation and accomplish U.S. objectives if deterrence fails. U.S. nuclear forces are designed, sized, and postured in such a way that no adversary should ever contemplate a successful disarming first strike or limited nuclear employment."[96] In addition, it reaffirmed, "The United States has for decades rejected a deterrence strategy based on purposely threatening civilian populations, and the United States will not intentionally target civilian populations."[97]

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[93] Department of Defense, *Report on the Nuclear Employment Strategy of the United States*, June 12, 2013, p. 4, available at https://uploads.fas.org/2013/06/NukeEmploymentGuidance_DODbrief061213.pdf.

[94] Ibid., pp. 4-5.

[95] Department of Defense, *Nuclear Posture Review*, February 2018, p. 44, available at https://media.defense.gov/2018/Feb/02/2001872886/-1/-1/1/2018-NUCLEAR-POSTURE-REVIEW-FINAL-REPORT.PDF.

[96] Department of Defense, *Report on the Nuclear Employment Strategy of the United States – 2020*, November 30, 2020, p. 4, available at https://www.esd.whs.mil/Portals/54/Documents/FOID/Reading%20Room/NCB/21-F-0591_2020_Report_of_the_Nuclear_Employment_Strategy_of_the_United_States.pdf.

[97] Ibid., p. 6.

In short, for over five decades the United States, on a fully bipartisan basis, has favored a deterrence policy of "flexible response" that can credibly hold at risk a range of opponents' critical assets while avoiding societal damage to the greatest extent practicable. The desirability of flexible response options has been captured in multiple official policy documents including, for example, Presidential Directive-59 (PD-59)—the "Countervailing Strategy" of the Carter Administration. As then-Secretary of Defense Harold Brown stated in 1979, "It is tempting to believe, I realize, that the threat to destroy some number of cities—along with their population and industry—will serve as an all-purpose deterrent. The forces required to implement such a threat can be relatively modest….Unfortunately, however, a [deterrence] strategy based on assured destruction alone no longer is wholly credible….a strategy and a force structure designed only for assured destruction is not sufficient for our [deterrence] purposes."[98]

The threat to U.S. retaliatory forces posed by the prospective combination of China's and Russia's strategic offensive forces suggests the possibility that the U.S. strategic deterrent could be reduced to an incredible and morally repugnant "minimum deterrent," and thereby increase the potential for deterrence failure at the strategic and regional levels. This possibility now warrants careful consideration.

Sino-Russian Coordination: Potential Deterrence Challenges at the Theater Nuclear Level

While coordinated Russian-Chinese threats and actions would present unprecedented regional and strategic deterrence challenges for the United States, as discussed above, Sino-Russian coordination could also present deterrence challenges at the level of non-strategic (theater) nuclear forces. How so? The extreme imbalance in theater nuclear capabilities in favor of Russia and China, coupled with their aggressive foreign policy designs and increasingly strident nuclear threats against Western countries and Japan, suggest that the United States must hedge against the threat or reality of opponents' regional nuclear first use in *two* theaters *simultaneously*. This is a novel challenge that the United States must be prepared to confront if U.S. extended deterrence commitments to allies are to be credible and seen as such by allies and adversaries alike.

Russia and China continue to build and deploy additional non-strategic nuclear weapons, while the United States has greatly reduced the number of its deployed nuclear weapons overseas. Unclassified estimates indicate that Russia's stockpile of deployed non-strategic or theater nuclear weapons alone may be 10 times or more the number of similar U.S. weapons.[99]

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[98] Harold Brown, *Department of Defense Annual Report Fiscal Year 1980* (Washington, D.C.: USGPO, January 25, 1979), pp. 75-76.

[99] See, for example, Amy F. Woolf, *Nonstrategic Nuclear Weapons*, Congressional Research Service, Report RL32572, March 7, 2022, available at https://crsreports.congress.gov/product/pdf/RL/RL32572/46. Also see Mark B. Schneider, "Russian Nuclear Strategy," *Journal of Strategy and Politics*, Vol. 2, No. 1 (2017), p. 123, available at

As demonstrated by Russia's ongoing aggression against Ukraine and numerous nuclear threats, the prospect that Russia might use nuclear weapons in a conflict must be taken seriously. Indeed, President Putin has established the predicate for Russian nuclear employment in Ukraine by declaring that, "A threat absolutely unacceptable to us was being systemically created" in Ukraine.[100]

Russia's military doctrine is clear on the conditions for nuclear weapons employment—and those conditions include non-nuclear threats that pose an existential threat to the Russian Federation.[101] Putin's statements suggest that Russia faces an existential threat from Ukraine. In a televised speech to the Russian people on February 24, 2022, he stated:

> For the United States and its allies, it is a policy of containing Russia, with obvious geopolitical dividends. For our country, it is a matter of life and death, a matter of our historical future as a nation. *This is not an exaggeration; this is a fact. It is not only a very real threat to our interests but to the very existence of our state and to its sovereignty*. It is the red line which we have spoken about on numerous occasions. They have crossed it.[102]

By one estimate, Putin has made nearly three dozen explicit nuclear threats to date against NATO.[103] Indeed, the rhetoric used by Russian leaders has become increasingly strident and ominous. For example, former President Dmitri Medvedev declared that "the United States and their useless mongrels should remember the words of scripture: 'Judge not, lest you be judged; So that one day the great day of God's wrath will not come to their house.'" He warned that "the idea to punish a country with the largest nuclear potential is absurd and potentially creates the threat to mankind's existence."[104] If the West continues

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https://studyofstrategyandpolitics.files.wordpress.com/2017/12/russian-nuclear-strategy.pdf; and, Robert G. Joseph, "Second to One," *National Review*, July 2, 2012, available at https://www.nationalreview.com/2012/07/second-one-robert-g-joseph/.

[100] Alina Selyukh, "Here's what Putin said about Ukraine in his Victory Day speech," *NPR*, May 9, 2022, available at https://www.npr.org/2022/05/09/1097547054/russia-marks-wwii-victory-overshadowed-by-ukraine.

[101] *Executive Order on Basic Principles of State Policy of the Russian Federation on Nuclear Deterrence*, June 2, 2020, available at https://archive.mid.ru/en/web/guest/foreign_policy/international_safety/disarmament/-/asset_publisher/rp0fiUBmANaH/content/id/4152094.

[102] "Transcript: Vladimir Putin's Televised Address on Ukraine," *Bloomberg News*, February 24, 2022, available at https://www.bloomberg.com/news/articles/2022-02-24/full-transcript-vladimir-putin-s-televised-address-to-russia-on-ukraine-feb-24. (Emphasis added).

[103] Peter Huessy, "The New Nuclear Window of Vulnerability," *Warrior Maven*, July 11, 2022, available at https://warriormaven.com/global-security/nuclear-war-russia-ukraine.

[104] Brett Wilkins, "Russian Official Makes Nuclear Threat Over US Support for Ukraine War Crimes Probe," *Common Dreams*, July 6, 2022, available at https://www.commondreams.org/news/2022/07/06/russian-official-makes-nuclear-threat-over-us-support-ukraine-war-crimes-probe.

to arm Ukraine, he argued, it could lead to "a full-fledged nuclear war."[105] Other Russian officials have made similar dire warnings.[106]

China, as well, is rapidly expanding its theater nuclear forces, and its development of nuclear capable short-, medium-, and intermediate-range ballistic missiles such as the DF-15 (CSS-6) suggests that nuclear payloads are possible. Moreover, Beijing apparently has threatened Japan with nuclear strikes should Tokyo intervene to defend Taiwan in the event of Chinese military action.[107] Similarly, China has threatened Australia with "retaliatory punishment" if Australian forces intervene in any Taiwan scenario[108] and has suggested that Australia's close cooperation with the United States and United Kingdom makes it a "potential nuclear war target."[109]

Is the United States currently prepared to deter credibly two simultaneous regional conflicts in which Sino-Russian nuclear escalation is threatened or carried out in Europe and Asia, without risking obvious escalation to a highly-destructive strategic nuclear level? The significant imbalance in theater nuclear capabilities and deployments suggests otherwise and calls into question the credibility of U.S. extended deterrent threats.

Why so? In the near-absence of proportional, regional U.S. nuclear capabilities, deterrence could fail because Russia and China understandably question whether the United States would be willing to turn a regional conflict into a potentially suicidal intercontinental nuclear war, and thus calculate that they are at greater freedom to engage in regional, limited nuclear threats or employment. This was a Cold War concern for the United States in its extension of deterrence to allies. At that time, Washington addressed this problem largely via the presence of forward-deployed forces, including thousands of theater nuclear weapons, and limited strategic options. But those theater nuclear forces have long since nearly been eliminated.

It must be recognized that this deterrence challenge does not simply follow from extensive Russian and Chinese theater nuclear capabilities and the absence of comparable U.S. capabilities; it is not just a question of nuclear weapons "bean counting." Rather, this deterrence challenge follows from the diversity of Sino-Russian nuclear capabilities and their revanchist political goals and actions that directly threaten U.S. allies and partners. Their international political goals are the driver of their arms and behavior, and the source of this new deterrence challenge. Should Moscow and Beijing believe that the United States lacks either the will or the capability to respond *proportionally* to their regional first use of

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[105] Greg Norman, "Medvedev: NATO's involvement in Russia-Ukraine conflict brings risk of 'full-fledged nuclear war'," *Fox News*, May 12, 2022, available at https://www.foxnews.com/world/medvedev-nato-russia-ukraine-war-nuclear-warning.

[106] See, for example, the June 17, 2022 congressional letter to President Biden quoting several Russian officials, available at https://gop-foreignaffairs.house.gov/wp-content/uploads/2022/06/20220617_POTUS-Ltr_US-Response-to-Russian-Nuclear-Intimidation.pdf.

[107] "China threatens Japan with nuclear war over intervention in Taiwan," op. cit.

[108] Hu Xijin, "China needs to make a plan to deter extreme forces of Australia," *Global Times*, May 7, 2021, available at https://www.globaltimes.cn/page/202105/1222899.shtml.

[109] Yang Sheng, "Nuke sub deal could make Australia 'potential nuclear war target'," *Global Times*, September 16, 2021, available at https://www.globaltimes.cn/page/202109/1234460.shtml.

nuclear weapons, extended deterrence may well be undermined, and the risks of Sino-Russian regional military aggression will grow.

Recognizing this, the 2018 *Nuclear Posture Review* called for development of a new nuclear sea-launched cruise missile (SLCM-N) to "provide a needed non-strategic regional presence, an assured response capability, and an [Intermediate-Range Nuclear Forces] INF-Treaty compliant response to Russia's continuing Treaty violation."[110] According to DoD, this capability was seen as necessary to provide greater flexibility in deterrence options and thereby to strengthen extended deterrence and the assurance of allies.[111]

Given Russia's and China's stream of coercive regional nuclear threats, diverse U.S. theater response options that *are proportional to the threats* and readily available in different theaters may well be of great value for credible extended deterrence. Senior U.S. military leaders have observed that *prudent* planning for deterrence now points to the need for continued development of the SLCM-N. The need to hedge against increasing uncertainties regarding Sino-Russian regional nuclear threats helps to explain why that is true. It also helps explain support for the SLCM-N on the part of the Chairman and Vice Chairman of the Joint Chiefs of Staff, the Commander of U.S. Strategic Command, and the Commander of U.S. European Command. As ADM Richard has stated, "The current situation in Ukraine and China's nuclear trajectory have further convinced me a deterrence and assurance gap exists…. I support reestablishing SLCM-N as necessary to enhance deterrence and assurance."[112]

In short, the United States must hedge against expanded uncertainties regarding extended deterrence at regional, theater, and strategic levels. In particular, the stark U.S. disadvantage in theater nuclear forces may foster the belief in Beijing and Moscow that their coercive nuclear threats or employment can support their expansionist territorial goals while their strategic nuclear capabilities will deter the United States at the strategic nuclear level. To hedge against this unprecedented deterrence challenge, a reconsideration of the size, characteristics, and deployment of U.S. theater nuclear forces is warranted, with the goal of having an overall deterrence force posture that is more flexible and adaptable to the new trilateral strategic environment. Hedging against Sino-Russian regional nuclear threats may now require expanding U.S. options for non-strategic nuclear weapons and delivery systems to strengthen the credibility of U.S. extended deterrence guarantees and thus assuring allies. The now-resurrected 1980s criticism of this direction,[113] i.e., that such forces

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[110] Department of Defense, *Nuclear Posture Review*, February 2018, op. cit., p. 55.

[111] Office of the Under Secretary of Defense for Policy, Department of Defense, "The Sea-Launched Cruise Missile-Nuclear (SLCM-N): Policy and Strategy," cited in *Arms Control and International Security Papers*, Vol. 1, No. 11, *Strengthening Deterrence and Reducing Nuclear Risks, Part II: The Sea-Launched Cruise Missile-Nuclear (SLCM-N)*, July 23, 2020, p. 6, available at https://www.state.gov/wp-content/uploads/2020/07/T-Paper-series-SLCM-N-Final-508.pdf.

[112] Bryant Harris, "US nuclear commander backs sea-launched cruise missile Biden would cancel," *Defense News*, June 7, 2022, available at https://www.defensenews.com/2022/06/07/us-nuclear-commander-backs-sea-launched-cruise-missile-biden-would-cancel/.

[113] See the discussion in, Rose Gottemoeller, "The Case Against a New Arms Race: Nuclear Weapons Are Not the Future," *Foreign Affairs Online*, August 9, 2022, available at https://www.foreignaffairs.com/world/case-against-new-arms-race.

reflect a rejection of deterrence in favor of "war-fighting," simply misses their potential value for deterrence in the emerging threat environment.

Hedging Against Expanded Uncertainties Regarding Deterrence Requirements

The need for hedging against uncertainty in U.S. deterrence policy was recognized two decades ago in the 2001 *Nuclear Posture Review* (NPR). Then-Defense Secretary Donald Rumsfeld emphasized at the time, "the probability of surprise and ubiquity of uncertainty are dominant strategic considerations for the U.S."[114] One of the authors of this article commented at the time, "The [2001] NPR addressed the fundamental challenge…[that]…the circumstances of the contemporary security environment introduce even greater uncertainties into the functioning of deterrence than existed during the Cold War, undermining its predictability and reliability. Recognizing this uncertainty marks a significant shift in perspective regarding U.S. strategic policy, with far-reaching implications."[115]

Almost two decades later, the 2018 *Nuclear Posture Review* (NPR) essentially repeated the point that the United States must hedge against uncertainties in its elaboration of deterrence policy.[116] These uncertainties include likely adversary goals, determination, modes of communication and decision making, and willingness to inflict and accept costs in pursuit of their goals. Each of these factors can affect if and how deterrence functions. The multiplication of such uncertainties in the emerging trilateral deterrence context, and the potential for Sino-Russian coordination, increase the imponderables involved in predicting "how much is enough?" for U.S. deterrence needs. Defining that standard has always been more art than science, but it is made even more problematic by the expansion of participants, their revanchist goals, and corresponding hostility to the United States.

Deterrence is a function of leadership decision making, which can be affected by many different factors. Consequently, the application of deterrence is an enormous and unavoidably difficult ongoing undertaking. As already emphasized, to do so properly requires an understanding, to the extent feasible, of the opponent to be deterred in the context of the engagement, including the opponent's foreign and domestic goals (how those goals are prioritized and the opponent's determination to achieve those goals), modes of decision making, willingness to accept risk, willingness to absorb and inflict hurt, cultural norms and values, perceptions of the deterrer, and even the health of key leaders, among many other factors potentially pertinent to decision making. There are few, if any, universal constants in this regard; instead there is a wide variety of operating factors, some seen, others unseen, that can vary greatly across time, place and opponent, and may be decisive in determining if and how deterrence will function.

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[114] Donald H. Rumsfeld, *Annual Report to the President and the Congress, 2002*, p. 84, available at https://history.defense.gov/Portals/70/Documents/annual_reports/2002_DoD_AR.pdf?ver=2014-06-24-153732-117.

[115] Keith B. Payne, "The Nuclear Posture Review: Setting the Record Straight," *The Washington Quarterly* (Vol. 28, No. 3, June 2005), p. 137, available at https://ciaotest.cc.columbia.edu/olj/twq/sum2005/sum2005i.pdf.

[116] Department of Defense, *Nuclear Posture Review*, February 2018, op. cit., p. IX.

In short, rational leadership decision making can vary greatly because unique decision-making factors can drive leaders' perceptions and calculations of value, cost and risk in surprising, unpredictable directions. As a prominent historian and political scientist jointly observed: "Not all actors in international politics calculate utility in making decisions in the same way. Differences in values, culture, attitudes toward risk-taking, and so on vary greatly. There is no substitute for knowledge of the adversary's mind-set and behavioral style, and this is often difficult to obtain or to apply correctly in assessing intentions or predicting responses."[117] As a consequence, the functioning of deterrence "is heavily context dependent."[118]

For the application of deterrence, generalizations often are less helpful than an understanding of the opponent's worldview, priorities, calculations and definition of reasonable behavior. As defense analyst Kurt Guthe has observed, "In matters related to deterrence, generalizations can be useful, but specifics are essential. The questions that must always be kept in mind are: Who is being deterred? From what action? By whom? For what reason? By what threats? And in what circumstances?"[119]

Consequently, as suggested above, there can be no single "assured destruction" standard that defines the U.S. strategic deterrent, as was declared U.S. practice for more than a decade during the Cold War. The declared U.S. "assured destruction" deterrent was based on the expectation that threatening large portions of Soviet population and industry was an adequate basis for strategic deterrence. And, as noted above, all other opponents were considered lesser included cases. This became the declared adequacy standard for U.S. strategic forces for more than a decade. It made the calculation of U.S. strategic deterrence requirements a relatively easy, indeed almost mechanical task, i.e., how many survivable U.S. strategic nuclear weapons were needed to threaten the destruction of large percentages of Soviet population and industry?[120] Much public commentary on what is and is not needed for strategic deterrence continues to be derived from this problematic Cold War standard.

However, in the emerging multilateral deterrence context—given expansionist and hostile opponents and the wide range of plausible contexts in which U.S. deterrence must function—multiple, simultaneous measures of adequacy are needed. Those measures must take into account the many uncertainties involved in their definition, including how opponents' leaders perceive and define acceptable risks in relation to their various goals. Once those measures are agreed upon, it must be recognized that they likely will shift over time, perhaps rapidly, in a dynamic deterrence threat environment. The variety of unavoidable uncertainties involved in setting multiple deterrence adequacy standards is daunting. For example, no one can know with confidence what U.S. deterrence requirements

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[117] Gordon A. Craig, Alexander L. George, op. cit., p. 188.

[118] Ibid., p. 192.

[119] See, Kurt Guthe, "Nuclear Weapons Acquisition and Deterrence," in *Understanding Deterrence*, Keith Payne, ed., (New York: Routledge, 2013), p. 12. See also, Herman Kahn, *On Escalation: Metaphors and Scenarios* (New York: Praeger, 1965), p. 23.

[120] See Alain Enthoven and K. Wayne Smith, *How Much is Enough? Shaping the Defense Program, 1961-1969* (New York: Harper and Row, 1971), pp. 67, 207-208.

will be in 2030 given the range of opponents and contexts in which U.S. capabilities must support deterrence. Nevertheless, it is necessary to plan now to sustain deterrence over the course of decades. As a result, the need to hedge against setting those standards incorrectly, particularly too narrowly, is acute.

The unprecedented level of uncertainties introduced by the multilateral deterrence context calls for renewed consideration of the adequacy standards for U.S. deterrence capabilities. As two analysts have rightly observed:

> …the present need for nuclear deterrence in general does not take policymakers and citizens very far in determining "how much is enough" to deter given adversaries, or in determining "how much is too much." Policymakers often err on the side of caution, but what is cautious depends on context and how risks are defined.[121]

The current U.S. nuclear modernization program was largely set in a time of great optimism regarding U.S. relations with Russia and China. The intensification of Russian and Chinese hostility related to their respective revanchist goals, and the associated *expanded deterrence uncertainties* of the multilateral deterrence context highlight the potential danger of missing the need now to hedge adequately against these expanded uncertainties in U.S. considerations of "how much is enough?" for deterrence.

Hedging Against the Possibility of Deterrence Failure

Finally, the expansion of uncertainties and unknowns regarding the functioning of deterrence applies to both *how* and *whether* deterrence will function. The inconvenient truth is that no one knows if optimistic predictions in this regard are true or false, or even what probability may be assigned to them as being true. During the Cold War and after, commentators and officials alike often made predictions with unbounded confidence;[122] but, even then, in a less complex context, great confidence was largely speculative. To the extent that the United States is unprepared for the possibility of deterrence failure, it is unprepared for the realities of the emerging multilateral deterrence context. This point is not to detract whatsoever from the highest priority that must be placed on deterring conflict, but to recognize that even our best efforts to do so are not foolproof.

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[121] George Perkovich and Pranay Vaddi, *Proportionate Deterrence: A Model Nuclear Posture Review* (Washington, D.C.: Carnegie Endowment for International Peace, 2021), p. 97, available at https://carnegieendowment.org/files/Perkovich_Vaddi_NPR_full2.pdf.

[122] For example, "Our conclusion, in its narrowest terms, must be that the deliberate resort to war by a nuclear power against a power capable of effective retaliation is permanently ruled out…the deliberate resort to major nonnuclear warfare between such powers is also ruled out." Louis Halle, "Does War Have a Future?" *Foreign Affairs*, Vol. 52, No. 1 (October 1973), p. 23; and, "Deterrence *is ensured* by having a survivable [nuclear] capability to hold at risk what potentially hostile leaders value, and we will maintain that capability." John Deutch, Testimony in, U.S. House, Committee on Foreign Affairs, *U.S. Nuclear Policy: Hearings*, 103rd Congress, 2nd Session (Washington, D.C.: USGPO, 1995), p. 36. (Emphasis added).

ADM Richard has cautioned that "Every operational plan in the Department of Defense, and every other capability we have in DOD, rests on the assumption that strategic deterrence, and in particular nuclear deterrence, …is holding right," and that, "if that assumption is not met, particularly with nuclear deterrence, nothing else in the Department of Defense is going to work the way it was designed."[123]

The implications of this harsh reality are numerous. Most obvious perhaps is the potential value of active and passive strategic defenses to help mitigate the prospective destruction from Chinese, Russian or North Korean limited, coercive nuclear attacks and to reduce the coercive value of their threats to launch such attacks. In the past, some prominent scholars, including Herman Kahn and Colin Gray, emphasized the need for U.S. defensive capabilities to mitigate the catastrophic consequences of deterrence failure. In the emerging deterrence context, defenses against coercive threats may serve both to strengthen deterrence and to limit damage if deterrence initially fails.

To a considerable extent, the level of reasonable confidence in deterrence functioning shapes the *potential* value of such defenses, i.e., if deterrence can be expected to prevent attack reliably and predictably, the need for defensive capabilities to limit damage in the event of deterrence failure is reduced. Yet, as confidence in the reliable, predictable functioning of deterrence wanes in the multilateral context, the capability to reduce damage in the event of deterrence failure can only be regarded as increasingly prudent. That is, in the emerging deterrence context in which unbounded confidence in the predictable functioning of deterrence is increasingly open to question, the potential value of defenses must increase, particularly including protection against limited, coercive nuclear threats. This is another inconvenient truth.

There have been several periods in U.S. history where robust nationwide missile defenses were considered but rejected as either too costly, too technologically immature, or inconsistent with arms control objectives and accepted strategic policy that equated mutual vulnerability with stability. For example, in the late 1960s, the limited Safeguard anti-ballistic missile (ABM) system—a successor to the Sentinel ABM system—was intended to provide a point defense of U.S. retaliatory forces against Soviet attack and a relatively modest Chinese missile threat,[124] but was decommissioned and dismantled shortly after becoming operational.[125]

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[123] Quoted in Amy Hudson, "Richard Says Nuclear Deterrence Connected to All Other DOD Capabilities," *Air Force Magazine*, May 7, 2021, available at https://www.airforcemag.com/richard-says-nuclear-deterrence-connected-to-all-other-dod-capabilities/.

[124] In 1969, Harold Brown, later Secretary of Defense in the Carter Administrtion Administration, advocated for the deployment of 100 to 1000 U.S. missile defense interceptors to defend against the emerging missile threat from China. See, Harold Brown, "Security Through Limitations," *Foreign Affairs*, Vol. 47, No. 3 (April 1969), p. 430.

[125] See edited extract from *Department of the Army Historical Summary, FY 1969* (Washington, D.C.: U.S. Army Center of Military History, 1973, pp. 31-33, 89-90), available at https://www.mda.mil/global/documents/pdf/1969%20Sentinel-Safeguard.pdf. Also see John W. Finney, "Safeguard ABM System to Shut Down; $5 Billion Spent in 6 Years Since Debate," *The New York Times*, November 25, 1975, available at https://www.nytimes.com/1975/11/25/archives/safeguard-abm-system-to-shut-down-5-billion-spent-in-6-years-since.html.

In 1983, President Reagan announced his Strategic Defense Initiative (SDI), which was intended to provide a comprehensive defense against Soviet missile attacks by deploying a variety of terrestrial and space-based defensive components. In the 1990s, President George H.W. Bush proposed a scaled-down missile defense program that would focus on protection against limited ballistic missile strikes from any source, including from accidental or unauthorized launches. The "Global Protection Against Limited Strikes" (GPALS) program was proposed as a cooperative venture with both NATO and Russia.

However, concerns over cost and technological feasibility, a general belief that mutual vulnerability was the best way to ensure deterrence and that missile defenses were destabilizing, and continued U.S. adherence to the 1972 U.S.-Soviet ABM Treaty led to the scaling back of strategic missile defense programs and the absence of deployment.[126]

It was not until President George W. Bush withdrew the United States from the ABM Treaty in 2002 and an initial deployment of "rudimentary" missile defenses against "rogue state" missile threats took place in 2004—more than two decades after Ronald Reagan unveiled his proposed SDI program—that the United States began to focus again on deployment and the potential damage-limiting benefits of missile defenses.

In the emerging trilateral context wherein uncertainties of deterrence functioning predictably expand, greater emphasis on missile defenses that provide both a deterrent to adversary missile strikes and a measure of "insurance" against the failure of deterrence is prudent. In this regard, it may be time to consider the benefits of enhancing cooperative missile defense approaches that align with the security interests of U.S. allies and strategic partners.

Most recently, Israel has developed a laser system for missile defense called "Iron Beam," which has been tested successfully and may dramatically reduce the cost of defending against missile attack. As Israeli Prime Minister Naftali Bennett has stated, "The Iron Beam's interceptions are silent, they're invisible and they only cost around $3.50" for each shot.[127] As one analyst has observed, "laser defense could well become a new arena of sustained collaboration in the long-standing strategic partnership" between the United States and Israel.[128]

In addition to active defenses, a measure of passive defenses would be desirable in the event of deterrence failure. The United States virtually abandoned its civil defense program more than a half century ago. Reconsidering a program focused on providing some measure of protection for the American people in the event of coercive attacks would be an obvious policy shift, but would now be prudent as a potential hedge against the prospect of deterrence failure. Doing so should not be considered provocative by Moscow or Beijing. China reportedly has an enormous system of underground tunnels labeled the "Great

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[126] Atomic Heritage Foundation, "Strategic Defense Initiative (SDI)," July 18, 2018, available at https://www.atomicheritage.org/history/strategic-defense-initiative-sdi.

[127] Laurie Kellman, "Israel successfully tests new laser missile defense system," *Defense News*, April 15, 2022, available at https://www.defensenews.com/training-sim/2022/04/15/israel-successfully-tests-new-laser-missile-defense-system/.

[128] Ilan Berman, *The Logic of Israel's Laser Wall, Information Series*, No. 526 (Fairfax, VA: National Institute Press, June 23, 2022), available at https://nipp.org/wp-content/uploads/2022/06/IS-526.pdf.

Underground Wall,"[129] and Russia has long taken civil defense measures seriously; the Moscow subway, for example, apparently was built to double as a fallout shelter in the event of nuclear war.[130]

In short, the emerging multilateral context creates expanded uncertainties regarding deterrence, including whether it will continue in all cases to function as hoped. Increased uncertainty in this regard is likely unavoidable. And, as noted above, to the extent the functioning of deterrence is increasingly problematic, the value of measures to protect society in the event of its failure increase. Consequently, the United States should again consider the potential roles for active and passive defenses to hedge against the prospect for deterrence failure. This is a considerable departure from the prevalent missile defense policy orientation during much of the Cold War that unmitigated U.S. societal vulnerability is a useful and necessary component of deterrence stability, and that defenses can provide no meaningful protection against attack.

ARMS CONTROL IN THE EMERGING DETERRENCE CONTEXT

Colin S. Gray frequently remarked that arms control works best when least needed, i.e., arms control works best when the parties involved do not have inimical goals that create hostilities among them and there are few pressures for competitive armament.[131] However, as discussed above, Russia, China, and the United States do not share the same goals and have inimical foreign policy objectives. While the United States seeks continuation of a classically liberal world order, Russia and China seek to overturn a world order that they believe has been unfairly dominated by the United States and the West.

In the new deterrence environment in which Moscow and Beijing seek to overturn the existing world order, the prospects for meaningful arms control agreements may appear bleak. Over the past half century the U.S. reliance on arms control as a means to reduce the relevance of nuclear weapons has not produced the desired results—the divergence between U.S. actions to reduce reliance on nuclear weapons and the actions of potential adversaries, particularly including Russia and China, has been stark.

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[129] "The tunnels of the underground great wall are hundreds of meters underground, deep in mountain areas, and are difficult to detect from space. Details of the tunnels have not been publicized for obvious security reasons, but it is known that they are scattered across China and are not all connected to one another. They are designed to withstand nuclear and conventional attacks." Hui Zhang, "The Defensive Nature Of China's 'Underground Great Wall'," *Bulletin of the Atomic Scientists*, January 16, 2012, available at, https://thebulletin.org/2012/01/the-defensive-nature-of-chinas-underground-great-wall/.

[130] See, for example, Georgy Manaev, "Underground Soviet shelters and the secret Metro-2," *Russia Beyond*, December 26, 2013, available at https://www.rbth.com/science_and_tech/2013/12/26/underground_soviet_shelters_and_the_secret_metro-2_32967.html.

[131] This point is the theme of Colin S. Gray," *House of Cards: Why Arms Control Must Fail* (Ithaca: Cornell University Press, 1992).

Nevertheless, President Biden has emphasized U.S. readiness to resume negotiations,[132] and some commentators contend that arms control is essential now more than ever. For example, one analyst has written that the war in Ukraine means that "nuclear arms control must be strengthened and not further dismembered" and that the "strategic stability dialogue" between Washington and Moscow must be resumed.[133] Others have concluded that Russia's actions in Ukraine—including the potential for actual nuclear use—highlight the growing dangers of nuclear weapons and lend credence to the view that because nuclear deterrence appears increasingly fragile, "The only way to eliminate the danger is to reinforce the norm against nuclear use and pursue a more sustainable path toward their elimination."[134] Indeed, as a summary of the Biden Administration's *Nuclear Posture Review* (NPR) notes, "The NPR underscores our commitment to reducing the role of nuclear weapons and reestablishing our leadership in arms control. We will continue to emphasize strategic stability, seek to avoid costly arms races, and facilitate risk reduction and arms control arrangements where possible."[135]

There is every reason to work to strengthen the "norm against nuclear use." There is little doubt, however, that doing so rests largely on sustaining deterrence to minimize the prospects for war. Over the past half century, arms control negotiations have often not produced the desired results—actual results have often been the reverse of U.S. hopes and expectations.[136] As a 2020 Joint Chiefs of Staff publication states: "Despite concerted US efforts to reduce the role of nuclear weapons in international affairs and to negotiate reductions in the number of nuclear weapons, since 2010 no potential adversary has reduced either the role of nuclear weapons in its national security strategy or the number of nuclear weapons it fields. Rather, they have moved decidedly in the opposite direction."[137]

Russia's promotion of and reliance on nuclear weapons, its use of arms control negotiations to codify unilateral advantages, extensive record of arms control violations, and refusal to negotiate limits on non-strategic nuclear weapons suggest that Moscow sees arms control as a "zero-sum game," achieving successes at America's expense. Moreover, Moscow's stark violation of the 1994 Budapest Memorandum—in which Russia pledged "to refrain from the threat or use of force against the territorial integrity or political

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[132] Quoted in Michelle Nichols, "Biden, Putin Strike Conciliatory Tones as Nuclear Arms Talks Start at U.N." *Reuters*, August 1, 2022, available at https://www.reuters.com/world/biden-urges-russia-china-engage-nuclear-talks-2022-08-01/.

[133] Andrei Zagorski, "Arms Control Must Remain the Goal," *Arms Control Today*, April 2022, available at https://www.armscontrol.org/act/2022-04/features/arms-control-must-remain-goal.

[134] Daryl G. Kimball, "New Approaches Needed to Prevent Nuclear Catastrophe," *Arms Control Today*, April 2022, available at https://www.armscontrol.org/act/2022-04/focus/new-approaches-needed-prevent-nuclear-catastrophe.

[135] Department of Defense, *Fact Sheet: 2022 Nuclear Posture Review and Missile Defense Review*, March 2022, available at https://media.defense.gov/2022/Mar/29/2002965339/-1/-1/1/FACT-SHEET-2022-NUCLEAR-POSTURE-REVIEW-AND-MISSILE-DEFENSE-REVIEW.PDF.

[136] David J. Trachtenberg, *Overselling and Underperforming: The Exaggerated History of Arms Control Achievements, Information Series,* No. 497 (Fairfax, VA: National Institute Press, July 22, 2021), available at https://nipp.org/wp-content/uploads/2021/07/IS-497.pdf.

[137] Joint Chiefs of Staff, *Joint Publication 3-72*, *Joint Nuclear Operations*, April 17, 2020, p. I-1, available at https://irp.fas.org/doddir/dod/jp3_72_2020.pdf.

independence of Ukraine"[138]—suggests that Vladimir Putin places greater importance on territorial aggrandizement than on adherence to international agreements and the rule of law. This hardly bodes well for future arms control efforts with Russia.

In addition, despite U.S. efforts to encourage participation by China in arms control talks, Beijing has consistently refused to take part in any arms control negotiations. The lack of transparency on China's part makes traditional forms of arms control exceedingly difficult. Moreover, Russia's and China's actions are governed by their own perceptions of national security requirements and their own foreign policy goals and objectives; they are not simply mechanistically fashioned to be in line with U.S. requirements and goals—however self-evidently reasonable Washington believes its own policies and goals to be.[139]

The New START Treaty, which the Biden Administration extended for five years in 2021, locks the United States into ceilings on deployed strategic nuclear weapons and delivery systems until 2026. In addition, it does not limit non-strategic or "tactical" nuclear forces where, as noted above, Russia maintains a significant advantage. As one analysis concluded, "because of the difficulties and our lack of leverage in expanding treaty negotiations to include tactical nuclear forces and production capability, if we jointly agree to reduce our strategic forces to even lower levels, the asymmetries in our respective stockpiles will become even more pronounced."[140]

Moreover, New START is a bilateral agreement between the United States and Russia and imposes no constraints on China's nuclear modernization programs. Given the need to hedge against unprecedented deterrence challenges and uncertainties in the new international environment, having greater flexibility to deter the challenges posed by two great nuclear adversaries—potentially operating in concert—is likely a necessary approach to minimize the chances of deterrence failure and to strengthen the norm against nuclear use.

As suggested above, should Russia and China coordinate their actions as part of an anti-U.S. coalition, their combined nuclear capabilities would far exceed those of the United States. This could call into question the deterrence adequacy of current U.S. nuclear force levels and the prudence of continued adherence to New START limitations that were agreed to in a bilateral deterrence context much less harsh than today's.

Consequently, the United States may need to reassess a deterrence force posture constrained by New START ceilings to provide an effective and credible deterrent against a Sino-Russian military consortium. In particular, a deterrent force with great resilience and flexible options may help to offset the combined numerical advantages and greater diversity of nuclear forces possessed by Russia and China. This certainly is not to say that U.S. nuclear forces must mimic or match Russian and Chinese forces one-for-one. But, they must be

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[138] *Memorandum on Security Assurances in connection with Ukraine's accession to the Treaty on the Non-Proliferation of Nuclear Weapons*, December 5, 1994, available at https://www.pircenter.org/media/content/files/12/13943175580.pdf.

[139] For a comprehensive historical critique of arms race dynamics, see David J. Trachtenberg, Michaela Dodge, and Keith B. Payne, *The "Action-Reaction" Arms Race Narrative vs. Historical Realities* (Fairfax, VA: National Institute Press, March 2021), available at https://nipp.org/wp-content/uploads/2021/04/Action-Reaction-pub.pdf.

[140] Mies, op. cit., p. 15.

adequate to hedge against the unprecedented deterrence challenges of the emerging trilateral context.

Importantly, any agreement that establishes ostensibly "equal" limits on the strategic forces of the United States, Russia, and China, will likely work to the U.S. disadvantage given asymmetries in non-strategic nuclear weapons and the prospective need for the United States to maintain sufficient capabilities to deter coordinated Sino-Russian aggression. In addition, establishing strict numerical force limits in any arms control agreement and locking in those limits for a period of years likely is incompatible with the flexibility and range of options that may be needed to hedge against the realities of the new threat context and changing circumstances. Any future arms control agreement that does not ensure that needed flexibility correspondingly may undermine "stability." The Strategic Offensive Reductions Treaty ("Treaty of Moscow") signed in 2002 by President George W. Bush provided for a range of operationally deployed strategic nuclear weapons[141]—a formula that may be worth revisiting in any future arms agreement.

In the past, the U.S. approach to strategic arms control was premised on an expectation that Soviet or Russian forces were the pacing measure, and that a high degree of continuity (i.e., continued mutual reductions via ever more restrictive agreements) in the direction of Soviet/Russian strategic forces provided a level of predictability and stability in the bilateral relationship. On that basis, Washington deemed reasonable long-term agreements with precise ceilings and limits "locked in."[142] However, a combination of Soviet (and subsequently Russian) nuclear weapons developments and arms control treaty violations has demonstrated the fallacy of Washington's earlier sanguine expectations. And, in the contemporary dynamic strategic threat environment, the prospects for past expected continuities and predictable Russian or Chinese behavior appear highly problematic. The U.S. approach to arms control must adapt to this reality. In particular, it is imperative that future arms control agreements allow the United States to meet the needs for the deterrence of Sino-Russian aggression, together or separately, at the regional and strategic levels.

The classic goals of strategic arms control focus not on the reduction of weapons per se but on reducing the risk of war.[143] Given the multiplicity of deterrence challenges posed in the emerging environment, there is little basis for the past optimistic expectations of continuities that undergirded the traditional U.S. approach to arms control negotiations—the expectation of a single pacing opponent, the expectation of a long-term trend of ever-deeper negotiated reductions, and the expectation that agreements could lead to more amicable political relations in general. Those expectations now appear contrary to the harsh realities of the emerging multilateral context, and the U.S. approach to arms control must recognize this reality.

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[141] See *Treaty Between the United States of America and the Russian Federation on Strategic Offensive Reductions (SORT/Treaty of Moscow)*, May 24, 2002, available at https://media.nti.org/documents/sort_moscow_treaty.pdf.

[142] See Trachtenberg, Dodge, and Payne, *The "Action-Reaction" Arms Race Narrative vs. Historical Realities*, op. cit.

[143] See, Thomas Schelling and Morton Halperin, *Strategy and Arms Control* (New York: Twentieth Century Fund, 1961), p. 2.

In 1960, the United States faced a similarly unprecedented emerging threat context as the Soviet Union began its massive acquisition of strategic nuclear weapons. In that then-emerging threat context, Herman Kahn advised: "...we must do our homework. We must know what we are trying to achieve, the kinds of concessions that we can afford to give, and the kinds of concessions that we insist on getting… All of this will require, among other things, much higher quality preparations for negotiations than have been customary."[144] The United States now must contend with an unprecedented multilateral threat context; U.S. preparation for any arms control negotiations should now heed Kahn's advice from 1960.

CONCLUSION

The basic principles of deterrence are enduring and unchanged; but the application of deterrence must adjust to different opponents and contexts. For U.S. deterrence planning, the emerging multilateral context is materially different from the Cold War bilateral context that drove our thinking about deterrence. Those differences must be taken into account in planning for deterrence at all levels and in planning for the possible failure of deterrence. The emergence of a new deterrence context in which two great nuclear powers share intense hostility toward the United States presents some unprecedented challenges for the United States. It expands the uncertainties, imponderables and unknowns regarding the functioning of deterrence—which remains essential for U.S. and allied security, while also being more uncertain.

In this context, given the considerable variation in opponents' worldviews and how they may define reasonable behavior, the Cold War practice of focusing on the greatest deterrence challenge and considering all others to be lesser included cases is an obvious mistake—despite the attractiveness of its relative ease. Increasingly necessary is to be as informed as possible about the decision-making drivers of multiple opponents in diverse circumstances and to tailor U.S. deterrence strategies accordingly. Positing *non-descript* countries A, B, and C, and extrapolating expected behaviors and deterrence policy on that basis is convenient, but likely to mislead—even more so than in the past.

Identifying the additional many ways in which the emerging deterrence context is different from the past and the significance of those differences for U.S. deterrence planning is likely to be a generational process. That said, it is time to get beyond noting that this is an important topic and then defaulting to Cold War accepted wisdom. The "greatest generation" of deterrence scholars did the heavy intellectual lifting for their time and helped to preserve superpower peace through the Cold War. Deterrence conditions have changed dramatically, however, and it is time for a new generation to get back to this serious work. We are now at a beginning point.

A significant element of this serious work is to understand the implications for deterrence of the multilateral deterrence context and the need for hedging against the challenges presented by that context. Those challenges now include: the potential for Sino-

[144] Herman Kahn, *On Thermonuclear War* (Princeton, NJ: Princeton University Press, 1960), p. 576.

Russian coordination in hostilities against the United States; expanded uncertainties regarding the calculation of "how much is enough?" to support multiple U.S. deterrence strategies; and, expanded uncertainties about the reliability of deterrence functioning to support U.S. goals, i.e., uncertainties regarding *if* deterrence will "work." In addition, it is important to seek an understanding of the implications of the multilateral deterrence context and the associated need for hedging—*before* entering into new arms control negotiations.

The first step in this learning process is to identify the broad outlines of what the emerging international context means for U.S. deterrence strategies and the force posture needed to support those strategies. To date, most public commentary, even by noted experts, has been to lament that a new context demands new thinking about deterrence. The discussion above is an initial effort to get past that now-obvious point and take the learning process a first, tentative step further.

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Dr. Payne served as a Commissioner on the bipartisan Congressional Commission on the Strategic Posture of the United States and is a co-author of the Commission's final report (2009). He also served as a member of the Secretary of State's International Security Advisory Board, and as the head of the Policy and Strategy Panel of U.S. Strategic Command's Senior Advisory Group. He is an award-winning author of over 250 published articles and 40 books and monographs. His most recent book is *Shadows on the Wall: Deterrence and Disarmament* (2020).

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ALLIANCE POLITICS IN A MULTIPOLAR WORLD*

By Michaela Dodge

EXECUTIVE SUMMARY

The dogmas of the quiet past are inadequate to the stormy present.... As our case is new, so must we think anew and act anew.[1]

~ Abraham Lincoln

No one that encounters prosperity does not also encounter danger.

~ Heraclitus

This article examines the evolution of U.S. extended deterrence and assurance commitments in Europe and the Indo-Pacific region and discusses the implications of the bipolar context in which they were assumed. It then discusses the rise of nuclear multipolarity and what it means for U.S. extended deterrence and assurance commitments, particularly the need to maintain credibility, flexibility and adaptability given a range of threats the United States and its allies face today and will face in the future.

The United States carries special responsibilities to assure allies and deter adversaries through its extended nuclear deterrence commitments—its "nuclear umbrella." More than 30 countries around the world, including 29 North Atlantic Treaty Organization (NATO) members, Australia, Japan, and South Korea are currently protected under this umbrella. U.S. extended deterrence and assurance guarantees have come under strain given negative regional trends, particularly the challenge of a resurgent, revanchist Russia, the rise of China as a hostile nuclear peer, and the emergence of a nuclear-armed North Korea. Each of these countries harbor revisionist geopolitical goals, often with global implications, making their armed build-ups particularly worrisome. Given these negative developments, U.S. extended deterrence and assurance requirements must be reevaluated to ensure their continued credibility and viability. Such a reevaluation is not without precedent, as experience shows.

U.S. force posture requirements have been shaped by the necessity to extend deterrence and provide assurance to U.S. allies around the world. These requirements generate unique demands on U.S. nuclear and conventional forces, separate from the demands of deterring an attack on the U.S. homeland. They also influence U.S. declaratory policy. Extended deterrence and assurance requirements have not been static and have evolved in response to changes in U.S. and allied threat perceptions. Two prominent examples of such an adjustment stand out: the evolution of the Limited Nuclear Options (LNOs in the "Schlesinger Doctrine") in the 1970s and the Presidential Nuclear Initiatives (PNIs) in the 1990s. These

* This article is adapted from Michaela Dodge, *Alliance Politics in a Multipolar World*, *Occasional Paper*, Vol. 2, No. 10 (October 2022).

[1] Abraham Lincoln's address to Congress, December 1, 1862. Quoted in, Thomas Scheber, "Strategic Stability: Time for a Reality Check," *International Journal* (Autumn 2008), pp. 893-915.

cases illustrate the process of shifting deterrence and assurance requirements given the changes in the strategic environment.

Today, the United States and its allies find themselves amid significant changes in the strategic environment yet again. These changes are generating new extended deterrence and assurance requirements. What remains a constant is the continuing allied desire for assurance and the U.S. continued interest in providing extended deterrence and assurance guarantees. These factors are unlikely to change in the future.

In a multipolar environment, communicating resolve, assurance, and deterrence will become more complex. Whatever strategies allies and friends will choose, the objective will be ever the same: to convince an adversary that the prospective costs and uncertainties of aggression outweigh any potential gains. U.S. and allied signals and communication will be closely monitored not just by the intended recipient but also by adversaries and allies in other parts of the world.

The United States would do well to remember that "Usually the most convincing way to look willing is to be willing."[2] Currently, the United States faces several gaps that make it look less willing than it otherwise may be necessary for effective extended deterrence; chief among them are insufficient conventional forces capable of sustaining two simultaneous engagements in geographically separate regions, insufficient missile defense capabilities, and asymmetries in short- and intermediate-range nuclear forces. The following recommendations can help the United States chart a path to success in an increasingly challenging endeavor of assuring allies and deterring adversaries.

Expand Nuclear Policy Consultations. In order to understand U.S. allies' and assurance needs in as much detail as possible, the United States ought to expand ongoing deterrence and assurance dialogues. These dialogues would keep the United States apprised of its allies' needs and perceptions, and help develop understandings of their assurance requirements. They would help to develop a cadre of professionals that would be well-versed in nuclear deterrence issues and the nuances of nuclear weapons policies and contribute toward developing joint and hopefully better informed "strategic profiles" of adversaries.

Continue Nuclear Weapons Modernization. Although few allied countries have a detailed understanding of U.S. nuclear weapons programs and the infrastructure that supports them, many consider ongoing U.S. nuclear weapons modernization important for both extended deterrence and allied assurance. They worry about an inconsistency in the signals that the United States sends by agreeing on programs and providing good arguments in their support only to cancel them when the next presidential administration takes power. At a minimum, the United States should execute the current program of record.

Continue to Develop Missile Defense Capabilities. While missile defenses will not supplant nuclear deterrence for assurance anytime soon, they are nevertheless an important component of deterrence and allied assurance. This applies both to homeland and regional

[2] Herman Kahn, *On Thermonuclear War* (Princeton, NJ: Princeton University Press, 1960), pp. 213-214.

missile defense systems. The United States ought to continue to improve and expand missile defense capabilities.

Do Not Change U.S. Declaratory Policy. By potentially changing U.S. nuclear declaratory policy to reflect "sole purpose" or "no first use," especially amid Russia's brutal war in Ukraine, the United States would risk emboldening adversaries and alienating allies. Adversaries could interpret the change as proof the United States is deterred by their actions, while allies could interpret this as the United States not being willing to use all its might on their behalf, potentially undermining their faith in the U.S. commitment to their security. Maintaining the status quo (i.e., a measure of ambiguity with regard to the timing and scope of U.S. nuclear use) in U.S. declaratory policy will help in this regard.

Maintain Sufficient Conventional Capabilities and a Robust Production Base. The U.S. Department of Defense has felt the pressure of decreasing resources for recapitalization and modernization. Maintaining sufficient forces that can be deployed to Europe without compromising the U.S. posture in Asia (and in reverse) will continue to be important for assurance and extended deterrence. The United States should have the capacity to forward deploy additional forces in both theaters simultaneously should the security situation deteriorate. The war in Ukraine highlights the difficulties of supplying a partner nation in the middle of a conflict and the importance of prepositioning systems to the theater beforehand. It also underscores the need for maintaining a healthy and responsive defense industrial base.

Do Not Forget that Allies Are Assured by a Range of Activities. Extended deterrence and assurance guarantees are not just military capabilities but encompass a range of actions from nominating (and confirming) ambassadors in a timely manner, to high-level visits, to joint military exercises, professional exchanges, and public messaging coordination. The United States ought to utilize all the tools at its disposal to maximize synergies inherent in coordinating supportive activities well.

Nurture the Development of Nuclear Policy Expertise Among Allies. The United States must help to nurture and develop nuclear policy expertise among its allies. Continued bilateral and multilateral discussions and strategic dialogues are one way of doing so. Facilitating and supporting expert visits to nuclear sites and bases that host nuclear weapon systems is another way of developing nuclear policy expertise. This requires allies willing to invest resources and manpower in the endeavor; the United States cannot accomplish this task on its own.

Revitalize the U.S. Nuclear Warhead Production Complex. The United States must restore a flexible and resilient nuclear warhead infrastructure. This has been a (largely unfulfilled) priority of all administrations since the end of the Cold War. With China rapidly increasing the size of its nuclear arsenal and Russia developing and deploying a suite of systems unregulated by any arms control treaties, this requirement is becoming more pressing. While few experts in allied states pay attention to the status of the U.S. nuclear

infrastructure, it is inseparable from assessing the credibility of extended deterrence and assurance guarantees. A warhead issue the United States cannot address in a timely manner could be devastating to an ally's belief in the U.S. ability to respond to negative trends in the security environment quickly, with potential negative implications for the credibility of U.S. commitments to allied security.

Terminate the NATO-Russia Founding Act. Russia's aggression in Ukraine clearly is inconsistent with the Act. The United States empirically knows the valuable, stabilizing, and reassuring effects its permanent military presence has on allies. It also can be cheaper than a rotational presence. Yet, the Act currently precludes it, even as Russia aggressively undermines the stability of the European security order. In light of Russia's actions, the United States and NATO should not be bound by a debilitating agreement that the other side ignores.

Develop U.S. Regional Expertise and Understanding of Adversaries and Allies. The United States must continue to develop regional expertise to foster an understanding of the security concerns of allied countries, an endeavor that took somewhat of a back seat amid the U.S. focus on terrorism and counterinsurgency operations in the past years.

Implementing these steps would go a long way to extending deterrence and strengthening the credibility of the U.S. commitment to allied security in a multipolar environment. Russia's brutal invasion of Ukraine has led to unprecedented increases in European defense budgets and renewed commitments to transatlantic security. But it has also made clear that there are emerging deterrence gaps in the current U.S. and allied force posture. According to Admiral Richard, "The war in Ukraine and China's nuclear trajectory — their strategic breakout — demonstrates that we have a deterrence and assurance gap based on the threat of limited nuclear employment."[3] This observation is particularly relevant for regional scenarios involving U.S. allies in which asymmetries between U.S. and adversaries' short- and intermediate-range nuclear arsenals are the largest and most concerning.

Extensive interviews with over 20 allied experts were undertaken as a basis for this study. According to those interviewed, the United States has done a good enough job from an extended deterrence and assurance perspective so far. No allies are seriously pondering developing indigenous nuclear weapon programs, and proposals to make a separate peace with Russia and China at U.S. expense are still largely relegated to fringe parts of the political spectrum in allied countries. But challenges, uncertainties, and questions are lurking just below the surface. As they mount, the United States will have to work harder to extend deterrence and convince allies and adversaries of the credibility of its commitment to allied security. Such a process may well require larger defense spending than what the United States has been willing to invest after the end of the Cold War, more focused consultations

[3] Bryant Harris, "U.S. nuclear commander warns of deterrence 'crisis' against Russia and China," *Defense News Online*, May 4, 2022, available at https://www.defensenews.com/pentagon/2022/05/04/us-nuclear-commander-warns-of-deterrence-crisis-against-russia-and-china/.

and strategic dialogues with allies, and potentially new nuclear weapons and missile defense capabilities in the future. It will also require a recapitalization of the U.S. nuclear weapons complex so that it truly would be flexible and resilient and provide the United States with an ability to respond to a shifting threat environment, unforeseen challenges and problems on a reasonable timescale. These are no small tasks, but failing in them would extract immeasurable cost.

INTRODUCTION

This article examines the evolution of U.S. extended deterrence and assurance commitments in Europe and the Indo-Pacific region and discusses the implications of the bipolar context in which they were assumed. It then discusses the rise of nuclear multipolarity and what it means for U.S. extended deterrence and assurance commitments, particularly the need to maintain credibility, flexibility and adaptability given a range of threats the United States and its allies face today and will face in the future. As Admiral Charles Richard, Commander of United States Strategic Command recently pointed out, "We have to account for three-party [threats]… That is unprecedented in this nation's history. We have never faced two peer nuclear-capable opponents at the same time, who have to be deterred differently."[4]

The United States carries special responsibilities to assure allies and deter adversaries through its extended nuclear deterrence commitments—its "nuclear umbrella." More than 30 countries around the world, including 29 North Atlantic Treaty Organization (NATO) members, Australia, Japan, and South Korea are currently protected under this umbrella. U.S. extended deterrence and assurance guarantees have come under strain given negative regional trends, particularly the challenge of a resurgent, revanchist Russia, the rise of China as a hostile nuclear peer, and the emergence of a nuclear-armed North Korea. Each of these countries harbor revisionist geopolitical goals, often with global implications, making their armed build-ups particularly worrisome. Given these negative developments, U.S. extended deterrence and assurance requirements must be reevaluated to ensure their continued credibility and viability. Such a reevaluation is not without precedent, as experience shows.

U.S. DETERRENCE AND ASSURANCE: CONTINUOUS CHANGE

U.S. force posture requirements have been shaped by the necessity to extend deterrence and provide assurance to U.S. allies around the world. These requirements generate unique demands on U.S. nuclear and conventional forces, separate from the demands of deterring an attack on the U.S. homeland. They also influence U.S. declaratory policy. Extended deterrence and assurance requirements have not been static and have evolved in response to changes in U.S. and allied threat perceptions. Two prominent examples of such an

[4] Tara Copp, "US Military 'Furiously' Rewriting Nuclear Deterrence to Address Russia and China, STRATCOM Chief Says," *Defense One*, August 11, 2022, available at https://www.defenseone.com/threats/2022/08/us-military-furiously-rewriting-nuclear-deterrence-address-russia-and-china-stratcom-chief-says/375725/.

adjustment stand out: the evolution of the Limited Nuclear Options (LNOs in the "Schlesinger Doctrine") in the 1970s and the Presidential Nuclear Initiatives (PNIs) in the 1990s. These cases illustrate the process of shifting deterrence and assurance requirements given the changes in the strategic environment.

Challenges to U.S. Credibility and LNOs

Starting in the 1970s, the key challenge for the United States became how to credibly extend deterrence and assure allies given an unfavorable asymmetry in geographical distance and conventional forces between NATO and the Warsaw Pact in the context of a continued Soviet nuclear build up, particularly in long-range missiles, that put the U.S. homeland at risk. While the Warsaw Pact not only maintained conventional superiority for the better part of the Cold War, it also retained short- and medium-range nuclear weapons to support a possible conventional attack against U.S. Western allies in Europe without having to resort to attacking the U.S. homeland.

Soviet parity at the strategic level potentially rendered a U.S. extended deterrence threat of large-scale nuclear escalation incredible given the Soviet threat of large-scale nuclear retaliation against the U.S. homeland. While, "the credibility of the U.S. policy to provide nuclear assurance to its allies was thought to rest upon a condition of escalation dominance,"[5] President Nixon's National Security Advisor Henry Kissinger observed at the time that "...we must face the fact that it is absurd to base the strategy of the West on the credibility of the threat of mutual suicide...because if we execute, we risk the destruction of civilization."[6]

Concern about the credibility of the U.S. extended deterrent was not unprecedented. It earlier was a basis for French President Charles de Gaulle declaring it "incumbent upon France to acquire its own nuclear force" in the 1960s.[7] The concern prompted British Defense Minister Denis Healey's famous comment that it takes "only five per cent credibility of American retaliation to deter the Russians, but ninety-five per cent credibility to reassure the Europeans."[8] The unfavorable deterrence context generated by the Soviet strategic nuclear buildup led the Nixon Administration to change U.S. nuclear weapons policy in

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[5] Rod Lyon, "The Challenges Confronting US Extended Nuclear Assurance in Asia," *International Affairs*, Vol. 89, No. 4 (2013), p. 935.

[6] Henry Kissinger, "The Future of NATO," in Kenneth Myers, ed., *NATO, the Next Thirty Years* (Boulder, CO: Westview Press, 1979), p. 8.

[7] "Press Conference by President de Gaulle, Paris, 14th January 1963," *in Political Union of Europe*, Western European Union Assembly, General Affairs Committee, 10th Ordinary Session (Paris, June 1964), p. 88, available at http://aei.pitt.edu/5777/1/5777.pdf.

[8] Denis Healey, *The time of my life* (London: Michael Joseph, 1989), p. 243, quoted in David Yost, "Assurance and US Extended Deterrence in NATO," *International Affairs* Vol. 85, No. 4 (2009), p. 768.

National Security Decision Memorandum (NSDM)-242 and the subsequent planning document *Nuclear Weapons Employment Policy-74 (NUWEP-74)*.[9]

Concerns over allied perceptions of U.S. credibility are apparent in both documents. NSDM-242 lists among the deterrence objectives "to deter attacks -- conventional and nuclear -- by nuclear powers against U.S. allies and those other nations whose security is deemed important to U.S. interests," and to "inhibit coercion of the United States by nuclear powers and, in conjunction with other U.S. and allied forces, help inhibit coercion of U.S. allies by such powers."[10] The document called for the development of LNOs "to seek early war termination, on terms acceptable to the United States and its allies, at the lowest level of conflict feasible."[11]

LNOs were an alternative to the previous targeting policy that would effectively result in "dumping literally thousands of weapons on the Soviet Union" if ever implemented, as Secretary Schlesinger commented.[12] "Allied concern about the credibility of this particular threat has been evident for more than a decade. In any event, the actuality of such a response would be utter folly except where our own or allied cities were attacked...," he further stated.[13] LNOs were thought to help with deterrence credibility "by removing the temptation for an adversary to consider any kind of nuclear attack"[14] through developing "a series of measured responses to aggression which bear some relation to the provocation, have prospects of terminating hostilities before general nuclear war breaks out, and leave some possibility for restoring deterrence."[15] They permitted the President to rely on threats other than massive retaliation or an option to do nothing following Soviet aggression for fear of risking a Soviet strategic response. It "was not considered highly plausible that the United States would respond to a Soviet attack on U.S. allies with a massive assured destruction response."[16] The assured destruction forces were to be held in reserve "as the ultimate threat inhibiting a Soviet ascension of the escalation 'ladder'."[17]

NUWEP-74 emphasized the importance of responsiveness to political and military objectives, including taking into account "the interest of friendly and allied states, those on

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[9] See National Security Decision Memorandum-242, Policy for Planning the Employment of Nuclear Weapons, January 17, 1974, available at https://fas.org/irp/offdocs/nsdm-nixon/nsdm_242.pdf and Policy Guidance for the Employment of Nuclear Weapons, April 3, 1974, available at https://nsarchive2.gwu.edu/NSAEBB/NSAEBB173/SIOP-25.pdf.

[10] National Security Decision Memorandum-242, *Policy for Planning the Employment of Nuclear Weapons*, op. cit., pp. 1-2.

[11] Ibid, p. 2.

[12] Secretary James Schlesinger's testimony in U.S. Senate, Committee on Foreign Relations, *U.S./U.S.S.R. Strategic Policies*, Hearings, 93rd Congress, 2nd Session (Washington, DC: USGPO, 1974), p. 9.

[13] Secretary of Defense James R. Schlesinger, Annual Defense Department Report FY 1975, March 4, 1974, pp. 37-38.

[14] Ibid, p. 4.

[15] Ibid, p. 38.

[16] Keith Payne, "The Schlesinger Shift: Return to Rationality," in, Keith Payne, C. Johnston Conover, and Bruce William Bennett, *Nuclear Strategy: Flexibility and Stability*, Student Paper No. 82 (Santa Monica, CA: California Seminar on Arms Control and Foreign Policy, March 1979), p. 11.

[17] Ibid, p. 5.

whose territory any such operation may be undertaken" and "existing arrangements for coordination with allied forces and commands in appropriate geographical areas."[18]

LNOs were also meant to signal to the Soviet Union and China that "issues attendant to local conflicts are part of the vital interests of the United States."[19] The document also established a category of "Regional Nuclear Options (RNOs)." [20] RNOs provided in-theater options against an enemy's attacking forces.[21] Their objective was "to create a state of affairs permitting the continuation or resumption of political arrangements to terminate the conflict," and in part to provide a basis for intra-war deterrence.[22]

As stated above, the key driver behind this change in extended deterrence and assurance requirements was the scale and pace of the Soviet strategic nuclear build-up, particularly its long-range nuclear missile force, which put the U.S. homeland at risk. Concurrently, the Soviet conventional superiority and short- and intermediate-range nuclear build up in Europe called the credibility of U.S. extended deterrence commitment into question because they made a large-scale threat of U.S. nuclear escalation potentially incredible. LNOs were deemed necessary to meet resultant U.S. extended deterrence and assurance requirements. Allied cooperation to meet this challenge was critical as "Neither the Americans on their own, nor the Europeans on their own would have been able to present a credible military deterrence and thus fight a credible war in Central Europe," according to General Leopold Chalupa, former Commander-in-Chief, Headquarters Allied Forces Central Europe (HQ AFCENT).[23]

The development of LNOs as an element of U.S. deterrence policy illustrates that the reassessment process is not guaranteed to result in a reduction in U.S. nuclear capabilities. In fact, reducing U.S. capabilities in the context of increasing threats could undermine U.S. extended deterrence and assurance goals where adding flexibility and diversity to U.S. nuclear capabilities can be stabilizing and advance those goals.[24]

Presidential Nuclear Initiatives and the End of the Cold War

After the end of the Cold War, the United States and NATO allies generally considered the potential for Russian aggression against a NATO member state as unlikely. The change in the strategic environment led to a reassessment of U.S. deterrence and assurance requirements.

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[18] Policy Guidance for the Employment of Nuclear Weapons, April 3, 1974, op. cit., pp. 3-4.

[19] Ibid, p. 6.

[20] Ibid, p. 4.

[21] Ibid, p. 7.

[22] Ibid.

[23] Jan Hoffenaar and Christopher Findlay, eds., *Military Planning for European Theater Conflict during the Cold War: An Oral History Roundtable Stockholm, 24-25 April 2006* (Center for Security Studies ETH Zurich: Germany, 2006), p. 59, available at https://nsarchive2.gwu.edu/nukevault/ebb285/ZB-79.pdf.

[24] For an elaboration of this point see Keith B. Payne, *Redefining 'Stability' for the New Post-Cold War Era, Occasional Paper*, Vol. 1, No. 1 (Fairfax, VA: National Institute Press, 2021), available at https://nipp.org/wp-content/uploads/2021/04/Payne-OP-distro-1.1.pdf.

As a result, the United States divested itself of most of its non-strategic nuclear weapons and withdrew most of its forward-deployed nuclear forces from Europe and Asia.

Most of these reductions were implemented following President George H. W. Bush's 1991 and 1992 Presidential Nuclear Initiatives (PNIs).[25] These were presidential statements announcing the withdrawal of all land-based nuclear weapons with less than a 300-mile range from overseas bases and all sea-based tactical nuclear weapons from U.S. surface ships, submarines, and naval aircraft.[26] These steps were announced unilaterally, although the United States hoped the Soviet Union would take reciprocal steps. President Mikhail Gorbachev and his successor Boris Yeltsin made similar political commitments; however, Russia did not abide by them. Then-Assistant Secretary of State for International Security and Nonproliferation Stephen Rademaker stated that "considerable concern exists" that Russia did not fully follow through on its commitments.[27] The State Department's *Annual Compliance Report* declares that "Russia is not adhering to all of its PNI commitments."[28]

Over time, the United States also reduced the number of its forward-deployed gravity bombs in Europe. The number of bases in Europe that stored nuclear weapons was reduced from more than 125 in the mid-1980s to 10, reportedly in seven countries, by 2000.[29] Today, the United States reportedly maintains about a hundred B61 gravity bombs in Europe.[30] They are reportedly deployed to five European countries today, none of which joined NATO after the end of the Cold War.[31] The gravity bombs are deliverable by U.S. and allied dual-capable aircraft (F-15Es, F-16s, Tornados and, in the future, F-35As). They remain a visible demonstration of the U.S. and allied commitment to transatlantic security, even as their readiness became measured in months rather than minutes.[32]

As the Clinton Administration continued to implement the PNIs, it argued that "U.S. nuclear weapons for years were justified by the potential for a massive conventional attack

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[25] Susan Koch, "The Presidential Nuclear Initiatives of 1991–1992," (National Defense University Press, Washington, DC: September 2012), available at https://ndupress.ndu.edu/portals/68/documents/casestudies/cswmd_casestudy-5.pdf

[26] Amy F. Woolf, "Nonstrategic Nuclear Weapons," *Congressional Research Service*, CRS Report RL32572, March 7, 2022, available at https://sgp.fas.org/crs/nuke/RL32572.pdf. Other announcements concerned strategic nuclear forces, including taking U.S. bombers off alert for the first time in over 20 years.

[27] U.S. Department of State, *Press Roundtable at Interfax with Stephen G. Rademaker, Assistant Secretary of State for Arms Control*, June 10, 2004, available at https://2001-2009.state.gov/t/isn/rls/rm/37275.htm.

[28] Department of State, *2021 Adherence to and Compliance With Arms Control, Nonproliferation, and Disarmament Agreements and Commitments*, April 15, 2021, p. 12, available at https://www.state.gov/wp-content/uploads/2021/04/2021-Adherence-to-and-Compliance-With-Arms-Control-Nonproliferation-and-Disarmament-Agreements-and-Commitments.pdf.

[29] Amy F. Woolf, "Nonstrategic Nuclear Weapons," op. cit. p. 23.

[30] Hans Kristensen and Matt Korda, "United States Nuclear Weapons, 2022," *Bulletin of the Atomic Scientists*, p. 56, May 10, 2022, available at https://thebulletin.org/premium/2022-05/nuclear-notebook-how-many-nuclear-weapons-does-the-united-states-have-in-2022/.

[31] Hans. M. Kristensen and Matt Korda, "United States Nuclear Weapons, 2021," *Bulletin of the Atomic Scientists*, January 26, 2021, available at https://thebulletin.org/premium/2021-01/nuclear-notebook-united-states-nuclear-weapons-2021/.

[32] NATO, *NATO's Nuclear Forces in the New Security Environment*, January 24, 2008, p. 4, available at https://www.nato.int/nato_static/assets/pdf/pdf_topics/20091022_Nuclear_Forces_in_the_New_Security_Environment-eng.pdf.

by the Warsaw Pact through the Fulda Gap which would overwhelm NATO conventional forces…. No equivalent threat to American vital interests can be identified in the post-Cold War era, and for very few of the existing threats are nuclear weapons appropriate responses."[33] Just like in the case of LNOs and the "Schlesinger Doctrine," changes in the strategic threat environment led to changes in extended deterrence and assurance requirements. These changes permitted the largest nuclear weapons reductions to date without immediately undermining U.S. assurance objectives.

CHANGES IN THE STRATEGIC ENVIRONMENT SINCE THE END OF THE COLD WAR

Today, the United States and its allies find themselves amid significant changes in the strategic environment yet again. These changes are generating new extended deterrence and assurance requirements. As the examples of LNOs and the PNIs illustrated, the situation is not unprecedented. U.S. extended deterrence and assurance commitments go through seasons of adjustment and change as the strategic environment evolves. What has remained constant throughout has been the continuing allied desire for assurance and the continued U.S. interest in providing extended deterrence and assurance guarantees, goals that are unlikely to change in the future. In fact, since NATO's membership grew since the end of the Cold War, the United States expanded its extended deterrence and assurance commitments even as it reduced the force posture that supported extended deterrence and assurance goals during the Cold War.[34] While the change could be justified by benign developments in the strategic environment in the 1990s, the United States and its allies now are faced with significant changes yet again. This time, however, the changes include intense hostility with two great powers determined to upend the world order established and sustained by the United States and its allies.

The 2018 *Nuclear Posture Review* (*NPR*) prominently discussed the goal of assuring allies and partners and the value of nuclear forces for extended deterrence.[35] It stated that "Assurance is a common goal and advances our common security interests"[36] and that it includes "sustained allied dialogues to understand each other's threat perceptions and to arrive at a shared understanding of how best to demonstrate our collective capabilities and

[33] Department of Defense, *Annual Report to the President and the Congress, 1995*, February 1995, pp. 84-85, available at https://history.defense.gov/Portals/70/Documents/annual_reports/1995_DoD_AR.pdf?ver=2014-06-24-152712-813.

[34] The Czech Republic, Hungary and Poland joined in 1999, Bulgaria, Estonia, Latvia, Lithuania, Romania, Slovakia and Slovenia in 2004, Albania and Croatia in 2009, Montenegro in 2017, and the Republic of North Macedonia in 2020. All NATO members except for France are participants in the Nuclear Planning Group.

[35] Department of Defense, *Nuclear Posture Review Report*, 2018, pp. 22-23, available at https://media.defense.gov/2018/Feb/02/2001872886/-1/-1/1/2018-NUCLEAR-POSTURE-REVIEW-FINAL-REPORT.PD.

[36] Ibid, p. 22.

resolve."[37] The 2018 *NPR* also notes "an increased potential for regional conflicts involving nuclear-armed adversaries."[38]

Three significant developments with bearing on U.S. extended deterrence and assurance commitments will be discussed in the following section of this article: the rise of a revanchist and belligerent Russia, China's rapid nuclear build up and revisionist global goals, and a nuclear-armed North Korea dissatisfied with the status quo on the Korean Peninsula. In addition to nuclear and missile programs, each of these countries maintains robust conventional forces and has been known to possess other weapons of mass destruction. Russia and China deploy sophisticated anti-access/area denial weapons.[39] Their potential coordination against U.S. interests is particularly concerning.[40] These threat trends in the contemporary security environment must shape allied defense postures and impact U.S. extended deterrence and assurance policies.

The Fall and Rise of Revisionist Russia

The United States began the 1990s convinced that Russian aggression against the United States and NATO members was highly unlikely and that nuclear weapons and deterrence were of greatly reduced relevance for U.S. and allied security. The prevalent view was that U.S. non-nuclear military and technological dominance could offset nuclear weapons reductions.[41] Not so in Russia. Moscow has increased the role of nuclear weapons in its national security strategy and increased the number of its strategic nuclear weapons from levels that existed following the end of the Cold War. The then-Chairman of the National Intelligence Council stated in 2012:

> Nuclear ambitions in the U.S. and Russia over the last 20 years have evolved in opposite directions. Reducing the role of nuclear weapons in U.S. security strategy is a U.S. objective, while Russia is pursuing new concepts and capabilities for expanding the role of nuclear weapons in its security strategy.[42]

In 1993, Russia formally abandoned the Soviet pledge not to use nuclear weapons first. Subsequent iterations of Russian military doctrine – for example in 1997 and 2000 – placed growing emphasis on the use of nuclear weapons in certain circumstances to defend the

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[37] Ibid, pp. 22-23.

[38] Ibid, pp. 7-8.

[39] Russia's conventional forces are diminishing following its relative lack of success in Ukraine. For further information on this topic see Michael Kofman and Robert Lee, "Not Built for Purpose: The Russian Military's Ill-Fated Force Design," *War on the Rocks*, June 2, 2022, available at https://warontherocks.com/2022/06/not-built-for-purpose-the-russian-militarys-ill-fated-force-design/.

[40] For an elaboration on this point see Keith B. Payne and David J. Trachtenberg, *Deterrence in the Emerging Great Environment: What is Different and Why it Matters*, *Occasional Paper,* Vol. 2, No. 8 (Fairfax, VA: National Institute Press, 2022), available at https://nipp.org/wp-content/uploads/2022/08/OP-Vol.-2-No.-8.pdf.

[41] The White House, *National Security Strategy of the United States*, December 2017, p. 27, available at https://trumpwhitehouse.archives.gov/wp-content/uploads/2017/12/NSS-Final-12-18-2017-0905.pdf.

[42] National Intelligence Council, *Global Trends 2030: Alternative Worlds*, December 2012, p. 69, available at https://www.dni.gov/files/documents/GlobalTrends_2030.pdf.

Russian Federation.[43] Russian military and civilian officials even spoke publicly of the "preemptive" use of nuclear weapons.[44] President Putin's December 2020 decree stated that "The Russian Federation reserves the right to use nuclear weapons… in response to aggression against the Russian Federation with the use of conventional weapons when the very existence of the state is in jeopardy."[45]

Russia's nuclear force build up is about advancing its own geopolitical goals at the expense of the United States and its allies, despite Russia and its supporters portraying it as a reaction to American missile defense efforts and nuclear policies.[46] Moscow's recognized conventional force inferiority, perception of NATO encirclement, and other factors also shape Russia's nuclear weapons policy. Russia uses nuclear threats to support its goal of changing the existing order, particularly in Europe, a fact that bears heavily to U.S. allies' perceptions of their assurance needs. Russia placed its nuclear forces on special alert following its February 2022 invasion of Ukraine and concerns regarding its potential nuclear use appear to have increased as Russia's war stalled due to Ukraine's fierce resistance.[47] In invading Ukraine, Russia wants to advance its goal of overturning the U.S.-led "world order," according to Russia's Ambassador to the United States.[48]

In a not-so-thinly-veiled threat—one of Russia's many—former President Medvedev stated that the "idea of punishing a country that has one of the largest nuclear potentials is absurd. And potentially poses a threat to the existence of humanity."[49] Recently, he threatened Ukraine with a nuclear attack, doubting that NATO allies would come to its

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[43] Amy F. Woolf, "Russia's Nuclear Weapons: Doctrine, Forces, and Modernization," *Congressional Research Service*, CRS Report No. R45861, August 5, 2019, p. 4, available at https://assets.documentcloud.org/documents/6268513/Russia-s-Nuclear-Weapons-Doctrine-Forces-and.pdf.

[44] Ibid., p. 4. Also see, for example, Nikolai Patrushev, head of the Russian Security Council, who stated: "In situations critical to national security, options including a preventative nuclear strike on the aggressor are not excluded." David Nowak, "Report: Russia to Allow Pre-emptive Nukes," *Associated Press*, October 14, 2009, available at https://www.sandiegouniontribune.com/sdut-eu-russia-military-doctrine-101409-2009oct14-story.html.

[45] The President of the Russian Federation, *Basic Principles of State Policy of the Russian Federation on Nuclear Deterrence*, Executive Order, June 2, 2020, available at https://archive.mid.ru/en/web/guest/foreign_policy/international_safety/disarmament/-/asset_publisher/rp0fiUBmANaH/content/id/4152094.

[46] Robert Ashley, "Russian and Chinese Nuclear Modernization Trends," *Defense Intelligence Agency*, May 29, 2019, available at https://www.dia.mil/News/Speeches-and-Testimonies/Article-View/Article/1859890/russian-and-chinese-nuclear-modernization-trends/.

[47] "CIA Chief Says Threat Russia Could Use Nuclear Weapons Is Something U.S. Cannot 'Take Lightly'," *Radio Free Europe/Radio Liberty*, April 15, 2022, available at https://www.rferl.org/a/russia-nuclear-weapons-burns-cia/31804539.html; and Stephen Blank, "Russian Nuclear Strategy in the Ukraine War: An Interim Report," *Information Series*, No. 525 (Fairfax, VA: National Institute Press, June 15, 2022), available at https://nipp.org/information_series/stephen-blank-russian-nuclear-strategy-in-the-ukraine-war-an-interim-report-no-525-june-15-2022/.

[48] Natalie Colarossi, "Putin Using Ukraine Invasion to Change 'World Order': Russian Ambassador," *Newsweek*, April 18, 2022, available at https://www.newsweek.com/putin-using-ukraine-invasionchange-world-order-russian-ambassador-1698657.

[49] Guy Faulconbridge, "Russia's Medvedev Warns United States: Messing With a Nuclear Power Is Folly," *Reuters*, July 6, 2022, available at https://www.usnews.com/news/world/articles/2022-07-06/russias-medvedev-warns-united-states-messing-with-a-nuclear-power-is-folly.

defense: "Imagine that Russia is forced to use the most formidable weapon against the Ukrainian regime, which has committed a large-scale act of aggression that is dangerous for the very existence of our state. I believe that NATO will not directly intervene in the conflict even in this situation. After all, the security of Washington, London, and Brussels is much more important for the North Atlantic Alliance than the fate of the perishing Ukraine."[50] Russian officials have repeatedly threatened NATO allies and non-NATO states with nuclear attack, including Ukraine, Norway, Denmark, and the Baltic states.[51] Russia appears to see its nuclear threats as useful for its revanchist purposes, including in hybrid warfare by backing its "little green men," for example in its 2014 conflict with Ukraine.[52] The Cold War stability paradigm does not account for an adversary willing to threaten and perhaps employ nuclear weapons in pursuit of territorial expansion.

President Putin is intent on reversing what he has called "the greatest geopolitical catastrophe of the century," namely the breakup of the Soviet Union with millions of ethnic Russians living outside Russian borders.[53] To help advance that goal, Russia is building a diverse nuclear arsenal, including strategic nuclear weapons that are unconstrained by any formal arms control framework. Russia's military doctrine has evolved to place increased emphasis on the threat of nuclear first use for coercive purposes, often referred to as "escalate to de-escalate,"[54] and on the potential for nuclear employment to achieve a favorable outcome in conflict (including regional). This is a very different dynamic from the one presumed by the Cold War stability paradigm, which assumed that U.S. and Soviet leaders would be too rational to initiate a nuclear war for limited purposes.

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[50] "Russia's New Nuke Warning," *Politico*, September 27, 2022, available at https://www.politico.com/newsletters/national-security-daily/2022/09/27/too-early-to-tell-if-iran-protests-will-sink-regime-00059045.

[51] See, for example, Bruno Waterfield, "Russia Threatens Nuclear Attack on Ukraine," *The Telegraph*, February 12, 2008, available at https://www.telegraph.co.uk/news/worldnews/1578444/Russia-threatens-nuclear-attack-on-Ukraine.html; Matt Payton, "Norway is Now a Nuclear Target Over US Marines Posted There, Senior Russian Politician Warns," *The Independent*, November 1, 2016, available at https://www.independent.co.uk/news/world/europe/norway-nuclear-target-us-marines-russia-politician-weapons-a7390386.html; Adam Withnall, "Russia Threatens Denmark with Nuclear Weapons if it Tries to Join NATO Defence Shield," *The Independent*, March 22, 2015, available at https://www.independent.co.uk/news/world/europe/russia-threatens-denmark-with-nuclear-weapons-if-it-tries-to-join-nato-defence-shield-10125529.html; and Christopher Woody, "Russia Reportedly Warned Mattis It Could Use Nuclear Weapons in Europe, and It Made Him See Moscow as an 'Existential Threat' to the US," *Business Insider*, September 24, 2018, available at https://www.businessinsider.com/russia-warned-mattis-it-could-use-tactical-nuclear-weapons-baltic-war-2018-9.

[52] Jacek Durkalec, "Nuclear Backed 'Little Green Men:' Nuclear Messaging in the Ukraine Crisis" (Warsaw, Poland: The Polish Institute of International Affairs, July 2015), available at https://www.files.ethz.ch/isn/193514/Nuclear%20Backed%20%E2%80%9CLittle%20Green%20Men%E2%80%9D%20Nuclear%20Messaging%20in%20the%20Ukraine%20Crisis.pdf.

[53] Denis Sinyakov, "Putin: Soviet Collapse a 'Genuine Tragedy,'" *msnbc.com*, April 25, 2005, available at http://www.nbcnews.com/id/7632057/ns/world_news/t/putin-soviet-collapse-genuine-tragedy/.

[54] Mark. B. Schneider, "Escalate to De-escalate," *Proceedings*, Vol. 142, No. 2, February 2017, available at https://www.usni.org/magazines/proceedings/2017/february/escalate-de-escalate.

In 2018, Russian President Vladimir Putin announced with great fanfare that Moscow is developing at least half-a-dozen new sophisticated nuclear weapons delivery systems.[55] Russian nuclear weapons programs have advanced rapidly under an intense modernization effort that has included the building and deployment of newer, more sophisticated nuclear weapons, both "strategic" and "tactical"; the development and fielding of more modern delivery systems; and the development of next-generation missile and weapons capabilities.[56] Russian nuclear strategy, doctrine, and programs have evolved significantly since the Cold War, in ways that pose even greater risks to the West than during the Soviet era.

Additionally, Russia not only maintains much more robust nuclear weapons and design production capabilities, it has tested its nuclear weapons by conducting nuclear weapons-related experiments that have created nuclear yield in violation of the U.S. understanding of the Comprehensive Test Ban Treaty.[57] These experiments could improve Russia's nuclear weapons capabilities.[58] New types of nuclear propulsion, miniaturization, and maneuvering technologies could place an added strain on U.S. extended deterrence and assurance guarantees.

The Rise of Nuclear China

The United States spent decades trying to understand and contain the expansionist goals behind Moscow's nuclear posture. Similar concerns have developed in recent years over the People's Republic of China's (PRC) efforts to reshape the global world order--particularly deterring China's forceful takeover of Taiwan. Incorporation of Taiwan into the mainland appears to be an existential and possibly near-term requirement for the Chinese Communist Party.[59]

China's ambitions are more expansive than the incorporation of Taiwan. China wants to overcome a "century of humiliation" by Western powers and Japan.[60] Chairman of the Joint Chiefs of Staff, General Mark Milley stated that a goal of China's military buildup is "to revise

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[55] Vladimir Putin, *Presidential Address to the Federal Assembly*, March 1, 2018, available at http://en.kremlin.ru/events/president/news/56957.

[56] Mark Schneider, "The Expanding List of Putin's New Nuclear Superweapons," *RealClear Defense*, May 27, 2021, available at https://www.realcleardefense.com/articles/2021/05/27/the_expanding_list_of_putins_new_nuclear_superweapons_778989.html.

[57] Department of State, *2021 Adherence to and Compliance With Arms Control, Nonproliferation, and Disarmament Agreements and Commitments*, op. cit., p. 41.

[58] Robert Ashley, "Russian and Chinese Nuclear Modernization Trends," Remarks at the Hudson Institute, May 29, 2019, available at https://www.dia.mil/News/Speeches-and-Testimonies/Article-View/Article/1859890/russian-and-chinese-nuclear-modernization-trends/.

[59] "Tailored Deterrence: China and the Taiwan Question," *Journal of Policy & Strategy*, Vol. 2, No. 2., 2022, pp. 7 and 15, available at https://nipp.org/wp-content/uploads/2022/05/Special-Issue-final.pdf.

[60] Christopher A. Ford, *Defending Taiwan: Defense and Deterrence, Occasional Paper*, Vol. 2, No. 2 (Fairfax, VA: National Institute Press, 2022), available at https://nipp.org/wp-content/uploads/2022/02/Vol.-2- No.-2-Ford.pdf.

the global rule set."[61] At the time, a senior U.S. government official assessed the situation similarly: "Beijing's long-term goal is to fundamentally revise world order, placing the People's Republic of China (PRC)... at the center and serving Beijing's authoritarian goals and imperial ambitions."[62]

The PRC has spent the past decade developing conventional and nuclear capabilities to match its expansionist ambitions. According to the U.S. government, "China continues to have one of the most active and diverse ballistic missile development programs in the world."[63]

China's military buildup aims to shift the regional balance vis-à-vis the United States in its favor, particularly in the context of its desire to bring Taiwan under the political control of the mainland–by force if necessary.[64] The PRC may now believe it holds local escalation dominance.

Admiral Charles Richard, Commander of the U.S. Strategic Command, called China's nuclear expansion "breathtaking"[65] and noted that the PRC's capabilities will permit it to employ "any coercive nuclear strategy."[66] The Department of Defense stated that China's capabilities reached a "strategic breakout point."[67] General John Hyten, then-Vice Chairman of the Joint Chiefs of Staff, mentioned his concern that China is "going away from minimum deterrence" given its work in "hypersonics, the work to fill out the triad, the work to build both a fixed base silo based ICBM program and a mobile ICBM program at the same time, to put ballistic missiles on bombers, to put ballistic missiles on submarines."[68] China is taking these steps amid the questionable U.S. ability to forward deploy nuclear forces to the Indo-Pacific region.[69]

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[61] Nancy A. Youssef, "China Aims to 'Revise the Global Rule Set,' Top U.S. General Says: Gen. Milley, Speaking at the WSJ CEO Council Summit, Warned that China's Aims Could Lead to More Instability," *Wall Street Journal Online*, December 7, 2021, available at https://www.wsj.com/articles/china-aims-to-revise-the-global-rule-set-top-u-s-general-says-11638914747.

[62] Peter Berkowitz, "The Pattern and Purpose of China's Actions," *RealClearPolitics*, October 25, 2020, available at https://www.realclearpolitics.com/articles/2020/10/25/the_pattern_and_purpose_of_chinas_actions_144522.html.

[63] Department of Defense, *Missile Defense Review*, 2019, p. 13, available at https://media.defense.gov/2019/Jan/17/2002080666/-1/-1/1/2019-MISSILE-DEFENSE-REVIEW.PDF.

[64] Keith B. Payne, *Tailored Deterrence: China and the Taiwan Question*, *Occasional Paper*, Vol. 2, No. 1 (Fairfax, VA: National Institute Press, 2022), available at https://nipp.org/wp-content/uploads/2022/01/Payne-OP-Vol-2-No-1-final.pdf.

[65] Roxana Tiron, "U.S. Sees Rising Risk in 'Breathtaking' China Nuclear Expansion," *Bloomberg*, April 4, 2022, available at https://www.bloomberg.com/news/articles/2022-04-04/u-s-sees-rising-risk-in-breathtaking-china-nuclear-expansion.

[66] Jason Sherman, "DOD Assesses China Has Achieved 'Strategic Breakout' Requiring U.S. Policy, Capability Response," *InsideDefense.com*, March 1, 2022, available at https://insidedefense.com/daily-news/dod-assesses-china-has-achieved-strategic-breakout-requiring-us-policy-capability.

[67] Ibid.

[68] General John Hyten, *Defense Writers Group Project for Media and National Security*, October 21, 2021, p. 4, available at https://cpb-us-e1.wpmucdn.com/blogs.gwu.edu/dist/2/672/files/2018/02/DWG-Hyten-211028.pdf.

[69] Mark Schneider, "Does the United States Have Any Real Capability to Forward Deploy Nuclear Weapons Rapidly Outside of NATO?," *RealClearDefense*, August 27, 2021, available at https://www.realcleardefense.com/articles/2021/08/27/does_the_united_states_have_any_real_capability_to_forward_deploy_nuclear_weapons_rapidly_outside_of_nato_europe_791788.html.

The PRC has invested significant resources into modernization and expansion of its forces, both conventional and nuclear. The People's Liberation Army (PLA) has 355 ships with further expansion of the fleet planned in the outyears and the third largest aviation force in the world (and the largest in the region).[70] China's activities include "developing and testing offensive missiles, forming additional missile units, upgrading missile systems, and developing methods to counter ballistic missile defenses."[71]

China's hypersonic weapons program is reportedly ahead of the United States.[72] The Chinese have conducted "hundreds" of hypersonic weapons tests relative to nine for the United States during the same timeframe.[73] General Hyten called the pace at which China is moving "stunning," placing the United States at risk of being surpassed.[74] China's purpose appears to be to "erode our military advantages and deter us from intervening in a regional conflict..."[75] These ambitions emphasize the importance of U.S. allies in the region; one of the few local U.S. advantages over China. But they also mean that U.S. allies' assurance requirements may need updating as China's capabilities evolve.

Nuclear-Armed North Korea

North Korea is a rogue state that "seeks the capability to kill millions of Americans."[76] It is pursuing a spectrum of weapons, including weapons of mass destruction, to preserve the regime, gain leverage and increase its coercive potential over South Korea, Japan, and the United States.[77] The country is still formally at war with its southern neighbor and its leader Kim Jong-Un may harbor dreams of unification of the Korean Peninsula under the rule of the Democratic People's Republic of Korea (DPRK).[78] Evans J.R. Revere, former U.S. acting ambassador to Korea, recently argued that North Korea needs nuclear weapons to "unify the

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[70] U.S. Department of Defense, *Military and Security Developments Involving the People's Republic of China 2021: Annual Report to Congress*, 2021, pp. v, vi, and 49, available at https://media.defense.gov/2021/Nov/03/2002885874/-1/-1/0/2021-CMPR-FINAL.PDF.

[71] Ibid.

[72] Paul McLeary and Alexander Ward, "U.S. 'not as advanced' as China and Russia on hypersonic tech, Space Force general warns," *Politico*, November 20, 2021, available at https://www.politico.com/news/2021/11/20/hypersonic-technology-us-behind-china-russia-523130.

[73] General John Hyten, *Defense Writers Group Project for Media and National Security*, op. cit., p. 6.

[74] Ibid, p. 22.

[75] U.S. Senate, Armed Services Committee, Subcommittee on Strategic Forces, Statement of General Glen VanHerck, Commander, United States Northern Command and North American Aerospace Defense Command, June 9, 2021, pp. 4-5, available at https://www.armed-services.senate.gov/imo/media/doc/VanHerck%20Written%20Statement%20to%20SASC%206-09.pdf.

[76] The White House, *National Security Strategy of the United States*, op. cit., p. 7.

[77] Department of Defense, *Summary of the 2018 National Defense Strategy of The United States of America: Sharpening the American Military's Competitive Edge*, 2018, p. 2, available at https://dod.defense.gov/Portals/1/Documents/pubs/2018-National-Defense-Strategy-Summary.pdf.

[78] Sofia Lotto Persio, "What Does Kim Jong Un Really Want? Reunification Under Communist System, Top U.S. Commander Says," *Newsweek*, February 15, 2018, available at https://www.newsweek.com/what-does-kim-jong-un-really-want-reunification-under-communist-system-top-us-807969.

Korean Peninsula, not to maintain his [Kim Jong-Un's] regime."[79] In other words, Pyongyang is bent on altering the regional status quo.

Despite being one of the poorest economies in the world, the North Korean dictatorship managed to detonate a nuclear weapon in 2006, despite denying the existence of the program in the years prior to its withdrawal from the Nuclear Nonproliferation Treaty and has steadily improved its nuclear and ballistic missile force. According to one expert, North Korea is now "working to operationalize a nuclear warfighting capability to undermine the U.S. extended deterrence guaranty and potentially seek unification."[80] Pyongyang developed its nuclear weapons program in violation of its international obligations, including under the Nuclear Nonproliferation Treaty when it was a party to the treaty. Due to its ballistic missile and nuclear weapons programs, it is one of the most heavily sanctioned states in the world with China being its main trading partner.

Nuclear weapons play a prominent role in the North Korean leadership's understanding of security. North Korean government-run media referred to nuclear weapons as a "shield."[81] Kim Jong-Un referred to nuclear weapons as a "powerful treasured sword for defending peace" that would "reliably guarantee" North Korea's dignity and happiness.[82] In 2017, North Korean Foreign Minister Ri Yong Ho threatened to conduct "the strongest hydrogen bomb test over the Pacific Ocean" in response to President Donald Trump's speech at the United Nations condemning North Korea's activities.[83]

Since 2006, the DPRK conducted nuclear weapons tests in 2009, 2013, 2016 (twice) and 2017.[84] The 2017 test reportedly was a hydrogen weapon for use on a long-range missile.[85] Today, Pyongyang could have more than 60 nuclear warheads.[86] North Korea's war plan

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[79] Quoted in Kim Min-seok, "Would United States risk New York to protect Seoul?," *Korea JoongAng Daily*, June 26, 2022, available at https://koreajoongangdaily.joins.com/2022/06/26/opinion/columns/extended-nuclear-deterrence-South-Korea-US/20220626200111690.html.

[80] Bruce Klingner, "North Korea's Nuclear Doctrine: Trusted Shield and Treasured Sword," The Heritage Foundation *Backgrounder* No. 3665, October 18, 2021, available at https://www.heritage.org/asia/report/north-koreas-nuclear-doctrine-trusted-shield-and-treasured-sword.

[81] "N. Korea says no plans to give up nuclear capabilities," *Yonhap News Agency*, May 28, 2013, available at https://en.yna.co.kr/view/AEN20130528008400315.

[82] Josh Smith, "'Treasured Sword': North Korea Seen as Reliant as Ever on Nuclear Arsenal as Talks Stall," *Reuters*, November 13, 2018, available at https://www.reuters.com/article/us-northkorea-missiles-nuclear-analysis/treasured-sword-north-korea-seen-as-reliant-as-ever-on-nuclear-arsenal-as-talks-stall-idUSKCN1NI132.

[83] Joshua Berlinger and Zahra Ullah, "North Korea could test hydrogen bomb over Pacific Ocean, says foreign minister," *CNN Politics*, September 22, 2017, available at https://www.cnn.com/2017/09/21/politics/kim-jong-un-on-trump-comments/index.html.

[84] "North Korea: What we know about its missile and nuclear programme," *BBC News*, March 24, 2022, available at https://www.bbc.com/news/world-asia-41174689.

[85] Elise Hu, "North Korea Claims Successful Hydrogen Bomb Test," *npr.org*, September 3, 2017, available at https://www.npr.org/sections/thetwo-way/2017/09/03/523913820/north-korea-possibly-conducts-sixth-nuclear-test-south-korea-says.

[86] "North Korea's Military Capabilities," *Council on Foreign Relations*, December 21, 2022, available at https://www.cfr.org/backgrounder/north-korea-nuclear-weapons-missile-tests-military-capabilities.

reportedly calls for nuclear weapons use against South Korean and U.S. forces.[87] North Korean officials are open about potential preemptive nuclear weapons use, including in contingencies involving the United States.[88] The U.S. Defense Intelligence Agency reportedly assessed in 2017 that North Korea was able to miniaturize nuclear warheads for its ballistic missiles giving it an ability to strike the U.S. homeland.[89] In 2021, Kim Jong-Un stated that the country was able to "miniaturize, lighten and standardize nuclear weapons and to make them tactical ones."[90]

Nuclear warheads by themselves would cause relatively fewer (even if serious) concerns were it not for North Korea's active and highly diverse missile program. In the past decade, North Korea has advanced its ballistic missile capabilities, to include developing ICBMs. As a result, "North Korea now has the capability to threaten the U.S. homeland with a nuclear-armed missile attack."[91] The purpose of these capabilities may be dissuading "the United States from supporting its Asian allies in a crisis or conflict."[92]

The reliability of North Korea's long-range missile systems remains uncertain.[93] But North Korea has significantly improved its short- and medium-range ballistic missiles that threaten U.S. allies South Korea and Japan, and U.S. forward-deployed troops. Some of these systems are reportedly dual-capable.[94] North Korea also reportedly tested a hypersonic missile in 2021 and 2022.[95] North Korea's threats and capabilities that are increasingly

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[87] Jeong Yong-soo and Ser Myo-ja, "Kim Jong-un Ordered a Plan for a 7-Day Asymmetric War: Officials," *Korea JoongAng Daily*, January 7, 2015, available at http://koreajoongangdaily.joins.com/news/article/Article.aspx?aid=2999392.

[88] For a recent example see "U.N. chief Guterres 'deeply concerned' by new North Korea law on nuclear weapons - spokesman," *Reuters*, September 9, 2022, available at https://www.reuters.com/world/asia-pacific/un-chief-guterres-deeply-concerned-by-new-north-korea-law-nuclear-weapons-2022-09-09/; and "North Korea's Kim Jong Un threatens to use nuclear weapons preemptively 'if necessary'," *CBS News*, April 30, 2022, available at https://www.cbsnews.com/news/north-korea-nuclear-weapons-kim-jong-un-preemptively/.

[89] Joby Warrick, Ellen Nakashima, and Anna Fifield, "North Korea Now Making Missile-Ready Nuclear Weapons, U.S. Analysts Say," *The Washington Post*, August 8, 2017, available at https://www.washingtonpost.com/world/national-security/north-korea-now-making-missile-ready-nuclear-weapons-us-analysts-say/2017/08/08/e14b882a-7b6b-11e7-9d08-b79f191668ed_story.html.

[90] Mary Beth Nikitin, "North Korea's Nuclear Weapons and Missile Programs," *Congressional Research Service In Focus*, No. 10472, April 8, 2022, available at https://crsreports.congress.gov/product/pdf/IF/IF10472.

[91] Department of Defense, *Missile Defense Review*, op. cit., p. 10.

[92] Ibid.

[93] Mary Beth Nikitin, "North Korea's Nuclear Weapons and Missile Programs," op. cit., p. 2.

[94] For a more detailed overview see Hans Kristensen and Matt Korda, "Nuclear Notebook: How many nuclear weapons does North Korea have in 2021?," *The Bulletin of Atomic Scientists*, July 21, 2021, available at https://thebulletin.org/premium/2021-07/nuclear-notebook-how-many-nuclear-weapons-does-north-korea-have-in-2021/.

[95] Kim Tong-hyung and Hyung-jin Kim, "See the weapons on display during North Korea's latest parade," *Defense News*, April 26, 2022, available at https://www.defensenews.com/global/asia-pacific/2022/04/26/see-the-weapons-on-display-during-north-koreas-latest-parade/; Jacob Cohn, Adam Lemon, Evan Montgomery, "Assessing the Arsenals: Past, Present, and Future Capabilities," *Center for Strategic and Budgetary Assessment*, May 15, 2019, pp. 52-53, available at https://csbaonline.org/research/publications/Assessing_the_Arsenals_Past_Present_and_Future_Capabilities/publication/1; and Bruce Klingner, "North Korea's Hypersonic Missile Less Developed Than China's," The Heritage Foundation *Factsheet* No. 227, January 27, 2022, available at https://www.heritage.org/sites/default/files/2022-01/FS227.pdf.

matchings the threats may require additional assurance to U.S. allies in the region as the security situation evolves.

Conclusion

Regional threat developments with potential global implications place the credibility of U.S. extended deterrence and assurance commitments at risk, particularly given the fact that the United States adapted its force posture to reflect an anticipated, long-term, benign strategic environment. The United States never planned for the prospect of having to deter two highly motivated and revisionist nuclear peers. During the Cold War, U.S. officials assumed that if it successfully deterred the Soviet Union, other lesser nuclear-armed actors would be deterred by extension. The situation today is vastly different and nuclear multipolarity will generate new extended deterrence and assurance requirements. The prospect of coordination between the PRC and Russia is particularly concerning in this regard and deserves closer examination.[96]

IMPLICATIONS OF MULTIPOLARITY FOR EXTENDED DETERRENCE AND ALLIED ASSURANCE

Today, the United States faces a fundamental challenge to the credibility of its extended deterrence and assurance guarantees, particularly in a regional context where U.S. interests may be perceived by allies and adversaries as manifestly less important than those of its geographically closer adversaries, including, for example, Ukraine and Taiwan.

The strategic environment in which the United States and its allies address this challenge is unprecedented; the United States has never faced two nuclear peer competitors simultaneously. To make matters worse, both the PRC and the Russian Federation "appear driven by the common belief that their respective expansionist goals are of such existential importance that they are willing to brandish nuclear first-use threats to advance them, and may see limited nuclear employment as a way to work around U.S. deterrence policies."[97] To that end, it would not be surprising if they coordinated their policies against the United States. There is some evidence such coordination is already taking place, although the discussion about its extent and longevity are ongoing.[98] Complicating matters further, new

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[96] Keith B. Payne and David J. Trachtenberg, *Deterrence in the Emerging Great Environment: What is Different and Why it Matters*, *Occasional Paper*, Vol. 2, No. 8 (Fairfax, VA: National Institute Press, 2022), available at https://nipp.org/wp-content/uploads/2022/08/OP-Vol.-2-No.-8.pdf.

[97] Keith Payne, "Multilateral Deterrence: What's New and Why it Matters," *Information Series*, No. 522 (Fairfax, VA: National Institute Press, May 16, 2022), p. 5, available at https://nipp.org/wp-content/uploads/2022/05/IS-522.pdf.

[98] See, for example, the comments of various analysts in "Ask the Experts: Will China and Russia Stay Aligned?," *Foreign Affairs*, June 21, 2022, available at https://www.foreignaffairs.com/ask-theexperts/2022-06-21/will-china-and-russia-stay-aligned; or John Bolton, "Entente Multiplies the Threat From Russia and China," *The Wall Street Journal*, February 15, 2022, available at https://www.wsj.com/articles/entente-multiplies-the-threat-from-russia-andchina-foreign-policy-alliance-beijing-moscow-xi-putin-11644943618.

nuclear-armed states emerged after the end of the Cold War, increasing the complexity of the environment in which the United States must assure allies and extend deterrence.

The new realities of the post-Cold War environment make the popular understanding of the term "strategic stability"—a situation in which both sides share an understanding of what constitutes rational behavior and threaten the other side with nuclear annihilation in retaliation for first nuclear use—problematic at best and supremely dangerous at worst, especially at a regional level.[99] Far from sharing an equivalent fear of nuclear use and a commitment to perpetuating conditions of mutual vulnerability, today's opponents appear intent on promoting instability, including threatening *first* nuclear weapons use, at U.S. and allied expense.[100] The adversaries' objective is to challenge the global status quo and disrupt U.S. regional alliances, thus making it easier for them to attain their goals. These realities shape U.S. allies' assurance requirements and extended deterrence.

Nevertheless, this is not the first time in modern history that the United States has had to take into account more than one nuclear-armed non-allied country when considering its foreign relations. During the Cold War, as the PRC developed its nuclear arsenal, India detonated a nuclear device (in 1974). The United States learned during this time that more nuclear-armed actors make deterrence and assurance dynamic more complex. Other nuclear powers retained much smaller nuclear arsenals than the United States and the Soviet Union. The U.S. government had the luxury of assuming that if it could deter the Soviet Union, it would be able to deter any other adversary.[101]

Additional actors complicate deterrence because the more actors are involved in a crisis, the more factors the United States must consider that could contribute to deterrence success or failure. The United States understands these factors only imperfectly under the best of circumstances, partly because some of them are unknowable.[102] Deterrence failures often appear to be a consequence of misunderstandings regarding "the opponent's goals, motivations, attention, determination, risk tolerance, perceptions of necessity, opportunity, and the stakes in contention, along with many other possible factors that shape how leaderships calculate risk, cost and gain."[103] The obvious problem is that the United States and its allies may not know whether deterrence is on the verge of failing until it is too late. As a noted deterrence expert observes, "our understanding of opponents and context will likely never be adequate for highly-confident predictions in almost any context."[104]

Yet that does not mean that the United States should give up on the task of deterrence—it is an essential tool of U.S. and allied security. Nor should U.S. officials consider all

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[99] Keith Payne, "Redefining 'Stability' for the New Post-Cold War Era," op. cit., p. 45.

[100] Ibid, p. 48.

[101] James Anderson, "China's Arms Buildup Threatens the Nuclear Balance," *The New York Times*, July 29, 2020, available at https://nyti.ms/3f6A4NH

[102] For an elaboration of this point see Keith Payne, "Multilateral Deterrence: What's New and Why it Matters," op. cit., and Keith B. Payne and David J. Trachtenberg, *Deterrence in the Emerging Great Environment: What is Different and Why it Matters*, *Occasional Paper*, Vol. 2, No. 8 (Fairfax, VA: National Institute Press, 2022), available at https://nipp.org/wp-content/uploads/2022/08/OP-Vol.-2-No.-8.pdf.

[103] Ibid, p. 3.

[104] Ibid.

speculations on the subject equally valid and useful; quite the contrary. The United States can improve the chances that deterrence will work by pursuing multi-disciplinary contextual understanding of actors it is trying to deter, their decision-making structures, values they abide by, and goals they are trying to achieve.[105]

In this context, it is prudent for the United States and its allies to hedge against too narrow of a definition of deterrence force adequacy and also against the potential for deterrence failure. After all, it is an adversary that will ultimately decide whether to be deterred. The imperative for the United States to understand as much as possible about its adversaries for deterrence purpose seems obvious—if long in becoming a recognized requirement for U.S. deterrence policy. The imperative for understanding what its allies think about adversaries and their particular needs for assurance less so. There is value added in gathering the views of allies about a common adversary and having that information be considered in the opponent's "strategic profile." It helps the United States check its assumptions, provides new data for the development of an adversary's strategic profile, and strengthens the relationship with allies as each side develops a common understanding of the adversary.

The complexity of the contemporary threat environment is reflected in the context of the United States extending deterrence and providing assurance to more allies than ever before with fewer nuclear capabilities and smaller conventional forces than the United States had during the Cold War.[106] Assurances may fail suddenly because they are political in nature. A sudden failure could catch the United States by surprise. If U.S. allies no longer attach credibility to the U.S. commitment to their security, they may seek their own independent nuclear forces and/or strike a separate geopolitical bargain with U.S. adversaries to the detriment of U.S. security and stability of the global system (because U.S. adversaries are not status quo powers and want to change it). If U.S. allies seek and obtain separate guarantees from other nuclear-armed states instead of the United States, other countries in the same region may appeal to U.S. adversaries for the same guarantees or may demand a stronger commitment from the U.S., thus introducing additional complexity.[107] Would the United States know allies are questioning its commitment to their security before it is too late to prevent such negative consequences of an assurance failure?

Allied confidence in U.S. assurances could languish over time if allies increasingly question the U.S. commitment to their security and perceive the United States as unresponsive to their concerns. The lack of a sufficient strategic dialogue could exacerbate this situation. Depending on the level of allied concern, allies could position themselves on a path to develop their own nuclear capabilities despite U.S. (and likely other countries') pressure not to do so. This could trigger nuclear proliferation that could destabilize regional

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[105] For more on this topic, see Keith Payne, "Deterrence is Not Rocket Science: It is More Difficult," *Information Series*, No. 527 (Fairfax, VA: National Institute Press, July 6, 2022), available at https://nipp.org/wp-content/uploads/2022/07/IS-527.pdf.

[106] While United States does not provide an official number of states that are protected under the U.S. nuclear umbrella. The 2018 Nuclear Posture Review states that "the United States extends deterrence to over 30 countries." U.S. Department of Defense, *Nuclear Posture Review Report*, op. cit., p. 35.

[107] This eventuality is mentioned in Jacob Cohn, Adam Lemon, Evan Montgomery, "Assessing the Arsenals: Past, Present, and Future Capabilities," op. cit., pp. 53-55.

dynamics with negative consequences for U.S. and allied interests alike. Or allies could strike separate bargains with U.S. adversaries, enabling the latter to pursue more aggressive policies.[108] Neither of these paths positions the United States in a strategically better situation to uphold world order. That is why allied assurances are an essential component of U.S. national security.

Past U.S. Experience with Trilateral Nuclear Relationships

Previous U.S. experience demonstrates that nuclear multipolarity makes U.S. communication challenges more complex and therefore more difficult.[109] Part of the difficulty is that the United States must tailor messages in a way that the intended recipient does not misconstrue them. The U.S. track record in this regard is imperfect. Indeed, it is not at all clear that the United States *can* communicate clearly with an actor whose interests are built on misinterpreting U.S. messages.[110]

Another difficulty of communicating in multipolarity is that the United States communicates to several distinct audiences at once. U.S. actions aimed at assuring allies in one region will be closely watched and analyzed (and potentially misconstrued) by allies—and adversaries—in other regions.[111] Each state will interpret U.S. actions through its own lenses and biases stemming from different strategic cultures and leaderships' personal idiosyncrasies. There simply may not be a way to tailor a message in a way that leaves everyone with a clear picture as to what it is that the United States intends to communicate.

For its part, the United States might wish to preserve a degree of ambiguity in its messaging to support its deterrence goals or to avoid entrapment.[112] Opportunities for misunderstanding abound. The answer is not to give up on *trying* to tailor messages to intended audiences and making them as clear as possible but to do the groundwork necessary to understand and anticipate allies' and adversaries' perspectives and reactions ahead of time as much as possible.

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[108] One can look to a contemporary example to Hungary's support for Russia to see the negative impact such a situation creates for the European Union's effort to sanction Russia following its brutal war in Ukraine.

[109] See for example Gerald Segal, *The Great Power Triangle* (London, UK: Palgrave Macmillan, 1981).

[110] For example Kevin Woods et al., *Saddam's War: An Iraqi Military's Perspective of the Iran-Iraq War* (Washington, DC: National Defense University, 2009), pp. 17-18, available at https://ndupress.ndu.edu/Portals/68/Documents/Books/saddams-war.pdf. The publication documents Saddam Hussein's increasing isolation and paranoia after his son-in-law's defection to Jordan, and unwillingness to meet even his senior ministers sometimes for years.

[111] Keith B. Payne and David J. Trachtenberg, *Deterrence in the Emerging Great Environment: What is Different and Why it Matters*, *Occasional Paper*, Vol. 2, No. 8 (Fairfax, VA: National Institute Press, 2022), available at https://nipp.org/wp-content/uploads/2022/08/OP-Vol.-2-No.-8.pdf.

[112] Countries often welcome ambiguity in their alliance commitments, precisely to avoid entrapment. See Alexander Lanoszka, *Military Alliances in the Twenty-First Century* (Cambridge, UK: Polity, 2022), pp. 50-74.

Alliance Politics and Arms Control

U.S. allies have favored arms control talks between superpowers, especially during periods of heightened tension. In fact, arms control with the Soviet Union was a component of the Reagan Administration's dual-track approach to intermediate-range nuclear forces that helped to sustain the controversial *Pershing II* deployments to Europe despite Soviet Union's extensive efforts to disrupt them.[113]

U.S. post-Cold War reductions and multipolarity make the achievement of meaningful arms control more difficult. At the strategic level, the United States reduced (along with the Russian Federation) its nuclear arsenal from a maximum of 6,000 accountable warheads under the 1991 Strategic Arms Reduction Treaty (START) to 1,550 accountable warheads under the 2010 New START.[114] This force posture, largely retained by the Trump and Biden administrations to date, assumed that the United States and Russia were "no longer adversaries," and that "prospects for military confrontation have declined dramatically."[115] The 2010 *NPR* also noted that "China's nuclear arsenal remains much smaller than the arsenals of Russia and the United States."[116] However, the gap between the *NPR's* 2010 assumptions and contemporary reality is significant and will likely grow. Threat trends make the prospect of further strategic force reductions difficult at best and argue against any U.S. unilateral nuclear reductions. The 2020 *Nuclear Employment Guidance* elucidates the point:

> Given the range of possible adversary nuclear employment scenarios, it would be imprudent for the United States to reduce its nuclear forces unilaterally at this time or in the near future. Unilateral U.S. nuclear reductions would likely degrade the deterrence of attacks on the United States, its allies, and partners; undermine the assurance of allies and partners; and do nothing to halt the continuing modernization and projected substantial increases in Russian and Chinese nuclear arsenals. Instead, U.S. unilateral reductions could encourage Russian and Chinese expansion of their capabilities. In addition, unilateral U.S. nuclear reductions would undermine U.S. leverage in a future arms control negotiation.[117]

In fact, continuing a Cold War-style arms control process that was rooted the balance of terror logic could undermine the U.S. goal of having a stable regional relationship with other

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[113] Vladimír Černý and Petr Suchý, "Spies and Peaceniks: Czechoslovak Intelligence Attempts to Thwart NATO's Dual-Track Decision," *Information Series*, No. 456 (Fairfax, VA: National Institute Press, April 8, 2020), available at https://nipp.org/information_series/cerny-vladimir-and-petr-suchy-spies-and-peaceniks-czechoslovak-intelligence-attempts-to-thwart-natos-dual-track-decision-information-series-no-456/.

[114] Amy F. Woolf, "U.S. Strategic Nuclear Forces: Background, Developments, Issues," *Congressional Research Service*, CRS Report RL33640, December 14, 2001, pp. 4-5, available at https://sgp.fas.org/crs/nuke/RL33640.pdf.

[115] Department of Defense, *Nuclear Posture Review Report*, 2010, p. iv, available at https://dod.defense.gov/Portals/1/features/defenseReviews/NPR/2010_Nuclear_Posture_Review_Report.pdf.

[116] Ibid, p. v.

[117] United States Department of Defense, *Report on the Nuclear Employment Strategy of the United States – 2020* (Washington, D.C.: Department of Defense, 2020), p. 87, available at nipp.org/document-number-one.

nuclear powers.[118] At the same time, the definition of what constitutes stabilizing arms control must be updated to account for the realities of a post-Cold War national security environment that is significantly more diverse and unpredictable.[119] Most importantly, the United States ought to move away from focusing on the technical specifications of nuclear systems as a basis for deciding whether a system is stabilizing or destabilizing because an adversary's political goals that these weapons are supposed to serve determine the character of the threat.[120]

Do opponents deem these goals to be of existential importance? Do they demand crossing established U.S. deterrence redlines? Are they intended to overturn the political status quo? In other words, how countries *use* capabilities to advance their political goals is much more important from the perspective of maintaining strategic stability than are a weapon's technical parameters. As noted strategist Colin Gray pointed out, "The policy purposes of states, or the orientation of strategies - but not individual weapons - may be offensive or defensive."[121] Low-yield nuclear options can be stabilizing or destabilizing, depending on the goals of the country that has them and its associated behavior. Missile defenses in the hands of status quo powers can be highly stabilizing, even though the Cold War strategic stability paradigm labeled almost all missile defense programs destabilizing. Allies are likely to be sensitive to these contextual factors and they will inform their assurance requirements.

Missile Defense Is Increasingly Important

Because deterrence is inherently uncertain, and even more so in a multipolar context, missile defenses are bound to increase in importance in a new environment with multiple nuclear-armed adversaries.[122] In the hands of revisionist powers, ballistic missiles have a large coercive potential because they give them a capability to destroy targets thousands of miles away within minutes while making it extremely challenging to defend against them. It was the dawn of parity in Soviet ballistic missiles with the range to reach the U.S. homeland that undermined the credibility of the U.S. commitment to Europe's security during the Cold War.

Today, revisionist powers can use ballistic, cruise, and hypersonic missiles for the same purpose—to intimidate and inhibit the United States from helping its allies in a crisis. Thanks to the prevalence of the Cold War stability paradigm, the United States is not much better off

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[118] More on this point in Keith B. Payne and Michaela Dodge, *Stable Deterrence and Arms Control in a New Era*, *Occasional Paper*, Vol. 1, No. 9 (Fairfax, VA: National Institute Press, 2021), pp. 21-29, available at https://nipp.org/wp-content/uploads/2021/09/Payne-Dodge-OP-9.pdf.

[119] Colin S. Gray, Defense Planning for National Security: Navigation Aids for the Mystery Tour (Carlisle, PA: Strategic Studies Institute, U.S. Army War College, 2014), available at http://publications.armywarcollege.edu/pubs/2264.pdf.

[120] Keith Payne and Michaela Dodge, "Stable Deterrence and Arms Control in a New Era," op. cit., p. 32.

[121] Colin S. Gray, War, *Peace, and Victory: Strategy and Statecraft for the Next Century* (New York: Simon & Schuster, 1990), pp. 150-151.

[122] For more on this development, see Matthew R. Costlow, *Vulnerabiliy is No Virtue and Defense is No Vice: The Strategic Benefits of Expanded U.S. Homeland Missile Defense*, *Occasional Paper*, Vol. 2, No. 9 (Fairfax, VA: National Institute for Public Policy, 2022), available at https://nipp.org/wp-content/uploads/2022/09/OP-Vol.-2-No.-9.pdf.

to counter the Russian or Chinese long-range missile threat than it was decades ago. The situation today is in some respects more dangerous than it was during the Cold War because more revisionist countries continue to improve their ballistic missiles and have or could be developing nuclear warheads that would fit them.[123]

The United States recognized that relying on large-scale punitive deterrence threats alone vis-à-vis these new actors was undesirable when it withdrew from the 1972 Anti-Ballistic Missile Treaty in 2002 and started limited missile defense deployments in the United States. Missile defenses also became an increasingly important component of U.S. relations with allies, particularly in NATO Europe. The United States negotiated about the placement of long-range missile defense components with the Czech Republic and Poland in the 2006-2009 timeframe and even though the initial efforts were unsuccessful, the negotiations resulted in a more positive missile defense appraisal among NATO allies than was previously the case.[124] The United States currently has one operational short- and intermediate-range *Aegis Ashore* site in Romania, and another one is in the process of being brought online in Poland.

The challenge the United States and its allies will face in the near future is that as North Korea's and Iran's missile capabilities mature and increase in sophistication, either the United States will need to improve its missile defense systems, giving them some degree of capability against China's and Russia's longer-range missiles, or it will have to become vulnerable to North Korea's and Iran's missile threats.[125] So far, every administration has rejected this vulnerability, partly due to allied concerns over the negative implications of U.S. vulnerability for the continued U.S. commitment to their security. The challenge is already present at the theater level, where any appreciable missile defense capability against North Korea, for example, would mean the United States and its allies could have a latent defensive capability against China, too.

Nuclear Deterrence Enables Conventional Deployments, a Very Potent Assurance

U.S. conventional forward deployments help U.S. security guarantees appear more credible because they are a visible reminder of American willingness to fight and may not be easily withdrawn in a crisis.[126] They are an inseparable component of judging the credibility of U.S.

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[123] Laurence Norman, "U.N. Says Iran Has Enough Uranium to Produce Nuclear Weapon," *Wall Street Journal*, May 30, 2022, available at https://www.wsj.com/articles/iran-hasnt-provided-credible-explanations-for-nuclear-material-u-n-agency-says-11653923148.

[124] On the story of U.S.-Czech missile defense cooperation, see Michaela Dodge, *U.S.-Czech Missile Defense Cooperation--Alliance Politics in Action* (Fairfax, VA: National Institute Press, 2020), and Michaela Dodge, "A Decade of U.S.-Romanian Missile Defense Cooperation: Alliance Success," *Information Series*, No. 482 (Fairfax, VA: National Institute Press, March 18, 2021), available at https://nipp.org/information_series/dodge-michaela-a-decade-of-u-s-romanian-missile-defense-cooperation-alliance-success-information-series-no-482-march-18-2021/.

[125] Michaela Dodge, "Missile Defense Reckoning is Coming. Will the United States Choose to be Vulnerable to All Long-Range Missiles?," *Information Series*, No. 465 (Fairfax, VA: National Institute Press, August 20, 2020), available at https://nipp.org/wp-content/uploads/2021/03/IS-465.pdf.

[126] Michael A. Hunzeker & Alexander Lanoszka, "Landpower and American Credibility," *Parameters*, Vol. 45, No. 4 (2015), pp. 20-21, available at https://press.armywarcollege.edu/parameters/vol45/iss4/4/.

extended deterrence and assurance guarantees and are one of the most important visible ways in which the United States can demonstrate its commitment to allied security. For allies, conventional deployments are relatively easy to grasp because they are tangible and measurable—often involving American "boots on the ground"—unlike nuclear deterrence or assurance.

Yet, conventional deployments also depend on effective nuclear deterrence. As Admiral Richard elaborated, "Every operational plan in the Department of Defense, and every other capability we have in DOD, rests on the assumption that strategic deterrence, and in particular nuclear deterrence, ... is holding right," and that, "if that assumption is not met, particularly with nuclear deterrence, nothing else in the Department of Defense is going to work the way it was designed."[127] For conventional forces to contribute to assurance, they must not be perceived as being easily defeated in a crisis. As some defense experts have observed, "Allies do not have faith in American commitments because American troops might die; they have faith because American troops can kill and win."[128]

The U.S. Nuclear Weapons Production Complex Is a Part of Assurance and Extended Deterrence

The atrophy of the U.S nuclear weapons complex is a less appreciated problem for U.S. extended deterrence and assurance, partially because the cadre of experts who understand the issue is relatively small in the United States and even smaller in allied countries. During the Cold War, the U.S. nuclear weapons production complex could be relied upon to meet shifting U.S. nuclear deterrence requirements in a timely manner. New nuclear warhead designs were regularly certified during a demanding process of underground tests and entered the stockpile as military requirements evolved and new technologies were developed. Nuclear weapons designers maintained hands-on proficiency in all areas relevant to the development and deployment of new nuclear warheads.

During the Cold War, the U.S. nuclear weapons complex was robust, flexible, and reliable, and discussions about whether it would perform its functions as expected were not a significant part of U.S. extended deterrence or assurance discussions. Neither were they a significant part of the U.S. arms control process. According to George Miller, former director of the Lawrence Livermore National Laboratory, "the basis of confidence in the nuclear deterrent was really founded on confidence in the nuclear enterprise."[129] The approach to sustaining the nuclear enterprise was underpinned "by a robust laboratory complex capable of performing full-scale nuclear explosive tests, computational simulations, non-nuclear

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[127] Amy Hudson, "Richard Says Nuclear Deterrence Connected to All Other DOD Capabilities," *Air Force Magazine*, May 7, 2021, available at https://www.airforcemag.com/richard-says-nuclear-deterrence-connected-to-all-other-dod-capabilities/.

[128] Hunzeker and Lanoszka, "Landpower and American Credibility," op. cit., p. 20.

[129] George Miller, "Stockpile Stewardship: What Were We Thinking? How Did It Work Out?," in, *Stockpile Stewardship in an Era of Renewed Competition,* Brad Roberts, ed. (Livermore, CA: Center for Global Security Research at Lawrence Livermore National Laboratory, April 2022), p. 6.

tests, and basic science investigations of the underlying physics, chemistry, and materials science."[130] The United States did not sustain this capable nuclear weapons complex after the end of the Cold War.

Despite every single post-Cold War Administration's commitment to keep the nuclear complex flexible and resilient, these are not the first words that come to mind when thinking about the nuclear enterprise. More than a third of the National Nuclear Security Administration's (NNSA's) workforce will be eligible for retirement in the next 5 years.[131] According to Charles Verdon, then-Acting Under Secretary for Nuclear Security and Administrator of the National Nuclear Security Administration, "Approximately 60 percent of NNSA's facilities are more than 40 years old and more than 50 percent are in poor condition. Assessments of facilities throughout the enterprise have identified numerous single-point failures."[132]

In a multipolar environment, the atrophy of the U.S. nuclear warhead complex since the end of the Cold War may give rise to allied fears that the United States will not be able to respond to continuing negative regional and strategic trends in a timely manner. Ongoing delays and over-budget efforts to produce plutonium pits, core components of nuclear warheads, are symptomatic of broader problems within the nuclear enterprise, including its persistent problem to execute Life Extension Programs on time and on budget.[133] Even though the NNSA's challenges are unlikely to be the main factors impacting whether other countries feel assured, the problematic state of the U.S. nuclear warhead infrastructure could contribute to proliferation pressures, particularly in countries where the population is already generally supportive of an indigenous nuclear weapons program.[134]

Conclusion

The United States no longer has the luxury of conducting "business as usual" when it comes to extending deterrence and assuring allies. Russia's and China's manifestly revisionist intentions and their increasing nuclear capabilities raise new challenges for U.S. extended deterrence and assurance. In this new environment, U.S. conventional deployments remain a powerful demonstration of U.S. commitment to allied security, missile defenses are bound

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[130] Ibid.

[131] U.S. Department of Energy, National Nuclear Security Administration, "NNSA looks to recruit the next generation of nuclear security talent and hire thousands annually," August 23, 2021, available at https://www.energy.gov/nnsa/articles/nnsa-looks-recruit-next-generation-nuclear-security-talent-and-hire-thousands.

[132] Charles Verdon, Statement before the Subcommittee on Strategic Forces, Committee on Armed Services, U.S. Senate, May 19, 2021, p. 2, available at https://www.armed-services.senate.gov/imo/media/doc/5-19-21%20Verdon%20Testimony%20SASC%20FINAL.pdf.

[133] Michaela Dodge, "Nuclear Weapons: United States Should Rebuild Its Plutonium Pit Manufacturing Capability," The Heritage Foundation *Backgrounder* No. 3581, February 1, 2021, available at https://www.heritage.org/sites/default/files/2021-02/BG3581.pdf.

[134] For example, nearly three quarters of South Koreans support developing their own nuclear weapons according to a recent poll. See Mitch Shin, "Nearly Three-Quarters of South Koreans Support Nuclear Weapons Development," *The Diplomat*, February 22, 2022, available at https://thediplomat.com/2022/02/nearly-three-quarters-of-south-koreans-support-nuclear-weapons-development/.

to increase in importance and a lack of flexibility and responsiveness within the nuclear warhead complex becomes more worrisome.

ALLIED EXPERTS' VIEWS OF U.S. ASSURANCES AND EXTENDED DETERRENCE

The following section draws from the perspectives of over 20 experts from allied states interviewed for this study. They were invited to comment on the U.S. goal of assurance and extended deterrence and the various means the United States has in order to support those goals. In addition to expert interviews, this section draws on available official statements, reports, and notable commentaries for each of the regions examined.[135]

Based on this information, this section examines tendencies and trends in how experts in allied countries see extended deterrence, define assurance, and the types of U.S. steps they consider assuring based on their assessment of each country's unique assurance profile. While this article treats regions cohesively, it is important to mention that there is no single broad regional perspective; rather, each allied country has its own understanding of extended deterrence and assurance requirements, even as they may overlap with the perspectives of other allied countries. Indeed, experts within the same country may disagree to some extent on steps the United States should take to tailor extended deterrence and assurance.

Multipolarity, Assurance, and Extended Deterrence in Europe

In Europe, the United States provides assurance and extended deterrence to NATO members. Since the end of the Cold War, NATO accepted into its rank formerly captive nations previously within Soviet borders and members of the Warsaw Pact. Poland, the Czech Republic, and Hungary joined NATO in 1999. Bulgaria, Estonia, Latvia, Lithuania, Romania, Slovakia, and Slovenia in 2004, and Albania and Croatia followed in 2009. Montenegro joined NATO in 2017 and the Republic of North Macedonia became the newest member of the Alliance in 2020. At the time of this writing, Finland and Sweden are in the process of becoming accepted as NATO members. U.S. *NPR*s in 2001, 2010, and 2018, all written since NATO's first round of membership growth, appear not to devote significant attention to whether and how the assurance and extended deterrence views of these new NATO members may differ from the older NATO members. The United States cannot assume that its approaches to assurance, and extended deterrence are viewed by new NATO members in the same manner as they are by countries that joined the Alliance during the Cold War because threat perceptions of countries that used to be a part of the Warsaw Pact or Soviet

[135] The interviews were conducted virtually between June and August 2022. The list of those who were interviewed and agreed to be listed in the study can be found on page 66. The Biden Administration's *NPR* was not yet publicly released when these interviews were conducted, and relatively little information was available about terms the Administration used publicly to describe the content of the *NPR*, such as "integrated deterrence" or "fundamental purpose."

Union, and are geographically closer to Russia's borders, are different than those that were a part of NATO during Cold War. Understanding their views, and the requirements that may follow from those views, has become increasingly important as the number of such NATO members expands and Russia's revanchist goals become more apparent.

None of the "new" NATO countries reportedly hosts U.S. nuclear weapons or infrastructure,[136] nor do they have a long history of holding strategic deterrence dialogues with the United States. The U.S. experience with planning a ballistic missile defense radar installation in the Czech Republic between 2006 and 2009 showed how small the Czech national security community is—especially those who are knowledgeable and conversant with nuclear deterrence issues.[137]

In 2018, then-U.S. Secretary of Defense James Mattis said, "Every NATO ally is awake to the most complex and dangerous security element – or environment in a generation."[138] NATO Secretary General Jens Stoltenberg observed that NATO faces "unprecedented challenges."[139] Russia's major expansion of the war in Ukraine in February 2022 reaffirmed his words and is currently one of the most important variables impacting extended deterrence and assurance perspectives among allies in Europe. It is also a significant factor for allies in the Indo-Pacific region.

Russia's War in Ukraine. The scale and brutality of Russia's February 2022 invasion of Ukraine came as a shock within NATO. Moscow's previous 2014 illegal annexation of Ukrainian territory sharpened divisions among states that felt that Russia's geopolitical backsliding (or perhaps what can be called a return to "normal") potentially threatens their sovereignty and territorial integrity and those that rejected such notions and continued to increase their energy dependence on Russia's oil and gas. The former are generally states that joined NATO since the end of the Cold War; Germany is a prominent example of the latter. Russia, however, has been waging a hybrid warfare campaign against NATO allies for years, assassinating their citizens, manipulating Western electorates, and destroying allied property.[140]

In 2022, differences remain among European states regarding the proper scale of military assistance to the Ukrainians, the extent of sanctions on Russia, the acceptability of economic costs that go hand in hand with divesting the European Union (EU) of Russia's oil and gas, and the degree to which countries should actively counter Russia's hybrid warfare

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[136] Hans Kristensen and Matt Korda, "United States Nuclear Weapons, 2022," op. cit., p. 56.

[137] Michaela Dodge, "U.S.-Czech Ballistic Missile Defense Cooperation: Lessons Learned and Way Forward for Others," *Comparative Strategy* Vol. 39, No. 3 (May 3, 2020), pp. 288–98, available at https://doi.org/10.1080/01495933.2020.1740573.

[138] *News Conference by Secretary Mattis at NATO Headquarters, Brussels, Belgium*, October 4, 2018, available at https://www.defense.gov/Newsroom/Transcripts/Transcript/Article/1654419/news-conference-by-secretary-mattis-at-nato-headquarters-brussels-belgium/.

[139] NATO, "'NATO: Good for Europe and Good for America' - Address to the United States Congress by NATO Secretary General Jens Stoltenberg," April 3, 2019, available at http://www.nato.int/cps/en/natohq/opinions_165210.htm.

[140] For more information on this topic see for example Michaela Dodge, *Russia's Influence Operations in the Czech Republic, Poland, and Romania*, *Occasional Paper*, Vol. 2, No. 4 (Fairfax, VA: National Institute Press, 2022), available at https://nipp.org/wp-content/uploads/2022/04/OP-Vol.-2-No.-4.pdf.

on their territories. Particularly worrisome for some is Hungary's apparent sympathy for Putin.[141] Just as problematic is Germany's continued unwillingness to divest itself of its dependence on Russia's oil. Whereas government officials in the Baltic states and Poland did not particularly worry about a Russian large-scale invasion just a few years ago,[142] such concerns are considered more plausible today, even as Russia is depleting its forces and manpower in Ukraine.

The interviewees agreed that the outcome of Russia's war in Ukraine will be an important factor in shaping how allies define their assurance needs in the future, particularly with respect to those that are close to Russia's borders. The results of the war are directly tied to these states' perceptions of their own security. Should Russia come out of the war emboldened, some U.S. NATO allies, particularly those that were part of the Warsaw Pact, will likely be even more concerned about Russia's threat than they are today, and their assurance requirements could correspondingly increase. Extended deterrence could be weakened should Russia achieve some measure of victory in Ukraine. Consequently, the United States would have to take additional steps to assure these allies, potentially exacerbating already difficult budgetary choices it has to make with regard to its forces.

The extent to which Russia's war in Ukraine degrades Russia's capabilities, industrial potential, manpower resources, and general appearance as a military threat will influence how safe U.S. allies feel and shape their view of U.S. requirements for their assurance. Should Russia emerge from the war significantly weaker, assurance demands could even decrease until such time that Russia reconstitutes its military capabilities and presents a threat to Europe yet again.

Even under a scenario of Russia lacking apparent capabilities and will to threaten other European states, demands for U.S. assurance will not go away, particularly given what some former Warsaw Pact nations perceive as Europe's inadequate response to punish Russia for its invasion and the unwillingness of some European states to impose more severe costs on Russia. Russia will likely remain a long-term geopolitical challenge. "Russia will rebuild and reinvest in its military at some point. We have to be ready for that point," argued Dominik Jankowski, Head of the Political Section of the Permanent Delegation of Poland to NATO.[143]

From the perspective of European states that feel more threatened by Russia (generally those close to Russia's border), the limited support of Ukraine by some other European states (e.g., Germany, France) undermines their credibility as European security providers. In other words, demands for a U.S. presence and assurance are unlikely to abate anytime soon. Central and Eastern European NATO members will be skeptical at best of future efforts to structure a common European defense and security policy and will not want to rely on Europe's capabilities alone for their security.

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[141] Richard Kraemer and Jakub Janda, "Orban's Hungary: A Russia and China Proxy Weakening Europe," The European Values Think Tank *Report*, 2021, available at https://europeanvalues.cz/wp-content/uploads/2022/01/ORBANS_HUNGARY_A_RUSSIA_AND_CHINA_PROXY_WEAKENING_EUROPE.pdf.

[142] Alexander Lanoszka and Michael Hunzeker, *Conventional Deterrence and Landpower in Northeastern Europe* (US Army War College Press, 2019), p. 2, available at https://press.armywarcollege.edu/monographs/381

[143] Zoom interview conducted July 21, 2022.

NATO's efforts to improve relations with the Russian Federation in the 1990s are embodied in the 1997 "Founding Act on Mutual Relations, Cooperation and Security between NATO and the Russian Federation" (also known as the NATO-Russia Founding Act). The Act reiterated that NATO member states have "no intention, no plan and no reason to deploy nuclear weapons on the territory of new members, nor any need to change any aspect of NATO's nuclear posture or nuclear policy," and that "the Alliance will carry out its collective defence and other missions by ensuring the necessary interoperability, integration, and capability for reinforcement rather than by additional permanent stationing of substantial combat forces."[144] Due to Russia's aggressive actions, senior diplomats who worked on developing the document recently came out in favor of its suspension.[145] They argue that "Vladimir Putin's actions have destroyed the basis for cooperation" and that NATO should in particular "renounce its assurance regarding the stationing of conventional forces on the territory of new member states."[146]

Several interviewees stated that the United States ought to formally abrogate the NATO-Russia Founding Act and that the Act is dead for all intents and purposes. Concerns over whether a U.S. military presence in former Warsaw Pact countries is consistent with the U.S. "understanding of the NATO-Russia Founding Act"[147] are counterproductive, according to some interviewees, since the Act was signed under very different geopolitical conditions and a much more benign Russian foreign policy. The formal abrogation of the NATO-Russia Founding Act would open the possibility for states that joined NATO since the end of the Cold War to increase their participation in NATO's nuclear sharing arrangements. While the interviewees generally agreed that it is not necessary to forward deploy U.S. nuclear weapons to these states, they underscored that the option to increase their involvement in NATO's burden-sharing arrangements in the nuclear area should be explored further. Some NATO allies indicated their willingness to do so. For example, Polish President Andrzej Duda recently stated that "The problem above all is that we don't have nuclear weapons" and that "There is always the opportunity to participate in nuclear sharing. We have spoken to US leaders about whether the US is considering such a possibility. The topic is open."[148] The

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[144] North Atlantic Treaty Organization, "Founding Act on Mutual Relations, Cooperation and Security between NATO and the Russian Federation Signed in Paris, France," May 27, 1997, available at http://www.nato.int/cps/en/natohq/official_texts_25468.htm.

[145] Daniel Fried, Steven Pifer, Alexander Vershbow, "NATO-Russia: It's time to suspend the Founding Act," *The Hill*, June 7, 2022, available at https://thehill.com/opinion/international/3514801-nato-russia-its-time-to-suspend-the-founding-act/.

[146] Ibid.

[147] The White House, "On-the-Record Press Call by NSC Coordinator for Strategic Communications John Kirby and Assistant Secretary for Defense Celeste Wallander," June 29, 2022, available at https://www.whitehouse.gov/briefing-room/press-briefings/2022/06/29/on-the-record-press-call-by-nsc-coordinator-for-strategic-communications-john-kirby-and-assistant-secretary-for-defense-celeste-wallander/.

[148] Jo Harper, "Poland in talks to join NATO nuclear sharing program," *Anadolu Agency*, October 5, 2022, available at https://www.aa.com.tr/en/europe/poland-in-talks-to-join-nato-nuclear-sharing-program/2703041.

White House subsequently denied having talks with Poland about Poland hosting nuclear weapons.[149]

Following Russia's invasion of Ukraine, several European countries recently announced extensive defense modernization programs. "Russia's war in Ukraine has opened up an opportunity for the Americans to lead yet again as European countries are willing to increase their defense budgets," according to Michael Rühle, Head of the Hybrid Challenges and Energy Security Section in the Emerging Security Challenges Division in NATO's International Staff.[150] Some of these programs could enable their more involved participation in nuclear sharing arrangements.[151] For example, Dominik Jankowski mentioned that "the United States and Poland could explore giving Polish F-35s a role in nuclear sharing arrangements. For example, the crews could train nuclear weapon delivery, even if Poland will not host U.S. nuclear weapons."[152]

Despite these developments, the scale of Western support for Ukraine and the West's apparent unpreparedness to fight a war involving the production of large quantities of equipment, are such that it will take years to replenish certain depleted weapon stocks. This could have potential negative implications for deterrence and assurance.[153] The level of 155 mm combat rounds in U.S. military storage has reportedly become "uncomfortably low." But the problem is more widespread than that and reportedly includes a looming "ammunition shortage."[154] This is concerning and does not bode well for the U.S. ability to keep up with simultaneous large-scale regional engagements or with a direct conflict with peer powers.

Some allies are tapping into their own weapons stocks and have called on the United States to fulfill their weapon orders faster to replenish their stockpiles.[155] Dr. Kenton White, lecturer at the University of Reading in the United Kingdom, pointed out that at present, "The West does not have the industrial infrastructure to support industrial war; hard to be

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[149] Alyssa Blakemore, "White House Denies Having Talks With Poland To Host US Nukes Amid Escalating Tensions With Russia," *Daily Caller*, October 5, 2022, available at https://dailycaller.com/2022/10/05/poland-talks-host-us-nukes-amid-escalating-tensions-russia-polish-president-claims/.

[150] Zoom interview conducted on July 7, 2022.

[151] Brad Lendon, Yoonjung Seo and Joseph Ataman, "Poland to buy hundreds of South Korean tanks, howitzers after sending arms to Ukraine," *CNN*, July 28, 2022, available at https://abc17news.com/news/national-world/cnn-asia-pacific/2022/07/28/poland-to-buy-hundreds-of-south-korean-tanks-howitzers-after-sending-arms-to-ukraine-2/; Jan Lopatka, "Czechs want F-35 fighter jets, CV-90 fighting vehicles," *Reuters*, July 20, 2022, available at https://www.reuters.com/business/aerospace-defense/czechs-want-f-35-fighter-jets-cv-90-fighting-vehicles-media-says-2022-07-20/.

[152] Zoom interview conducted on July 21, 2022.

[153] Steff Chávez, "Defence companies face supply snags as demand for US weapons rises," *Financial Times*, May 9, 2022, available at https://www.ft.com/content/230f39ed-9403-4de1-93c8-56c2162e217d.

[154] Gordon Lubold, Nancy Youssef, and Ben Kesling, "Ukraine War Is Depleting U.S. Ammunition Stockpiles, Sparking Pentagon Concern," *Wall Street Journal*, August 29, 2022, available at https://www.wsj.com/articles/ukraine-war-depleting-u-s-ammunition-stockpiles-sparking-pentagon-concern-11661792188.

[155] Alex Horton, Karoun Demirjian and Michael Birnbaum, "U.S. allies most vulnerable to Russia press for more troops, weapons," *The Washington Post*, August 13, 2022, available at https://www.washingtonpost.com/national-security/2022/08/13/us-military-baltics-russia/.

engaged in two theaters simultaneously when we did not maintain the capability to do so."[156] These trends potentially undermine U.S. assurance and extended deterrence.

The totality of the implications for extended deterrence of Russia's annexation of significant portions of Ukraine remain to be seen. On the one hand, Russia's war has exposed systemic problems in its military that undermine Russia's apparent ability to fight well, particularly against a well-motivated and increasingly well-armed Ukraine. Corruption, an inability to conduct joint operations, and poor logistics have hampered Russia's performance in Ukraine. On the other hand, Russia's conventional losses may lead it to increase its reliance on nuclear weapons in the future, particularly against an adversary that Russia knows is stronger conventionally. That could put the U.S. extended deterrence goals for NATO allies in a difficult position given the significant disparity in tactical nuclear weapons between the North Atlantic alliance and Russia.

Conventional Capabilities. From an allied perspective, U.S. forward-deployed conventional forces remain the most visible and valuable component of assurance in NATO countries that do not host U.S. nuclear weapons. Russia's invasion of Ukraine means that—despite a general recognition that China is the "pacing threat"—the United States must focus on Europe for the time being. This "'comeback' to Europe is reassuring to allies," according to Professor Beatrice Heuser of the University of Glasgow.[157] European member states welcome NATO's efforts to bolster deterrence of potential Russian aggression by strengthening its military presence closer to Russia's borders, but they worry about the United States being more concerned with China at the expense of its attention to Europe in the long-term.

There are conventional capabilities that would improve NATO's posture in Europe and that the United States can provide relatively more easily and on a larger scale than its allies. A key challenge for NATO (and the United States) is to get forces where they need to be fast. Dominik Jankowski stated that "We need better reconnaissance capabilities and more airlift capabilities. We should bring allied airpower closer to Russia's borders."[158] Lukas Milevski, assistant professor at Leiden University in the Netherlands concurred, noting: "Baltic states need long-range artillery and air defense. They also need infrastructure improvements to be able to handle a potential influx of forces."[159] U.S. conventional presence is seen as adequate for now, although there is "the more, the better" sense among allies, particularly in countries close to the frontlines. The challenge is that, as defense analyst Dr. Jacek Durkalec pointed out, "Allies perhaps do not currently see the need to significantly upgrade the U.S. forward-deployed posture, but by the time they see the need, it may be too late."[160] This observation applies to both conventional and nuclear forces.

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[156] Zoom interview conducted on July 8, 2022.

[157] Telephone interview conducted on July 6, 2022.

[158] Zoom interview conducted on July 21, 2022.

[159] Zoom interview conducted on July 22, 2022.

[160] Zoom interview conducted on August 4, 2022.

Several interviewees raised a concern regarding the potential implications of multipolarity on the U.S. ability to sustain a military presence in two geographically distant theaters. This is not just a matter of capability, but also of organizing the government to deal with the challenge. As Kenton White pointed out, "The largest problem with multipolarity is our lack of focus. We run from one adversary to the next without getting either right."[161] Allies in Europe are relatively less worried about China, even as they increasingly perceive it as a threat, with some U.S. prompting. Dr. Bruno Tertrais, Deputy Director of the Fondation pour la Recherche Stratégique (FRS), mentioned that "It is not a given that China will be a nuclear competitor," potentially indicating that some in Europe may not see China's presumed nuclear build up as such a pressing security problem as does the United States.[162] Dominik Jankowski, however, pointed out that Poland perceives "a shift in the balance of power" regarding "China's rapidly increasing capabilities," which "was not the case two years ago."[163] "We are facing a real and severe deterrence challenge," stated Geoffrey Sloan, Assistant Professor in the Department of Politics and International Relations at Reading University, in the United Kingdom.[164] "Chinese and Russian cooperation is problematic," he added.[165] Since conventional capabilities are an important aspect of allied assurance, the apparent U.S. inability to sustain a significant military presence in two theaters simultaneously is increasingly concerning as international security conditions deteriorate and challenge U.S. assurance goals.

Some interviewees raised concerns about the polarization of U.S. domestic politics and the impact of this dynamic on the U.S. willingness to spend resources on allied defense and sustain forward-troop deployments. As Dr. Petr Suchý, Vice-dean of Internationalization and Student Affairs at the Faculty of Social Studies at Masaryk University in Brno, Czech Republic, noted, "A larger degree of continuity in U.S. foreign and defense policy and avoiding politicization are important for the functioning of extended deterrence."[166] Allies worry about isolationist tendencies within the U.S. body politic and that the European theater will get deprioritized relative to the Indo-Pacific. Many interviewees mentioned as damaging President Trump's rhetoric regarding the importance and even desirability of transatlantic relations. According to Michael Rühle, "The Europeans are worried that President Biden might be the last true Atlanticist."[167] "The consistency of U.S. policies is the most important step at this point in time," according to Kenton White.[168]

Interviewees also mentioned the importance of U.S. assistance in building up their own country's forces to resist a potential Russian invasion. Hosting U.S. forces on allied countries' territory is seen as an ultimate guarantee of their sovereignty. Illustrating the point, Polish

[161] Zoom interview conducted on July 8, 2022.
[162] Zoom interview conducted on July 28, 2022.
[163] Zoom interview conducted on July 21, 2022.
[164] Zoom interview conducted on July 12, 2022.
[165] Ibid.
[166] Zoom interview conducted on July 25, 2022.
[167] Zoom interview conducted on July 7, 2022.
[168] Zoom interview conducted on July 8, 2022.

then-Foreign Minister Radoslaw Sikorski argued in 2008: "Come on! You [the United States] spend more on military than the rest of the world put together. Of course you have unique credibility as regards security measures. So, of course everybody assumes that countries that have U.S. soldiers on their territory do not get invaded."[169]

Joint military exercises and helping countries improve their interoperability with NATO forces are an important component of assurance. Allies value recently announced U.S. increased efforts in this direction.[170] Consequently, the United States ought to consider large-scale military exercises demonstrating such capabilities, along the lines of the Exercise Campaign REFORGER it conducted during the Cold War. As Lukas Milevski pointed out, "Logistics underpins deterrence, which is why the United States must regularly practice deployments and exercise with allies."[171]

Nuclear Weapons Capabilities. Recognition of the importance of nuclear weapons to extended deterrence and the security of allies is apparent in all NATO's strategic concepts since the end of the Cold War. For example, the 1999 *Strategic Concept* stated that U.S. nuclear weapons provide "the supreme guarantee of the security of the Allies"[172] along with "the independent nuclear forces of the United Kingdom and France, which have a deterrent role of their own."[173]

NATO's 2010 *Strategic Concept* was significant in that it was the first NATO strategic concept developed with full and more or less equitable participation of new NATO member states at the time. The document committed the Alliance "to the goal of creating conditions for a world without nuclear weapons" but reconfirmed that "as long as there are nuclear weapons in the world, NATO will remain a nuclear Alliance."[174] While the threat of a conventional attack against NATO territory was considered low, ballistic missile and weapons of mass destruction proliferation were specifically highlighted as potential future challenges threatening Alliance security. The document also stated that NATO will "ensure the broadest possible participation of Allies in collective defence planning on nuclear roles, in peacetime basing of nuclear forces, and in command, control and consultation arrangements."[175]

Voices calling for the withdrawal of U.S. nuclear weapons from Europe became more muted after Russia's 2022 invasion of Ukraine. Germany announced it would purchase the

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[169] Radoslaw Sikorski, "Transcript of Remarks at the Atlantic Council," November 19, 2008, available at https://www.atlanticcouncil.org/commentary/transcript/transcript-polish-foreign-minister-radoslaw-sikorski-talks-to-council/.

[170] Lolita Baldor, "Austin pledges military training, support for Baltics," *Associated Press*, August 10, 2022, available at https://apnews.com/article/russia-ukraine-nato-latvia-government-and-politics-be091569a0bee86bffeea0cc75b7179f.

[171] Zoom interview conducted on July 22, 2022.

[172] "The Alliance's Strategic Concept 1999," op. cit.

[173] Ibid.

[174] North Atlantic Treaty Organization, *Active Engagement, Modern Defence*, November 19, 2010, available at https://www.nato.int/cps/en/natohq/official_texts_68580.htm.

[175] Ibid.

F-35 fighter and increase its defense budget.[176] The F-35 is dual-capable and the announcement can be interpreted as reflecting continued German interest in participating in NATO's nuclear mission. On the other hand, "the German public perhaps has not realized yet that the German government buying the F-35s means the continuation of the nuclear mission," according to Beatrice Heuser.[177]

The basic tenets of continued agreement on the nuclear aspects of extended deterrence and assurance are apparent in NATO's 2022 *Strategic Concept,* which notes that nuclear weapons are "unique" and labels Russia, including its nuclear modernization and "coercive nuclear signaling" as "the most significant and direct threat to Allies' security and to peace and stability in the Euro-Atlantic area."[178] The concept also states, "The strategic nuclear forces of the Alliance, particularly those of the United States, are the supreme guarantee of the security of the Alliance. The independent strategic nuclear forces of the United Kingdom and France have a deterrent role of their own and contribute significantly to the overall security of the Alliance."[179]

Some interviewees were explicitly concerned with Russia's superiority in tactical nuclear forces. For example, Dr. David Lonsdale, Senior Lecturer in War Studies, University of Hull, UK, argued that "Multipolarity makes it more challenging for the United States to assure allies of the credibility of its commitment. In this context, flexibility, which derives from having a range of capabilities, is key. Consequently, the tactical nuclear weapons disparity between the United States and other nuclear powers may be a significant deficiency."[180] The United States ought to "modernize its nuclear weapons" and "seek flexibility and escalation dominance," according to David Lonsdale.[181] "We ought to seek warfighting capabilities because they enhance credibility and give you more options should deterrence fail. We lack a theory of victory. This is problematic because all forms of military power must be guided by a sense of how policy objectives will be achieved in the event of conflict," he stated.[182] Dominik Jankowski observed that "Disparity in tactical nuclear weapons is a problem and is an asymmetry we are learning to live with. It also means that declaratory policy continues to be important."[183] The disparity in short-range nuclear weapons has the potential to undermine allied assurance in the near term.

The interviewees differed in opinions on the utility and desirability of arms control with the Russian Federation. The responses ranged from arms control being seen as counterproductive and downright harmful under current conditions to being marginally

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[176] Maria Sheahan and Sarah Marsh, "Germany to increase defence spending in response to 'Putin's war' – Scholz," *Reuters*, February 27, 2022, available at https://www.reuters.com/business/aerospace-defense/germany-hike-defense-spending-scholz-says-further-policy-shift-2022-02-27/.

[177] Telephone interview conducted on July 6, 2022.

[178] North Atlantic Treaty Organization, *NATO Strategic Concept 2022*, June 29, 2022, p. 4, available at https://www.nato.int/strategic-concept/.

[179] Ibid, p. 8.

[180] Zoom interview conducted on July 11, 2022.

[181] Ibid.

[182] Ibid.

[183]Zoom interview conducted on July 21, 2022.

useful. For example, Dr. Michal Smetana, Associate Professor at the Faculty of Social Sciences at Charles University and Head of the Peace Research Center in Prague, offered that "The sentiment shared by many East European politicians and bureaucrats is that arms reductions are seen as weakness by Russia, hence the United States should avoid them."[184] Petr Suchý argued that "The United States should avoid discussing nuclear weapons with the Russian Federation at the present juncture. Discussions about New START follow-on are irrelevant at this point. Some allies would welcome them, others would be concerned."[185]

None of the interviewed experts argued that the United States ought to pursue unilateral nuclear weapons reductions, and many voiced a strong opposition to the idea at this time. Interviewees highlighted the continuation of the U.S. nuclear weapons modernization program as an important aspect of extended deterrence and assurance.

Most interviewees agreed that the U.S. extended deterrence posture is currently credible and that the United States does not need to significantly alter it. Bruno Tertrais caveated the statement "provided it [the U.S.] retains the low-yield Trident." Michael Rühle argued that "Nobody has questioned the U.S. ability to provide extended deterrence, there are no doubts about the U.S. capability to provide extended deterrence. The United States has to lead on these topics, others will follow."[186]

Missile Defense. There is broad agreement among European allies that regional missile defenses are useful for improving NATO's overall force posture. After all, two European countries, Poland and Romania, currently host U.S. missile defense assets. Others cooperate on missile defense with the United States to various degrees.[187] So far, this cooperation has been aimed at countering the kinds of limited ballistic missile threats that countries such as Iran can build.

Sentiment, however, appears to tilt toward starting to consider a more comprehensive role for missile defense in NATO's posture. According to Karel Ulík, a member of the Permanent Delegation of the Czech Republic to NATO, "Russia's use of ballistic and cruise missiles in a conflict in Ukraine illustrates the importance of missile defense."[188] David Lonsdale argued that "Missile defense increases the credibility of the U.S. assurance commitment to allies and enhances warfighting by offering damage limitation."[189] Petr Suchý spoke in favor of developing "a layered missile defense architecture" and getting away "from restraining our missile defenses because of Russia."[190] These types of opinions appear to be more prevalent among European allied experts today than they were 20 years ago, although

[184] Zoom interview conducted on July 20, 2022.

[185] Zoom interview July 25, 2022.

[186] Zoom interview conducted on July 28, 2022.

[187] For more detailed information on these initiatives see Missile Defense Agency, "International Cooperation," available at https://www.mda.mil/system/international_cooperation.html.

[188] Zoom interview conducted on July 14, 2022.

[189] Zoom interview conducted on July 11, 2022.

[190] Zoom interview conducted on July 25, 2022.

they likely remain minority opinions for the time being. Missile defense can become a significant allied assurance asset.

Declaratory Policy. The Biden Administration reportedly considered announcing a "sole purpose" nuclear weapons policy in its *NPR*. In 2017 and again upon taking office in 2021, President Biden stated that "the sole purpose of the U.S. nuclear arsenal should be deterring—and, if necessary, retaliating against—a nuclear attack."[191] The Administration reportedly consulted allies about a possible change in declaratory policy beforehand and found that allies were against the change for fear of weakening deterrence.[192] Bruno Tertrais offered the widely shared view, "There should be a pause in reducing the role of nuclear weapons in national security strategies. Anything else will be seen as downgrading of extended deterrence by our adversaries."[193]

Under allied pressure and in the context of Russia's brutal invasion of Ukraine, the Biden Administration reportedly decided against announcing a "sole purpose" pledge.[194] The Administration's *Fact Sheet* released upon the *NPR's* transmission to Congress speaks to the President's vision for U.S. nuclear deterrence strategy: "As long as nuclear weapons exist, the fundamental role of U.S. nuclear weapons is to deter nuclear attack on the United States, our allies, and partners. The United States would only consider the use of nuclear weapons in extreme circumstances to defend the vital interests of the United States or its allies and partners."[195] Several interviewees noted that foregoing the change to "sole purpose" was a welcome decision, and that the Administration should not consider any changes to U.S. declaratory policy amid Russia's war in Ukraine.

Other Actions. As several interviewees noted, extended deterrence and assurance encompass a spectrum of actions, ranging from hosting U.S. nuclear weapons abroad to filling ambassadorial posts promptly. Petr Suchý pointed out that "Symbolic gestures like staff rides matter."[196] U.S. conventional actions in other states matter for extended deterrence and assurance, too.

Visits of U.S. officials can serve as another visible indicator of the U.S. commitment to allied security and are valued by allies. For example, Secretary of Defense Austin's 2022 visit

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[191] Joseph R. Biden Jr., "Why America Must Lead Again," *Foreign Affairs*, Vol 99, No. 2 (March/April 2020), available at https://www.foreignaffairs.com/articles/united-states/2020-01-23/why-america-must-lead-again.

[192] Demetri Sevastopulo, "US spooks allies by seeking ways to clarify nuclear weapons posture," *Financial Times*, December 9, 2021, available at https://www.ft.com/content/8787240e-e7b6-438e-b1df-5b19e2e76272.

[193] Zoom interview conducted on July 28, 2022.

[194] Michael Gordon, "Biden Sticks With Longstanding U.S. Policy on Use of Nuclear Weapons Amid Pressure From Allies," *Wall Street Journal*, March 25, 2022, available at https://www.wsj.com/articles/biden-sticks-with-longstanding-u-s-policy-on-use-of-nuclear-weapons-amid-pressure-from-allies-11648176849.

[195] U.S. Department of Defense, "Fact Sheet: 2022 Nuclear Posture Review and Missile Defense Review," March 29, 2022, available at https://media.defense.gov/2022/Mar/29/2002965339/-1/-1/1/FACT-SHEET-2022-NUCLEAR-POSTURE-REVIEW-AND-MISSILE-DEFENSE-REVIEW.PDF.

[196] For example, in 2015, the U.S. Army organized a military vehicle tour through countries of Eastern and Central Europe. The tour was a success, and many citizens came out in support of the U.S. military. See for example Daisy Sindelar, "U.S. Convoy: In Czech Republic, Real-Life Supporters Outnumber Virtual Opponents," *Radio Free Europe/Radio Liberty*, March

to Latvia, the first visit of a Secretary of Defense to Latvia since 1995, was interpreted in this light.[197] The United States also ought to continue hosting allied visits to U.S. nuclear facilities and bases. Such visits would contribute to the development and expansion of nuclear policy expertise among allies.

The United States can expand strategic dialogues, particularly with countries like Poland and the Baltics. The purpose would be to better equip their governments "to communicate that the United States is operating its nuclear weapons ethically and responsibly," as Beatrice Heuser pointed out.[198] According to Bruno Tertrais, "The United States is not doing bad regarding extended deterrence overall, but events like the way it withdrew from Afghanistan and failed to enforce its red line in Syria impact U.S. credibility."[199] U.S. credibility is a critical component of allied assurance that must be preserved.

U.S. Extended Deterrence and Assurance Guarantees in the Indo-Pacific Region

Currently, there are five nuclear powers geographically located in the Indo-Pacific region: China, India, North Korea, Pakistan, and Russia. China's rise, North Korea's nuclear capabilities, and their respective revisionist goals are the most problematic for U.S. extended deterrence and assurance. Without the United States extending deterrence and assuring allies, the military balance is distinctly in favor of authoritarian states. The lack of a U.S. presence in the region would likely strengthen proliferation pressures among other local democracies.[200] Australia's Deputy Prime Minister and Minister of Defense Richard Marles recently stated that "in the years ahead, the U.S.-Australia alliance will not only have to operate in a much more challenging strategic environment in the Indo-Pacific, it will need to contribute to a more effective balance of military power aimed at avoiding a catastrophic failure of deterrence."[201] Distance plays an important role is shaping allied perceptions of their security and consequently of their assurance needs. Unlike in Europe, allies in the Indo-Pacific are separated by thousands of miles of water, giving a whole new meaning to the term "tyranny of distance." While U.S. conventional forces are an important element of allied assurance, this geographical distance compounds the logistical challenges for the United States to pre-position and deploy conventional forces to the theater.

There are some indications that U.S. assurances in the region are already under strain. Washington's de-emphasis of nuclear weapons in its national security strategy overtime

30, 2015, available at https://www.rferl.org/a/us-convoy-czech-republic-supporters-virtual-opponents/26928346.html. Source of the quote: Zoom interview conducted on July 25, 2022.

[197] Lolita Baldor, "Austin pledges military training, support for Baltics," op. cit.

[198] Telephone interview conducted July 6, 2022.

[199] Zoom interview conducted on July 28, 2022.

[200] Rod Lyon, "Nuclear strategy in a changing world," *Australian Strategic Policy Institute,* October 1, 2019, p. 44.

[201] Richard Marles, ""The U.S.-Australia Alliance: Aligning Priorities in the Indo-Pacific with Deputy Prime Minister Richard Marles," *Transcript*, Center for International and Strategic Studies, July 11, 2022, p. 8, available at https://csis-website-prod.s3.amazonaws.com/s3fs-public/event/220712_Marles_Australia_Alliance.pdf?2tnZtCRcvQWT00Ym57m18YSxlz17YjG2.

contributed to renewed debates in Japan and South Korea about possessing an independent nuclear deterrent.[202] For example, in 2017, Shigeru Ishiba, former Japanese defense minister, said that "Japan should have the technology to build a nuclear weapon if it wants to do so."[203]

Japanese Foreign Minister Taro Kono, praised the 2018 *NPR*, its commitment to extended deterrence and recognition of the deteriorating national security environment, stating that "Japan shares with the U.S. the same recognition of such severe security environment."[204] Regarding U.S. extended deterrence and assurance in Japan, Sugio Takahashi, Head of the Defense Policy Division of the Policy Studies Department at the National Institute for Defense Studies in Tokyo, Japan, stated, "The current situation is not ideal. We need to develop our resources, but it is fixable."[205]

Rep. Chung Mong-joon, former leader of South Korea's ruling Saenuri Party, suggested in 2013 that Seoul should consider withdrawing from the Nuclear Nonproliferation Treaty to counter North Korea's military threats.[206] South Korean lawmakers at times have called for a redeployment of U.S. tactical nuclear weapons that were withdrawn from the Peninsula in 1991.[207] Due to North Korea's aggressive nature and threats to South Korea, 71 percent of South Koreans support a "domestic nuclear weapons program."[208] Song Min-soon, South Korea's former foreign minister, argued that "It's necessary for South Korea to move on to a self-reliant alliance from a dependent alliance," and that "a defensive nuclear capacity, with a missile range limited to the Korean Peninsula" was "justified."[209] Some regional commentators appear to believe that "if extended deterrence is to succeed, the U.S. must immediately retaliate against an enemy with its own nukes."[210]

Nuclear weapons remain a centerpiece of extended deterrence and allied assurance in the region. Some experts argue that U.S. ballistic missile defense and conventional prompt

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[202] Benjamin Schreer, "China's Development of a More Secure Nuclear Second-Strike Capability: Implications for Chinese Behavior and U.S. Extended Deterrence," *Asia Policy*, No. 19, January 2015, p. 19, available at https://ad-aspi.s3.ap-southeast-2.amazonaws.com/2017-07/Approaching-Critical-Mass_RT_advance_release.pdf?VersionId=UV.e0ylF8PTt5lhEcHsP7IadnbHZMsLl.

[203] "Japan Should Be Able to Build Nuclear Weapons: Ex-LDP Secretary-General Ishiba," *The Japan Times*, November 6, 2017, available at https://www.japantimes.co.jp/news/2017/11/06/national/japan-able-build-nuclear-weapons-ex-ldp-secretary-general-ishiba/.

[204] Ministry of Foreign Affairs of Japan, *The Release of the U.S. Nuclear Posture Review (NPR) Statement by Foreign Minister Taro Kono*, February 3, 2018, available at https://www.mofa.go.jp/press/release/press4e_001893.html.

[205] Zoom interview conducted on August 9, 2022.

[206] "S. Korean Lawmaker Calls for Seoul's NPT Withdrawal," *Yonhap News Agency*, April 10, 2013, available at https://en.yna.co.kr/view/PYH20130410003000341.

[207] "Lawmaker Calls for Redeployment of U.S. Tactical Nukes," *Yonhap News Agency*, April 11, 2013, available at https://en.yna.co.kr/view/PYH20130411018900341.

[208] Toby Dalton, Karl Friedhoff, and Lami Kim, "Thinking Nuclear: South Korean Attitudes on Nuclear Weapons," *Chicago Council on Foreign Affairs*, February 2022, available at https://www.thechicagocouncil.org/sites/default/files/2022-02/Korea%20Nuclear%20Report%20PDF.pdf.

[209] Jesse Johnson, "South Korea Developing Its Own Nukes One Solution to U.S. Cost-Sharing Demands, Ex-Top Diplomat Says," *The Japan Times*, November 12, 2019, available at https://www.japantimes.co.jp/news/2019/11/12/asia-pacific/nuclear-weapons-cost-sharing-south-korea/.

[210] Kim Min-seok, "Would United States risk New York to protect Seoul?," op. cit.

global strike weapons are insufficient for assurance.[211] Others see the reduction in the U.S. nonstrategic nuclear weapons arsenal since the end of the Cold War as an expression of decreasing U.S. interest in forward-deploying nuclear weapons and, hence, in allied assurance.[212]

Alliance dynamics in the region are further complicated by the fact that two U.S. allies, Japan and South Korea, have historical animosities that impede their mutual cooperation. For example, in a 2019 survey, more South Koreans would back North Korea than Japan in a war with Japan.[213] A majority see Japan as a military threat, according to another poll.[214] This "brittle" alliance structure means that should U.S. nonproliferation policies fail and one country were to develop a nuclear weapon, others would feel a stronger push to follow.[215] It also makes alliance management and policy coordination more difficult and increases the importance of an American presence in the region to help calm down and overcome these historical animosities.

Russia's War in Ukraine. The United States would be wrong to assume that its allies in the Indo-Pacific region are not paying attention to U.S. actions in Ukraine. For allies in the Indo-Pacific, the lesson of Ukraine appears to be that the United States will be reluctant to involve itself in a conflict directly with China unless an ally is protected by something akin to NATO's Article V. Rod Lyon, Senior Fellow at the Australian Strategic Policy Institute, pointed out that "Some Western powers appear self-deterred in Ukraine."[216]

Russia's mockery of guarantees it provided in the 1994 Budapest Memorandum, including respecting "the independence and sovereignty and the existing borders of Ukraine," and the "obligation to refrain from the threat or use of force against the territorial integrity or political independence of Ukraine," coupled with U.S. apparent self-restraint with regard to helping Ukraine after Russia's invasion, contributed to some allied experts questioning the credibility of the U.S. commitment to their country's security in the case of a potential conflict with China, even as the United States supports Ukraine materially and diplomatically.[217] The implication is that allied countries must develop their own capabilities to resist long enough to deny China an opportunity for a *fait accompli*. The potential for questioning U.S. assurance commitments is clearly present. Professor Nomubasa Akiyama of the Hitotsubashi University described the situation in a following manner: "Ukrainian

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[211] Ibid.

[212] Rod Lyon, "The Challenges Confronting US Extended Nuclear Assurance in Asia," op. cit., p. 936.

[213] Jesse Johnson, "Nearly half of South Koreans would back North in war with Japan, while 40% 'have no idea'," *The Japan Times*, November 8, 2019, available at https://www.japantimes.co.jp/news/2019/11/08/national/politics-diplomacy/nearly-half-south-koreans-back-north-vs-japan/.

[214] "Nearly 60% of South Koreans view Japan as military threat: joint survey," *The Japan Times*, May 29, 2015, available at https://www.japantimes.co.jp/news/2015/05/29/national/nearly-60-of-south-koreans-view-japan-as-military-threat-joint-survey/.

[215] Rod Lyon, "The Challenges Confronting US Extended Nuclear Assurance in Asia," op. cit., pp. 936-937.

[216] Zoom interview conducted on July 12, 2022.

[217] United Nations, *Memorandum on security assurances in connection with Ukraine's accession to the Treaty on the Non-Proliferation of Nuclear Weapons*, Vol. 3007, No. 52241, December 5, 1994, pp. 169-170, available at https://treaties.un.org/doc/Publication/UNTS/Volume%203007/Part/volume-3007-I-52241.pdf.

resilience (and capability building) is a cause for international support. This illustrates the need for Japan to build up its own forces and will to defend itself."[218] For Japan, it would mean being more proactive and aggressive in terms of developing defensive forces.

Underscoring the complex multipolar dynamic, allied countries are aware that China is closely following U.S. actions and that Russia's woes in Ukraine could lead to closer coordination between the two revisionist countries. "China's cooperation with Russia is a problem, from joint military exercises to Russia giving China military technology. It means a future potential fight with China will be more difficult," argues Professor Paul Dibb, Emeritus Professor at the Strategic and Defense Studies Centre of the School of International, Political and Strategic Studies at the Australian National University, and former Director, Defense Intelligence Organization.[219] The discussion on how much two countries will cooperate is not settled as other experts debate how extensive this cooperation will be and whether it will end up strengthening or weakening China.[220]

Conventional Forces. Perhaps nowhere is the concern over U.S. credibility in the Indo-Pacific region as palpable as when it comes to the geopolitical implications of Russia's war for the U.S. ability to resource and deploy needed conventional forces to two theaters simultaneously. Allies in Europe and in the Indo-Pacific share a concern over the perceived U.S. inability to do so, albeit on a slightly different timeline. European allies feel confident that the United States will not abandon the region for the time being, a consequence of Russia's invasion of Ukraine. But they understand that a Putin victory in Ukraine would have devastating consequences for extended deterrence and assurance in the region and are aware of the tradeoffs and difficult decisions involved in prioritizing one theater over another.

Sugio Takahashi pointed out that "There is an inter-regional competition over U.S. attention and assets; the conflict in Ukraine is draining resources but [preventing] the success of Putin is important for deterrence. But if the United States spends too many resources without replenishing its capabilities, deterrence in the region will be undermined."[221] Perhaps cooperation among allies in different geographical regions would help to mitigate the challenge. "Allies in the two theaters should do more but also find ways to cooperate together," Nomubasa Akiyama noted.[222]

Given the large distances among allies in the region, it is clear that any potential conflict with China would initially be fought with forces that are already deployed to the area. Allies do not have an option to bring in weapons from geographically distant areas relatively freely amid active hostilities, unlike what is happening in Ukraine.[223] In a "hot" conflict with China,

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[218] Zoom interview conducted on August 10, 2022.

[219] Zoom interview conducted on July 20, 2022.

[220] "Will China and Russia Stay Aligned?" *Foreign Affairs*, June 21, 2022, available at https://www.foreignaffairs.com/ask-the-experts/2022-06-21/will-china-and-russia-stay-aligned.

[221] Zoom interview conducted on August 9, 2022.

[222] Zoom interview conducted on August 10, 2022.

[223] See Franklin Miller's contributions in *Journal of Politics and Strategy*, Vol. 2, No. 3 (August 2022), p. 116, available at https://nipp.org/wp-content/uploads/2022/08/Proceedings-4.22.pdf.

resupply routes are not going to be readily available without assuming risks to U.S. and allied operating platforms.[224] That means not only that the United States should preposition weapons forward as much as possible but also that allies should develop their own capabilities to resist as long as necessary to have time to muster the international support to counter the aggressor.

At the same time, the United States may currently face political difficulties in increasing its land-based deployments in Japan and Australia. "Hosting military capabilities might be politically problematic for the Japanese. The trend is toward reducing U.S. military presence. This could make sea-based strike capabilities a more attractive option," Nomubasa Akiyama said.[225]

Nuclear Weapons Capabilities. Because allies in Asia ultimately rely on U.S. strategic weapons for extended deterrence, the modernization of U.S. strategic nuclear systems is an essential component of the credibility of U.S. assurance guarantees and extended deterrence.[226] Several interviewees mentioned the importance of bipartisan support for U.S. nuclear weapons modernization. Countries like Japan follow the U.S. domestic debate on the issue very closely and many foreign experts are exasperated by what they perceive as the increasing partisanship and politicization of these issues in Washington.

Debates in allied countries in Asia make clear that they are interested in the deployment of a "tolerable minimum" number of nuclear weapons that can extend deterrence and assure them, rather than a robust presence that may appear "to be principally about swaggering."[227] This is particularly the case with Australia. Rather than wishing for a larger U.S. military presence as is common in European countries, the "U.S. presence in Australia is an expression of Australia's political support for and contribution to regional security; it is not primarily for Australia's defense. Australian fears often are more about entrapment than abandonment," according to Professor Stephan Frühling, the Acting Head of the Strategic and Defence Studies Centre at The Australian National University.[228]

Australia does not host a significant number of U.S. military forces relative to two other allies in the region but is part of the Five Eyes (FVEY) intelligence sharing alliance, which provides a foundation on which other strategic dialogues with the United States can build. Some interviewees argued that such dialogues are overdue given increasing coordination between the two countries. Holding substantive dialogues appears to be a relatively easy way to contribute to allied assurance.

In a reference to the U.S. debate about the desirability of a nuclear sea-launched cruise missile (SLCM-N) program, a few interviewees expressed dismay over the inconsistency of U.S. nuclear modernization plans when one administration presents a sound rationale for pursuit of a capability only to have the decision cancelled by the next administration.

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[224] Ibid.

[225] Zoom interview conducted on August 10, 2022.

[226] Rod Lyon, "A Shifting Asian Nuclear Order," Special Report, *Australian Strategic Policy Institute*, 2016, p. 24.

[227] Rod Lyon, "The Challenges Confronting US Extended Nuclear Assurance in Asia," op. cit., p. 936.

[228] Zoom interview conducted on July 11, 2022.

Consistency in words and deeds is a part of allied assurance and large changes from one administration to the next may undermine it. "Lack of consistency in U.S. strategy is a problem. It undermines extended deterrence, and it could undermine assurance too," Sugio Takahashi noted.[229]

The SLCM-N is particularly important according to allies in this region because of the difficulties associated with operating dual-capable aircraft due to the range and geographical distances involved, lack of U.S. forward-deployed nuclear weapons, and the retirement of the nuclear-armed Tomahawk Land-Attack Missile (TLAM-N), which was seen at the time the only practical non-strategic nuclear option for the theater. As Sugio Takahashi pointed out, "Aviation is not a credible option for this region for strengthening assurance and extending deterrence."[230] For these reasons, the United States should retain the low yield version of the W76-2 warhead. According to Rod Lyon, these warheads "are incredibly important for extended deterrence and are the only practical option for rapid forward deployment."[231]

Several interviewees were concerned about the disparity between the United States and China in short- and intermediate-range nuclear force levels and saw the low-yield warhead and SLCM-N as important future programs to help to address the gap. This, of course, does not need to be done on a one-for-one basis. According to Nomubasa Akiyama, "We have to recover from inferiority at the tactical level, but, realistically, we have to do this asymmetrically. It means that we have to be the game changer, rather than the Chinese nuclear build up, if we aim at not accepting China's superiority at a tactical and strategic level, which is vital to the alliance."[232] Sugio Takahashi was direct in his assessment: "The size of the U.S. [theater nuclear] arsenal should be expanded," he argued.[233] China reaching strategic parity with the United States would mean that "the United States would need viable theater nuclear forces, for example the sea-launched cruise missile."[234]

In general, allied experts agree that it is not necessary to deploy U.S. nuclear weapons to South Korea, Japan, or Australia at this time. "U.S. extended deterrence is the only viable option for Japan under the current political and strategic environment. It would not be strategically sustainable to develop its own nuclear weapons. NATO-like sharing arrangements are not an option yet," stated Nomubasa Akiyama.[235] Interviewees by and large agreed, however, that the United States ought to consider expanding bilateral consultations and explore the option to forward deploy nuclear weapons. It would be better to discuss the issue now rather than amid a crisis. Many interviewees argued in favor of an expanded strategic dialogue to include discussions of U.S. nuclear force planning and principles, akin to NATO's Nuclear Planning Group. "It is important for Japan and the United

[229] Zoom interview conducted on August 9, 2022.

[230] Ibid.

[231] Zoom interview conducted on July 12, 2022.

[232] Zoom interview conducted on August 10, 2022.

[233] Zoom interview conducted on August 9, 2022.

[234] Ibid.

[235] Zoom interview conducted on August 10, 2022.

States to discuss joint targeting and planning, for both conventional and nuclear forces," stated Sugio Takahashi.[236]

Missile Defense. The importance of missile defense came up repeatedly during the interviews. "Deterrence by denial is more acceptable to the public. Missile defenses are important for allied assurance and extended deterrence," said Nomubasa Akiyama.[237] He caveated his statement with a reminder of the Japanese public's general resistance for ground deployments, including Aegis Ashore, although the sentiment may have changed since the last time this national discussion happened in Japan.

Declaratory Policy. The interviewees agreed that now is not the time to change U.S. declaratory policy to "sole purpose" or "no first use." This was one of the issues on which all interviewees (in Europe and the Indo-Pacific) agreed. Changing U.S. declaratory policy now could undermine U.S. assurance and extended deterrence, would be seen as destabilizing and borderline reckless. Some interviewees left the door open to changing the declaratory policy in the future, under better international conditions.

As mentioned above, not much information about the Biden Administration's *NPR* was public during the time when the interviews were conducted. Several interviewees expressed a desire for a clarification of terms like "integrated deterrence" and "fundamental purpose" publicly used to describe the *NPR's* content.

Other Actions. The United States has not exhausted all opportunities to realize benefits stemming from allied cooperation. According to Stephan Frühling, "There are still synergies among allies that the United States can tap into, especially the Quad, exercises with India, and facilitating closer links between Japan and Australia."[238]

Some of the interviewees mentioned that the United States should not have delayed the Minuteman III intercontinental-ballistic missile tests as the Biden Administration did in March and then again in early August.[239] Regarding the March cancellation, the Administration argued it has "no interest in escalating the tensions" by proceeding with the test, despite the lack of evidence that the previously scheduled, routine, and properly announced tests were escalatory in any way.[240]

According to some allied experts, the United States needs to move beyond theoretical discussions of deterrence to operationalizing what it means for the Australian forces in practical terms. Stephan Frühling stated that "Thinking about extended deterrence has to be rejuvenated and built anew. There is not much of a demand signal on Australia's side. Even after the Force Posture Initiative, the country was not interested in a strategic deterrence

[236] Zoom interview conducted on August 9, 2022.

[237] Zoom interview conducted on August 10, 2022.

[238] Zoom interview conducted on July 11, 2022.

[239] The test finally happened on August 16, 2022. See Scott Wakefield, "AFGSC's most recent Minuteman III test occurs on historic date," *377 Air Base Wing Public Affairs*, August 17, 2022, available at https://www.afgsc.af.mil/News/Article-Display/Article/3132112/afgscs-most-recent-minuteman-iii-test-occurs-on-historic-date/.

[240] Eric Edelman and Franklin Miller, "Understanding That Weakness Is Provocative Is Deterrence 101," *The Dispatch*, August 8, 2022, available at https://thedispatch.com/p/understanding-that-weakness-is-provocative.

dialogue with the United States."[241] "These days, nuclear deterrence education is starting from scratch in Australia," observed Paul Dibb.[242] There is a desire for expanding the strategic dialogue with the United States in Japan, too. According to Nomubasa Akiyama, "The United States and Japan should develop a platform for strategic planning before contingencies happen."[243] "It is important for Japan and the United States to discuss joint targeting and planning, for both conventional and nuclear forces," said Sugio Takahashi.[244] But "the ongoing extended deterrence dialogue must be supplemented by discussions about joint planning and necessitates coordination on arms control and disarmament between Japan and the United States to shape strategic competition with China diplomatically," according to Nomubasa Akiyama.[245]

According to some of the interviewees, the United States needs a better public relations strategy to communicate the importance of extended deterrence and assurance guarantees. As Jacek Durkalec observed, "The United States had [a] 'second to none' [policy] during the Cold War. The United States needs a declaratory message to adversaries and allies that it has resolve and capabilities to deter, and if necessary, impose unacceptable cost against any combination of nuclear adversaries, including in the scenarios of opportunistic aggression and their close alliance."[246]

Conclusion

So far, there do not appear to be significant gaps in allied perceptions of U.S. extended deterrence and assurance commitments and the U.S. ability to fulfill them, but problems are lurking just below the surface; occasionally bubbling up to the consternation of the United States and allies alike. The interviewed experts underscored the importance of U.S. nuclear capabilities that are potentially contentious in the United States. Going forward, the United States and its allies will have to work harder than they have in the past to develop a shared understanding of what the rise of nuclear-armed revisionist powers means for their respective regions and jointly develop extended deterrence and assurance strategies to counter them.

[241] Zoom interview conducted on July 11, 2022.
[242] Zoom interview conducted on July 20, 2022.
[243] Zoom interview conducted on August 10, 2022.
[244] Zoom interview conducted on August 9, 2022.
[245] Zoom interview conducted on August 10, 2022.
[246] Zoom interview conducted on August 4, 2022.

RECOMMENDATIONS

Communicating resolve, assurance, and deterrence will become more complex in a multipolar environment. Whatever strategies allies and friends favor, the objective will be the same: to convince an adversary that the prospective costs of aggression outweigh potential gains. U.S. and allied signals and communication will be closely monitored not just by the intended recipient but also by adversaries and allies in other parts of the world.

The United States would do well to remember that "Usually the most convincing way to look willing is to be willing."[247] Currently, the United States faces several emerging capability gaps that may make it look less willing than it otherwise should be for deterrence and assurance purposes; chief among them are insufficient conventional forces able to sustain two simultaneous engagements in geographically separate regions, insufficient missile defense capabilities, and too great asymmetries in short- and intermediate-range nuclear forces. The following recommendations can help the United States chart a path to success in an increasingly challenging endeavor of assuring allies and extending deterrence.

Expand Nuclear Policy Consultations. In order to understand U.S. allies' and assurance needs in as much detail as possible, the United States ought to expand ongoing deterrence and assurance dialogues. These dialogues would serve several purposes: one, they would keep the United States apprised of its allies' needs and perceptions, and help develop understandings of their assurance requirements. Two, they would help to develop a cadre of professionals that would be well-versed in nuclear deterrence issues and the nuances of nuclear weapons policies. These professionals would then be better able to communicate issues within their respective governments, allowing the governments more effectively to communicate with their electorates in ways that would increase citizen resilience to manipulation and foreign interference regarding nuclear policy topics. The Czech Republic's debate about a U.S. radar deployment in the 2006-2009 timeframe illustrates some of the difficulties of communicating complex national security issues to publics in an ad hoc manner.[248] Three, through the dialogues, allies would contribute toward developing joint and hopefully better informed "strategic profiles" of adversaries.

Continue Nuclear Weapons Modernization. Even though few allied countries have a detailed understanding of U.S. nuclear weapons programs or the infrastructure that supports them, many consider ongoing U.S. nuclear weapons modernization important for both extended deterrence and allied assurance. They worry about inconsistency in the signals that the United States sends by initiating programs and providing good arguments in their support only to cancel them when the next presidential administration is elected.

Continue to Develop Missile Defense Capabilities. The United States ought to continue to develop its missile defense capabilities. While missile defenses will not supplant nuclear

[247] Herman Kahn, *On Thermonuclear War* (Princeton, NJ: Princeton University Press, 1960), pp. 213-214.

[248] Michaela Dodge, "Russia's Influence Operations in the Czech Republic, Poland, and Romania," op. cit., pp. 11-30.

deterrence and assurance anytime soon, they are nevertheless an important component of allied assurance. This applies both to homeland and regional missile defense systems.

Do Not Change U.S. Declaratory Policy. By potentially changing U.S. nuclear declaratory policy to reflect "sole purpose" or "no first use," especially amid Russia's brutal war in Ukraine, the United States would risk being seen as irresolute by adversaries and alienating allies. Adversaries could interpret the change as proof the United States was deterred by their actions, while allies could interpret this as the United States not being willing to accept the risk of its commitments to them, undermining U.S. extended deterrence and assurance goals (and potentially U.S. nonproliferation goals). Maintaining the status quo (i.e., a measure of ambiguity with regard to the timing and scope of U.S. nuclear use) in U.S. declaratory policy will help in this regard.

Maintain Sufficient Conventional Capabilities and a Robust Production Base. The U.S. Department of Defense has felt the pressure of decreasing resources for recapitalization and modernization. Maintaining sufficient forces that can be deployed to Europe without compromising the U.S. posture in Asia (and in reverse) will continue to be important for assurance and extended deterrence. The United States should have the capacity to forward deploy additional forces in both theaters simultaneously if the security situations deteriorate. The war in Ukraine highlights the difficulties of supplying a partner nation in the middle of a conflict and the importance of prepositioning systems to the theater beforehand. It also underscores the need for maintaining a healthy and responsive defense industrial base.

Do Not Forget that Allies Are Assured by a Range of Activities. Extended deterrence and assurance guarantees are not generated by just military capabilities but encompass a range of actions from nominating ambassadors in a timely manner, to high-level visits, to joint military exercises, professional exchanges, and public messaging coordination. The United States ought to take advantage of all the tools at its disposal to maximize synergies inherent in coordinating supportive activities well.

Nurture the Development of Nuclear Policy Expertise Among Allies. The United States must nurture and develop nuclear policy expertise among its allies. Continued bilateral and multilateral discussions and strategic dialogues are one way of doing so. Facilitating and supporting expert visits to nuclear sites and bases that host nuclear weapon systems is another way of developing policy expertise. This requires allies willing to invest resources and manpower in the endeavor; the United States cannot accomplish this task on its own.

Revitalize the U.S. Nuclear Warhead Production Complex. The United States must build a flexible and resilient nuclear warhead infrastructure. Such was a (largely unfulfilled) objective of all administrations since the end of the Cold War. With China rapidly increasing the size of its strategic nuclear arsenal and Russia developing a suite of systems unregulated by any arms control treaties, this requirement is becoming more pressing. While few experts in allied states pay attention to the status of the U.S. nuclear infrastructure, it is inseparable

from judging the credibility of extended deterrence and assurance guarantees. A warhead issue the United States cannot address in a timely manner could undermine allied belief in the U.S. ability to respond to negative trends in the security environment quickly and thereby degrade the credibility of U.S. commitments to allied security.

Abrogate the NATO-Russia Founding Act. Russia's aggression in Ukraine and coercive nuclear threats to NATO members are inconsistent with the Act. The United States empirically knows the valuable, stabilizing, and reassuring effects its permanent military presence has on allies. It also can be cheaper than a rotational presence. Yet, the Act currently precludes it, even as Russia aggressively undermines the stability of the European security order. In light of Russia's actions, the United States and NATO should not be bound by an agreement that the other side so ignores.

Develop U.S. Regional Expertise and Understanding of Adversaries and Allies. The United States must continue to develop regional expertise to foster an understanding of domestic politics in allied countries, an endeavor that took somewhat of a back seat amid the its focus on terrorism and counterinsurgency operations in the past years.

Conclusion

Implementing these steps would go a long way to extending deterrence and strengthening the credibility of the U.S. commitment to allied security in a multipolar environment. Russia's brutal invasion of Ukraine has led to unprecedented increases in European defense budgets and renewed commitments to transatlantic security. But it has also made clear that there are emerging deterrence gaps in the current U.S. and allied force postures. According to Admiral Richard, "The war in Ukraine and China's nuclear trajectory — their strategic breakout — demonstrates that we have a deterrence and assurance gap based on the threat of limited nuclear employment."[249] This observation is particularly relevant for regional scenarios involving U.S. allies in which asymmetries between U.S. and adversaries' short- and intermediate-range nuclear arsenals are the largest and most concerning.

According to the interviewees, the United States has done a good enough job for extended deterrence and assurance to this point. No allies are seriously pondering developing indigenous nuclear weapon programs, and proposals to make a separate peace with Russia and China at U.S. expense are still largely relegated to fringe parts of the political spectrum in allied countries. But challenges, uncertainties, and questions are emerging just below the surface. As they mount, the United States will have to work harder to extend deterrence and convince allies and adversaries of the credibility of its commitment to allied security. Such a process will require larger defense spending than what the United States has been willing to invest after the end of the Cold War, more focused consultations and strategic dialogues with

[249] Bryant Harris, "U.S. nuclear commander warns of deterrence 'crisis' against Russia and China," *Defense News Online*, May 4, 2022, available at, https://www.defensenews.com/pentagon/2022/05/04/us-nuclear-commander-warns-of-deterrence-crisis-against-russia-and-china/.

allies, and potentially new nuclear weapons and missile defense capabilities in the future. It will also require a recapitalization of the U.S. nuclear weapons complex so that it truly would be flexible and resilient and provide the United States with an ability to respond to unforeseen challenges and problems on a reasonable timescale. These are no small tasks, but failing in them could entail immeasurable cost.

LIST OF INTERVIEWEES

The following individuals agreed to be listed among interviewees for this project. The views expressed by those interviewed are their personal views and may not be representative of the views of the institutions with which they are, or have been affiliated.

- Nobumasa Akiyama, Professor, Hitotsubashi University, Japan
- Paul Dibb, Emeritus Professor, Strategic and Defense Studies Centre, School of International, Political and Strategic Studies, Australian National University, College of Asia & the Pacific; former Deputy Secretary, Department of Defense; Director, Defense Intelligence Organization
- Jacek Durkalec, Defense Analyst
- Stephan Frühling, Professor, Strategic and Defence Studies Centre of the Australian National University
- Beatrice Heuser, Professor, University of Glasgow, UK
- Dominik Jankowski, Head of the Political Section, Permanent Delegation of Poland to NATO
- Rod Lyon, Program Director for Strategy, Australian Strategic Policy Institute of Canberra
- David Lonsdale, Senior Lecturer, War Studies, University of Hull, UK
- Shuji Maeda, Director, Japan-US Security Treaty Division, Ministry of Foreign Affairs
- Lukas Milevski, Assistant Professor, Leiden University, Netherlands
- Jan Ludvík, Assistant Professor Department of Security Studies, Charles University, Prague, Czech Republic
- Michael Rühle, Head, Climate and Energy Security Section, Emerging Security Challenges Division, NATO; former Senior Political Advisor, NATO Secretary General's Policy Planning Unit
- Geoffrey Sloan, Associate Professor, Department of Politics and International Relations, University of Reading, UK

About the Author

Dr. Michaela Dodge is a Research Scholar at the National Institute for Public Policy. Before joining the National Institute, Dr. Dodge worked at The Heritage Foundation from 2010 to 2019. She took a leave of absence from Heritage to serve as Senator Jon Kyl's Senior Defense Policy Advisor from October to December 2018. Her last position at Heritage was as Research Fellow for Missile Defense and Nuclear Deterrence.

Dr. Dodge's work focuses on U.S. nuclear weapons and missile defense policy, nuclear forces modernization, deterrence and assurance, and arms control. She was a Publius Fellow at the Claremont Institute in 2011 and participated in the Center for Strategic and International Studies' PONI Nuclear Scholars Initiative. Her 2020 book *U.S.-Czech Missile Defense Cooperation: Alliance Politics in Action* details factors that contribute to ballistic missile defense cooperation between two states in the context of alliance cooperation, as well as Russia's influence operations.

Dr. Dodge received her Ph.D. from George Mason University in 2019. She earned a Master of Science in Defense and Strategic Studies from Missouri State University in 2011. At Missouri State, she was awarded the Ulrike Schumacher Memorial Scholarship for two years. In 2009, she received a bachelor's degree in international relations and defense and strategic studies from Masaryk University, the second-largest university in the Czech Republic.

ANALYSIS

VULNERABILITY IS NO VIRTUE AND DEFENSE IS NO VICE: THE STRATEGIC BENEFITS OF EXPANDED U.S. HOMELAND MISSILE DEFENSE*

By Matthew R. Costlow

PREFACE

The rapid pace of change in the security environment, and the increasingly severe attendant consequences, makes the feverish search for new analytical insights appear all the more justified. "New threats require new thinking" is a tempting paradigm, but, in fact, there is nothing new under the sun. Stripped to its fundamentals, the United States faces great power rivals with obvious and growing ambitions and the means to make life very difficult for the United States and its allies around the world. The question for policymakers is, as always: how should the United States prioritize and pursue its national interests with acceptable levels of cost and risk?

The expanding number and sophistication of missile-based threats to the U.S. homeland is bringing into sharp relief a reality that Americans are reminded of only episodically: that adversaries can strike the U.S. homeland with devastating effect. The attacks of December 7, 1941, and September 11, 2001, should serve as calls to action as Russia and China pursue strategies of coercion backed by missile capabilities against the U.S. homeland, designed to limit the options of U.S. leaders during a crisis or conflict, and potentially deter, degrade, disrupt, or even defeat U.S. efforts to defend allies overseas against their aggression. As part of facing this danger, the United States does not need to reinvent the wheel by spending millions of dollars developing a new concept or framework to guide Department of Defense policy. Instead, it should look to the time-tested principles and insights of the past, gather the lessons learned, and cautiously apply the relevant findings to the emerging security environment.

This article is, I believe, a first step in that process. Typically, analysts like to promote their work because they believe they are saying something new, something original that moves the debate forward. Yet, there is hardly anything truly new in the current debates over nuclear or missile defense policy—most of what passes for "new" is simply a re-packaged variant of something that someone said 50 years earlier, a fact often unknown to the "original" thinker. Therein, I believe, lies the problem. Some of the greatest strategic minds of the 20th century, people like Wohlstetter, Kahn, Gray, and Adams, studied the same basic problems the United States faces today, and yet their insights are not widely known, much less applied, in great part because their writings are scattered across dozens of books, articles, and testimonies written decades apart.

* This article is adapted from Matthew R. Costlow, *Vulnerability is No Virtue and Defense is No Vice*, *Occasional Paper*, Vol. 2, No. 9 (September 2022).

I set out on this writing project with the twin goals of compiling the great lessons learned of the past concerning active homeland defense, and applying those insights to the emerging set of coercive threats to the U.S. homeland. To the extent readers find anything "new" in this text that they had not thought of before, my hope is that it will spur them to read the classic texts I have cited throughout the report—if they do, they will be rewarded richly, and U.S. policy will benefit.

To the best of my knowledge, the last major project most similar to the focus of this article was written over 30 years ago, perhaps not coincidentally, by my mentor and boss Dr. Keith Payne, to whom I owe a great debt for the completion of this report. I also wish to thank Senator Jon Kyl and Ms. Rebeccah Heinrichs for the crucial comments they made during a discussion of the report. Also, Hon. Dave Trachtenberg made helpful edits and comments that strengthened the finished product. Additionally, I wish to thank Dr. Rob Soofer, Dr. Peppi DeBiaso, and Mr. Brad Clark for imparting their wisdom on the subject to me, and for serving as a sounding board for my ideas over the years.

I invite readers to keep the following quote from the great Prussian strategist Carl von Clausewitz in mind as they read this report and consider the implications: "If the enemy is to be coerced you must put him in a situation that is even more unpleasant than the sacrifice you call on him to make. The hardships of that situation must not of course be merely transient—at least not in appearance. Otherwise the enemy would not give in but would wait for things to improve... The worst of all conditions in which a belligerent can find himself is to be utterly defenseless."[1]

EXECUTIVE SUMMARY

"Defense of the homeland" is the long-standing number one mission of the U.S. Department of Defense. Even more fundamentally, the 2001 *Quadrennial Defense Review* stated that "Defending the Nation from attack is the foundation of strategy."[2] Yet, since the 1960s when the Soviet Union gained the ability to conduct large nuclear-armed missile attacks on the U.S. homeland, American defense leaders have sought to build a national defense strategy that accounts for the reality of U.S. vulnerability, but still advances U.S. national interests through deterrence threats that would not be suicidal to carry out. Historians and strategists may debate how successful U.S. leaders were in building this strategy during the Cold War, but today's threat environment is considerably more complex, especially given the growing number and sophistication of the missile threats to the U.S. homeland. The United States faces a stark choice as it is confronted with threats of coercive strikes from Russia and China,

[1] Carl von Clausewitz, edited and translated by Michael Howard and Peter Paret, *On War* (New York: Alfred A. Knopf, 1993), p. 85.

[2] U.S. Department of Defense, *Quadrennial Defense Review Report* (Washington, D.C.: Department of Defense, September 30, 2001), p. 14, available at https://history.defense.gov/Portals/70/Documents/quadrennial/QDR2001.pdf?ver=AFts7axkH2zWUHncRd8yUg%3d%3d.

and the growing North Korean nuclear arsenal: is unmitigated homeland vulnerability a virtue for deterrence stability? Or is it a vice that might hasten deterrence failure?

This article challenges the still-dominant Cold War view that U.S. homeland vulnerability is both fundamentally an unchangeable reality and, on balance, a net positive for deterrence that should be preserved. Criticizing U.S. policy in this regard is not new, as U.S. defense strategist Don Brennan wrote in 1969: "From the mid-1950s to the mid-1960s, the strategic postures of the superpowers were dominated by the logic that, since we could not defend, we had to deter. This position, for which there was originally ample justification, now seems to be interpreted in some minds—chiefly certain American ones—to mean that, since we must deter, we cannot defend. This should count as the non sequitur of the decade."[3] Regrettably, the position that deterrence depends on being defenseless remains embedded deeply in American strategic thought.

This alone would be a manageable concern if states like Russia and China shared the U.S. view; yet, not only does it appear they do not share this view, they are in fact actively building strategies of coercion, with a growing array of missiles as the foundation, that are tailored to exploit the vulnerability of the U.S. homeland. Their apparent theories of politico-military victory depend on presenting a credible threat to critical targets in the U.S. homeland, either through the coercive threat of missile strikes to deter U.S. intervention overseas, or through the employment of missile strikes to disrupt, delay, or deny U.S. force projection. It is no exaggeration to state that any threat to U.S. force projection from the homeland is a threat to U.S. defense strategy writ large. Given the distance between the United States and its allies overseas, and the time it takes to mobilize military forces within the U.S. homeland, an adversary's coercive conventional and nuclear threats could shape U.S. will, and coercive strikes could enormously affect U.S. freedom of action in coming to the defense of allies and partners.

The United States has sought to deter regional aggression, and thus the threat of escalation to the homeland, by pursuing more flexible and discriminant deterrent options, like the supplemental nuclear capabilities advanced by the 2018 *Nuclear Posture Review* and conventional hypersonic weapons. These capabilities are likely necessary, but not sufficient for deterrence purposes. Russia and China are building ballistic, cruise, and hypersonic missiles that could strike the U.S. homeland, despite knowing they face the possibility of a devastating U.S. response. This indicates that they may already believe that the potential benefits of wielding conventional and nuclear threats or conducting coercive strikes against the United States are sufficiently large, and likely, as to outweigh the potential risks of a U.S. response. In short, the United States might face in the near future a Russian, Chinese, North Korean, or some other unforeseen state leadership that either believes it can successfully deter the United States because it believes Washington lacks the political will to respond to targeted strikes on the U.S. homeland, or because the expected U.S. response to strikes on its homeland is a price it is willing to pay for regional gains.

[3] D. G. Brennan, "The Case for Missile Defense," *Foreign Affairs*, Vol. 47, No. 3 (April 1969), p. 442.

It is at this point that the U.S. reliance on *offensive* conventional and nuclear threats to deter strikes on the homeland becomes open to question. If an adversary struck the U.S. homeland with a measured number of nuclear weapons for the purposes of coercion, for example, the United States would design its response to be devastating and outweigh any benefit the adversary may have expected—but that is cold comfort to the victims of the initial attack or to any further attacks by opponents. The promise to avenge is indeed powerful, but it cannot stop an attack as it occurs, and it certainly cannot guarantee that a conflict will end with the U.S. response. In short, *the reason deterrence failed originally may be the same reason it is unlikely to be re-established through a limited U.S. response*. If confirmation bias and groupthink are strongly rooted in an adversary's leadership's decision-making dynamic, then the likelihood that U.S. nuclear responses—no matter how significant or well-targeted—will successfully re-establish deterrence at acceptable costs to the United States may be distressingly low.[4]

In other words, the potential consequences of deterrence failure based on offensive threats alone should compel U.S. policymakers to look elsewhere to strengthen deterrence, namely, via deterrence threats of denying the adversary its objective. Adversaries, simply stated, should not only fear the consequences of attacking the United States, but also the possibility that their attack will fail in its objective *and* provoke a devastating U.S. response—the worst of both worlds. U.S. officials should therefore consider expanding the mission set assigned to homeland missile defenses, opening up an entirely new set of fears for the adversary attack planner and leadership.

This article recommends a U.S. homeland missile defense system designed to deter, and if necessary, defeat coercive attacks from Russia and China while staying ahead of the rogue state threat and protecting against accidental and unauthorized launches. Such a system would be designed to defeat the kinds of coercive attacks against the U.S. homeland that Russia or China might contemplate in pursuit of their hegemonic goals as a means of deterring, disrupting, or delaying U.S. intervention in defense of allies overseas. This option would be designed to both defeat a core tenet of Russia's and China's military theories of victory against the United States and defend America's preferred strategy of basing many of its military forces in the homeland to be dispatched abroad when needed.

A defense against "coercive" attacks is meant to convey the U.S. intent to defeat attacks that are restricted in their size and scope as envisioned by Russian and Chinese defense officials, to discourage U.S. actions to combat their regional aggression overseas. U.S. intelligence estimates would necessarily inform missile defense architecture designers, especially with—to the extent available—analysis on what Russia and China may target in coercive attacks, and with how many, and what types of, missiles. Since deterrence requirements can, and likely will, shift, there is no precise "right" number of interceptors or missiles to be defeated—only better or worse-informed estimates of what might be needed to allow deterrence to continue to function.

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[4] For additional commentary on this point, see, Colin S. Gray, "Presidential Directive 59: Flawed but Useful," *Parameters*, Vol. 11, No. 1 (1981), pp. 29-37.; and, Colin S. Gray, "Defense, War-Fighting and Deterrence," *Naval War College Review*, Vol. 35, No. 4 (1982), pp. 38-43.

If the United States adapted its homeland missile defense policy to this emerging reality, it may reap a number of benefits for itself and its allies. For example, a U.S. homeland missile defense system that is designed to defeat coercive attacks could greatly improve deterrence by raising the threshold or "entry price" for attacking the U.S. homeland, while still holding in reserve the deterrent threat of a devastating U.S. offensive response. In this sense, the deterrent threat of denial is additive to the deterrent threat of punishment—an attack could fail *and* be too costly. The presence of an expanded U.S. homeland missile defense system denies the adversary his preferred coercive attack plan—it raises risks, increases costs, and adds uncertainty. U.S. homeland missile defenses capable of defeating coercive level attacks could force the adversary to consider the need to launch a comparatively larger attack—an attack size that then is more likely to be deterred by U.S. strategic response capabilities. Thus, given the potential consequences of miscalculation, an adversary's leadership may require a high confidence assessment that its proposed coercive attack on the United States will work as planned, so the uncertainties, risks, and tradeoffs produced by U.S. homeland missile defenses may prove decisive for deterrence.

Another important benefit of an expanded homeland missile defense system is that it can limit damage in a safer manner than offensive strikes alone. That is, an expanded homeland missile defense system likely poses far less escalation risk when employed during a conflict and can protect critical infrastructure—thus allowing the United States to maintain its military readiness. Given the co-location of critical infrastructure and populous urban centers in the United States (ports, railyards, power plants, military bases, etc.), even an imperfect defense against conventional strikes—and in some cases, even nuclear strikes—could potentially save many lives and limit damage to recoverable levels.

Additionally, an expanded homeland missile defense system will grant great credibility to the Department of Defense's number one stated mission: protecting the U.S. homeland. By protecting critical potential targets at home, the United States can project power abroad. This benefit can be summarized as providing the U.S. leadership "freedom of action." First, such a system can allow U.S. leaders to consider new options that may not be brought up when the homeland is vulnerable. Second, such a system could reduce the risk of particular options to acceptable levels that U.S. leaders may have considered too risky with a highly vulnerable homeland. An expanded set of options for the U.S. leadership, newly available options, and those with reduced risk, open up new avenues for defending U.S. and allied national interests in ways that may be more likely to succeed than before.

As another benefit, if deterrence is in danger of failing because an adversary perceives the U.S. leadership is lacking political will, the addition of an expanded U.S. homeland missile defense system could significantly contribute to reversing, or at least diminishing, that belief. Given the inherent credibility that the United States would employ missiles defenses to defend its homeland, the adversary will likely attribute *a greater* level of resolve to U.S. leaders than otherwise would be the case. This may, in turn, contribute to deterring an attack on the homeland if the adversary perceives the increased credibility of a potential U.S. initiation of force, or the increased credibility of an effective U.S. response to an adversary's initiation of force.

In addition, with an expanded homeland missile defense system in place, U.S. leaders may be seen as more able to take risks in defense of allies and partners—even nuclear risks. Such a decision will certainly not be taken lightly, even in the presence of significantly effective homeland missile defenses, but such a system may be the crucial factor that lowers the perceived risks to acceptable levels according to U.S. leaders. It is in the U.S. national interests to reduce the chance that allies perceive the United States as a less-than-credible defense partner by expanding its homeland missile defenses, increasing the U.S. ability to successfully resist coercion, and reducing the risks of assisting allies.

A number of other potential benefits of an expanded U.S. homeland missile defense system are worth mentioning here as well, including: the potential to "buy time" for mobile command and control assets to disperse during an unexpected attack; improved options for crisis stability with perhaps less perceived need for preemptive strikes; a way to limit damage or escalation after inadvertently crossing an adversary's "red line;" a strengthened technological base for further missile defense "breakthrough" research; and, a hedge against bluffers, lunatics, fanatics, mishaps, and rapid military shifts.

Critics will undoubtedly respond that even if these benefits of an expanded U.S. homeland missile defense accrue, the potential dangers outweigh the benefits. For instance, one Cold War-era criticism of improved U.S. homeland missile defenses is that it could produce two separate dangers, perhaps simultaneously: first, the presence of very capable U.S. homeland missile defenses will cause first strike incentives among U.S. leaders because they believe the defenses can negate the uncoordinated and diminished adversary response to a U.S. first strike within acceptable levels of risk and damage. Second, the adversary will perceive an increased risk of a massive U.S. first strike because the United States is modernizing its nuclear arsenal, in addition to its significant conventional precision-strike capabilities, to the point where even imperfect defenses could negate its response—thus inducing first strike incentives in the adversary's leadership during a crisis.

Both criticisms falter on the fact that such concerns sound plausible in theory, but in practice, a whole host of factors make these concerns likely to be unfounded. On the concern that improved missile defense might make U.S. leaders more cavalier in contemplating a first strike, this possibility appears remote indeed. In reality, an expanded U.S. homeland missile defense system will likely dampen any perceived need for preemption because intercepting adversary missiles after they are confirmed to have been launched presents a plausible alternative to preemptive strikes during a crisis. Additional factors also make increased preemptive incentives unlikely, especially when one considers the operational risks (multiple U.S. weapons failures, more than expected surviving adversary weapons, unexpectedly effective adversary tactics, etc.) and the political impediments (lack of domestic support, a Congress critical of building a first strike-capable force, lack of allied support). On the concern that improved U.S. homeland missile defenses might incentivize an adversary's first strike against the United States, this possibility also seems far-fetched. Russia and China have historically lived under the supposed threat of a U.S. first strike without resorting to first strikes themselves—choosing instead to pursue arms control

discussions to limit U.S. capabilities, as Russia has done on occasion, or choosing the path of military competition (not confrontation), as Russia and China have done.

Another criticism of the U.S. pursuit of expanded homeland missile defenses is the claim that they will never meet the "Nitze criterion." That is, homeland missile defenses will not be "cost effective at the margin," always requiring the United States to spend more money to defeat an adversary's missile than the adversary spends to build and launch its missile. While cost is undoubtedly a major factor in judging a military system's worth, it should not be elevated to having a veto over a decision to build expanded U.S. homeland missile defenses. Indeed, it is difficult to imagine even one major U.S. military weapon system that could pass the "cost-effective at the margin" criterion, nearly every military weapon can theoretically be defeated by a cheaper countermeasure—thus exposing the illogic of elevating this particular criterion as uniquely applicable to homeland missile defense. Additional unstated assumptions behind the "cost effective at the margin" criterion further undermine its constant invocation, such as the assumption that the adversary knows the "true" cost-exchange ratio, or, even more fundamentally, that the adversary can (has the resources) and will (has the intention to) counteract U.S. homeland missile defenses.

The Nitze criterion appears even less relevant when applied to current real world conditions. For example, it seems quite likely that it costs the United States more to intercept a North Korean ICBM than it costs North Korea to build and launch its ICBM, but will residents of Los Angeles, or their representatives, really complain about that fact if the United States successfully intercepts the ICBM mid-flight? Obviously, no. This observation instead points to a more useful definition of "cost effective" which bases a missile defense system's value not on how much it costs to potentially defeat it, but on the value of what it defends—be it a city, a port, an air base, or command and control nodes. That is, a U.S. homeland missile defense system's value lies in how it contributes to U.S. defense priorities. Given the oft-stated number one mission of the Department of Defense is "defense of the homeland," this top priority should provide the necessary context for policymakers deciding how much to allocate to such defenses.

The third and perhaps most common criticism of expanding U.S. homeland missile defense is that doing so might cause an "arms race." While seemingly intuitive on its face, this criticism greatly lacks evidence historically and ignores the varied host of reasons why states typically procure weapons. Based on Cold War and post-Cold War experiences, there is little historical evidence that there is a mechanistic "action-reaction" dynamic at play relating to missile defense. For example, even after the United States gave up its only homeland missile defense system in the mid-1970s, far from inducing Soviet restraint, the Soviet Union greatly increased the rate of its intercontinental missile production. Additionally, the "action-reaction" arms race theory predicts that as the United States built its homeland missile defenses in the early 2000s after withdrawing from the Anti-Ballistic Missile Treaty, Russia should have correspondingly built up its ICBM forces—but no such buildup took place.

Critics will likely respond that even if a Russian reaction did not take place, then perhaps China's missile buildup might be attributed to the U.S. pursuit of improved homeland missile

defenses. This, however, is a classic case of confusing correlation and causation. Proponents of U.S. homeland missile defense do not deny that China likely has and will react to U.S. missile defense capabilities at some level, but the evidence that U.S. missile defenses are the causative, or even a primary, motivating factor for changes in China's nuclear arsenal grows weaker every year. Given the rapid shift in policy and the sheer magnitude of China's preferred force size, plus the relative projected consistency in U.S. missile defense capabilities, U.S. homeland missile defenses do not appear to be a major factor in China's nuclear expansion. If they were a major factor, one would expect to see, at most, a gradual growth in China's nuclear arsenal that matches expected U.S. advances—not the projected sudden and very rapid growth.

In short, there is nothing either automatic or predictable about what weapons a state develops, why, and when. This dynamic indicates that real world defense acquisition is driven by far more factors than simply reacting to what the United States is doing. Russia, China, and North Korea all have their own domestically-driven considerations (bureaucratic power struggles, funding battles, budget limits, technical capability), ideological considerations (how particular weapons represent the state's status on the world stage, contribution to grand strategy, a weapon's potential propaganda value), and operational considerations (geographic limitations, contribution to short-term military goals, synchronization with other defense programs, infrastructure delays). The fact that Russia and China developed ICBM-centric nuclear arsenals while the United States developed an SLBM-centric nuclear arsenal, and the long-standing difference in overall force size levels, is indication enough that there is no mechanistic relationship between U.S. defense priorities and those of other states.

In conclusion, the threats to the U.S. homeland have inarguably expanded since the Cold War, so the question for U.S. policymakers is: should U.S. homeland missile defense policy shift in response? The nature of the emerging trilateral deterrence problem with Russia and China, and growing rogue state threats, pose new threats to the U.S. homeland, and ultimately to U.S. defense and deterrence strategies in support of allies and partners abroad. There is no greater U.S. policy goal than deterring adversary strikes, especially nuclear strikes, on the U.S. homeland. A more capable and expanded U.S. homeland missile defense system can strengthen deterrence by denying the adversary confidence that his attack will be successful and raising the threshold for escalation and war. The United States can build a firmer foundation for its security and that of its allies, not based on unmitigated U.S. vulnerability, but on the ability both to limit damage and deter attacks on the center of U.S. power: the homeland.

INTRODUCTION

> *All history has proved the peril of being dependent upon a foreign State for home defence instead of upon one's own right arm… I dread the day when the means of threatening the heart of the British Empire should pass into the hands of the present rulers of Germany.*[5]
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> ~ Winston S. Churchill, 1934

The United States appears to be entering a new era of increased conventional and nuclear missile threats to its homeland in the context of an emerging trilateral deterrence problem with Russia and China. While Washington hopes to sustain the existing U.S.-led liberal world order, Moscow and Beijing, among others, are strengthening their strategies of coercion via threats of missile employment against the U.S. homeland to either deter the United States from aiding its allies in an overseas regional conflict, or, if necessary, delaying and defeating U.S. efforts to intervene against regional aggression. Cold War orthodoxy holds that Russia's and China's increased capability to threaten the U.S. homeland with coercive missile strikes should not be a problem, and the potential cure, reducing U.S. vulnerability through active defenses, is worse than the disease because it could prompt arms racing and "destabilize" deterrence by prompting opponents' fears of preemption. It is debatable whether this sentiment ever reflected reality during the Cold War, but it certainly warrants reinvestigation now that the security environment, missile defense technology, and the stakes have changed.

This article examines the possibility and benefits of a policy shift that expands the roles of U.S. homeland integrated air and missile defense (IAMD) to include protection against coercive attacks by Russia and China—a step beyond the current focus on ballistic missile defense (BMD) against rogue state actors and, to a lesser degree, cruise missile defense. Such a policy shift would mark a major break from Cold War and even post-Cold War official U.S. policy, but the foundational idea that active defenses can strengthen deterrence and potentially improve conflict outcomes boasts a long line of bipartisan support among U.S. defense officials and strategists. In short, the idea of adding potentially credible deterrence by denial threats is neither new nor unique in the world, as Russia and China improve their own homeland missile defenses, but the prospect should garner new interest as missile threats to the U.S. homeland grow more diverse and severe.

First, this article provides an overview of the threat environment, with a special focus on the threat of coercive strikes against the U.S. homeland, and a description of why an adversary may pursue coercive military strategies based on the threat or employment of targeted missile strikes. Next, it describes why an adversary may wish to employ coercive strikes against the U.S. homeland and the potential benefits and risks associated with current U.S. deterrence policies and capabilities, i.e., threats of punishment. The following section then describes how threats of denial, through an expanded U.S. homeland IAMD system

[5] Winston S. Churchill, speech to the House of Commons, March 1934, as quoted in, Andrew Roberts, *Churchill: Walking with Destiny* (New York: Viking, 2018), p. 377.

against coercive Russian and Chinese threats could contribute to U.S. deterrence goals and help deny an adversary's theory of victory. Finally, this article addresses potential counterarguments and recommends IAMD force structure principles that could strengthen the deterrent effect against coercive strikes on the U.S. homeland.

THREAT ENVIRONMENT: ADVERSARY CAPABILITIES AND STRATEGIES

U.S. defense officials over the past 10 years, both military and civilian, have steadily increased the severity and frequency of their warnings that the U.S. homeland faces a growing set of missile-based threats. For instance, in a 2012 report that speculated on the security environment in 2030, the National Intelligence Council stated, "The threat these [standoff] missiles pose to critical infrastructures (economic, energy, political, etc.) as well as to military forces will increase as their ability to be precisely targeted or carry weapons of mass destruction increases."[6] Four years later, the U.S. Joint Chiefs of Staff published a similar forward-looking report, but included starker language, "In 2035, the United States will confront an increasing number of state and non-state actors with the will and capabilities to threaten targets within the homeland and U.S. citizens with the ultimate intention to coerce."[7]

Today, such warnings are becoming commonplace and the increasing danger to the U.S. homeland continues. U.S. Northern Command (USNORTHCOM) is especially vocal about not only the growing set of adversary capabilities that threaten the U.S. homeland, but also how opponents may use those capabilities to advance their expansionist international political goals: "They [opponents] are preparing for potential crisis or conflict with the intent to limit decision space for our senior leaders by holding national critical infrastructure at risk, disrupting and delaying our ability to project power from the homeland, and undermining our will to intervene in a regional crisis."[8]

Russia appears to be placing increased emphasis on its ability to threaten the U.S. homeland with conventional or nuclear strikes from a variety of missile types and trajectories. For instance, Russia has fielded or is pursuing the Avangard intercontinental-range hypersonic glide vehicle (HGV), Tsirkon hypersonic missile, Kinzhal air-launched ballistic missile, the Skyfall nuclear-powered cruise missile, and the Sarmat heavy intercontinental ballistic missile (ICBM)—along with a range of sea-launched cruise

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[6] National Intelligence Council, *Global Trends 2030: Alternative Worlds* (Washington, D.C.: Director of National Intelligence, 2012), p. 69, available at https://www.dni.gov/files/documents/GlobalTrends_2030.pdf.

[7] U.S. Joint Chiefs of Staff, *Joint Operating Environment 2035* (Washington, D.C.: Joint Chiefs of Staff, July 14, 2016), p. 24, available at https://www.jcs.mil/Portals/36/Documents/Doctrine/concepts/joe_2035_july16.pdf?ver=2017-12-28-162059-917.

[8] Glen D. VanHerck, *Statement of General Glen D. VanHerck, United States Air Force, Commander, United States Northern Command, and North American Aerospace Defense Command* (Washington, D.C.: United States Senate Armed Services Committee, March 24, 2022), p. 3, available at https://www.armed-services.senate.gov/imo/media/doc/USNORTHCOM%20and%20NORAD%202022%20Posture%20Statement%20FINAL%20(SASC).pdf.

missiles.[9] USNORTHCOM Commander Gen. Glen VanHerck has testified that these capabilities support a very specific mission: "In crisis or conflict, we should expect Russia to employ its broad range of advanced capabilities—nonkinetic, conventional, and nuclear—to threaten our critical infrastructure in an attempt to limit our ability to project forces and to attempt to compel de-escalation."[10] He also testified that Russian leaders believe "capabilities below the nuclear threshold" will "constrain U.S. options in an escalating crisis."[11]

China, for its part, also appears to be increasing its missile strike options against the U.S. homeland—from the traditional cruise and ballistic missiles to the exotic intercontinental-range hypersonic glide vehicle (HGV) "fractional orbital bombardment" system tested in 2021.[12] From the perspective of Commander of U.S. Strategic Command (USSTRATCOM), ADM Charles Richard, China's missile strike capabilities and its growing number of nuclear warheads "… points toward an emboldened PRC that possesses the capability to employ any coercive nuclear strategy today."[13] Likewise, Gen. VanHerck recently testified:

> … China has begun to develop new capabilities to hold our homeland at risk in multiple domains in an attempt to complicate our decision making and to disrupt, delay, and degrade force flow in crisis and destroy our will in conflict… Later this decade, China seeks to field its Type 095 guided missile submarine, which will feature improved quieting technologies and a probable land-attack cruise missile capability. While China's intent for employing its long-range conventional strike capabilities is not fully known, these weapons will offer Beijing the option of deploying strike platforms within range of our critical infrastructure during a conflict, adding a new layer of complication to our leaders' crisis decision-making.[14]

In earlier testimony Gen. VanHerck specifically mentions China's pursuit of "a new family of long-range precision-strike weapons capable of targeting key logistical nodes on our West Coast that support U.S. mobilization and sustainment."[15] If China is successful in its efforts to

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[9] Charles A. Richard, *Statement of Charles A. Richard, Commander, United States Strategic Command* (Washington, D.C.: House Armed Services Committee, March 1, 2022), pp. 8-9, available at https://www.stratcom.mil/Portals/8/Documents/2022%20USSTRATCOM%20Posture%20Statement.pdf?ver=CUIoOCLyos9xe9C9I0XjMQ%3D%3D.

[10] Glen D. VanHerck, *Statement of General Glen D. VanHerck, United States Air Force, Commander, United States Northern Command, and North American Aerospace Defense Command* (Washington, D.C.: United States House Armed Services Committee, April 14, 2021), p. 3, available at https://www.northcom.mil/Portals/28/USNORTHCOM%20and%20NORAD%20Posture%20Statement%2014%20Apr%2021.pdf?ver=3wi7sa3VRMCpXftYTnPPrg%3d%3d.

[11] VanHerck, *Statement of General Glen D. VanHerck*, March 24, 2022, op. cit., p. 6.

[12] Richard, *Statement of Charles A. Richard*, March 1, 2022, op. cit., pp. 5-6.

[13] Ibid., p. 5.

[14] VanHerck, *Statement of General Glen D. VanHerck*, March 24, 2022, op. cit., pp. 7-8.

[15] VanHerck, *Statement of General Glen D. VanHerck*, April 14, 2021, op. cit., p. 5.

build a military naval base on Africa's West coast, then its burgeoning naval-based cruise missile capabilities could conceivably threaten both America's East and West coasts.[16]

Beyond the near-peer threats of Russia and China, North Korea and Iran continue to develop their long-range missile programs. Recent official U.S. assessments of North Korea indicate that its leader Kim Jong Un is committed to improving its intercontinental strike capabilities and developing multiple independently targetable reentry vehicles (MIRVs).[17] Iran is also "developing and testing ICBM-relevant technologies through its theater missiles and space launch platforms."[18] In addition to North Korea and Iran, the United States may, in the future, face an as yet unknown state with intercontinental-range missiles, perhaps one that receives technical aid from North Korea and Iran or one that develops the technology indigenously.

In summary, revisionist states are increasing the number and sophistication of their missiles that can reach the U.S. homeland in support of their coercive strategies to deter the United States and achieve their regional ambitions. The United States can no longer focus on a single adversary with the capability to strike the homeland, as it did during much of the Cold War. Instead, multiple actors now have coercive military strategies designed to deter or defeat the United States below and above the nuclear threshold, and the capabilities necessary to support those strategies. Gen. VanHerck provides an excellent summary of the implications for the United States, and its preferred defense strategy:

> If our competitors believe that they can destroy our will or ability to surge forces from the United States because of a perceived inability to defeat their attacks, they will be emboldened to aggressively pursue their strategic interests. In essence, this situation creates an opportunistic gap between our nuclear strategic deterrent and conventional deterrent capability for potential adversaries to exploit. This opportunity creates intent and, perversely, an incentive for adversary action. Put more boldly, a strategy that assumes unfettered power projection, given the current strategic environment, is *a losing strategy*.[19]

Given the potential stakes involved in a future conflict, and the growing number and sophistication of adversary missiles that can threaten the U.S. homeland, and thus threaten America's fundamental defense strategy, U.S. defense officials have suggested several remedial steps to strengthen deterrence.

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[16] David Vergun, "General Says China is Seeking a Naval Base in West Africa," *Defense.gov*, March 17, 2022, available at https://www.defense.gov/News/News-Stories/Article/Article/2969935/general-says-china-is-seeking-a-naval-base-in-west-africa/.

[17] On MIRVs, see, Office of the Director of National Intelligence, *Annual Threat Assessment of the U.S. Intelligence Community* (Washington, D.C.: DNI, February 2022), p. 16, available at https://www.dni.gov/files/ODNI/documents/assessments/ATA-2022-Unclassified-Report.pdf.; and, on North Korea's ICBM developments, see, VanHerck, *Statement of General Glen D. VanHerck, United States Air Force, Commander, United States Northern Command, and North American Aerospace Defense Command*, March 24, 2022, op. cit., p. 6.

[18] VanHerck, *Statement of General Glen D. VanHerck*, March 24, 2022, op. cit., p. 6.

[19] Emphasis in original. Glen D. VanHerck, "Deter in Competition, Deescalate in Crisis, and Defeat in Conflict," *Joint Forces Quarterly*, Vol. 101 (2nd Quarter 2021), p. 6, available at https://ndupress.ndu.edu/Portals/68/Documents/jfq/jfq-101/jfq-101_4-10_VanHerck.pdf?ver=vVI2vBwL4HZBV9Sh91ar4w%3d%3d.

CURRENT EFFORTS TOWARD CLOSING DETERRENCE GAPS

The 2018 *Nuclear Posture Review* (NPR) identified two supplements to the U.S. nuclear force posture, explicitly designed to "counter" any perceived and exploitable "gap" in U.S. regional nuclear capabilities. First, the NPR recommended the development and deployment of a low-yield submarine-launched ballistic missile warhead, what became the W76-2, intended to be capable of penetrating adversary defenses.[20] Second, as a complementary solution to this potential deterrence "gap," the NPR recommended the development and deployment of a nuclear-armed sea-launched cruise missile (SLCM-N) to provide a regional-based capability. ADM Richard recently testified in support of SLCM-N stating, "And based on what we're learning from the Ukraine crisis, [there is] the deterrence and assurance gap, [and it is] important not to leave that out. A non-ballistic, low yield, non-treaty accountable system that is available without visible generation would be very valuable."[21]

In addition to the supplemental capabilities, the 2018 NPR identified the process of "tailoring" deterrence as essential to improving the chances it would function effectively and send the appropriate deterrence message regarding the supplemental capabilities to the target audiences. The NPR states, "The requirements for effective deterrence vary given the need to address the unique perceptions, goals, interests, strengths, strategies, and vulnerabilities of different potential adversaries… Tailored deterrence strategies are designed to communicate the costs of aggression to potential adversaries, taking into consideration how they uniquely calculate costs and risks. This calls for a diverse range and mix of U.S. deterrence options, now and into the future, to ensure strategic stability."[22] In short, it is not enough to simply add more or better capabilities to the U.S. nuclear force to strengthen deterrence, those capabilities must correspond to specific adversary characteristics in ways that are likely to have the effect of strengthening deterrence.

NUCLEAR COUNTERFORCE CAPABILITIES FOR DETERRENCE: NECESSARY BUT NOT SUFFICIENT

Given this context, U.S. policymakers face the question: Are the supplemental capabilities identified in the 2018 NPR, the policy of tailoring deterrence, and the ongoing modernization of the nuclear triad sufficient in the face of more complex and more capable threats against

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[20] U.S. Department of Defense, *Nuclear Posture Review* (Washington, D.C.: Department of Defense, 2018), p. 55, available at https://media.defense.gov/2018/Feb/02/2001872886/-1/-1/1/2018-NUCLEAR-POSTURE-REVIEW-FINAL-REPORT.PDF.; and, John Rood, "Statement on the Fielding of the W76-2 Low-Yield Submarine Launched Ballistic Missile Warhead," *Defense.gov*, February 4, 2020, available at https://www.defense.gov/News/Releases/Release/Article/2073532/statement-on-the-fielding-of-the-w76-2-low-yield-submarine-launched-ballistic-m/.

[21] Charles A. Richard, "Senate Armed Services Committee Hearing: Nuclear Weapons Council," *STRATCOM.mil*, May 4, 2022, available at https://www.stratcom.mil/Media/Speeches/Article/3022885/senate-armed-services-committee-hearing-nuclear-weapons-council/.

[22] U.S. Department of Defense, *Nuclear Posture Review*, op. cit., p. 26.

the U.S. homeland? Or, bluntly stated, is deterrence by threats of a U.S. conventional or nuclear response, in the face of severe adversary counterthreats, sufficient to defend U.S. vital national interests around the world, both before and after an adversary's strike on the U.S. homeland?

The supplemental capabilities identified in the 2018 NPR certainly appear to be logical and potentially helpful responses to adversaries' coercive nuclear strategies—but the question remains, is relying on punitive deterrence threats without defenses sufficient? What can be done, since adversaries are highly motivated and so clearly investing heavily in missiles that can strike the U.S. homeland *as if they had already accounted for the predicted U.S. reaction to such a strike*? In other words, what role might the U.S. ability to limit damage to itself play in deterring the worst-case scenario: missile strikes against the U.S. homeland?

The *Report on the Nuclear Employment Strategy of the United States—2020* states that, "Should deterrence fail, the United States will strive to end any conflict at the lowest level of damage possible and on the best achievable terms for the United States, allies, and partners. U.S. nuclear weapons employment guidance directs minimizing civilian damage to the extent possible consistent with achieving U.S. objectives and restoring deterrence."[23] Current U.S. damage limitation capabilities at the strategic level are largely limited to the potential for offensive strikes employing nuclear weapons—the ability to inflict destruction on an adversary's forces to prevent further destruction to the United States. The current Ground-based Midcourse Defense (GMD) missile defense system was designed to defeat a rogue state threat, not one from Russia or China.

The concept of deterring conflict, or limiting escalation if conflict occurs—and thus limiting damage to the United States—through the capability for limited strikes against the adversary has a long line of bipartisan support among U.S. defense officials. However, multiple U.S. Secretaries of Defense have stated that there are no guarantees that U.S. attempts to limit damage to itself and restore deterrence through limited nuclear strikes on the adversary will work, and some have even expressed outright skepticism at the prospect.[24] Indeed, nobody can knowingly predict how the process might end, whether through conciliation, arbitration, or general nuclear war. In the absence of homeland defenses, damage limitation at the strategic level ultimately rests on mutual targeting restraint, a tacit agreement between adversaries in the midst of a conflict. Mutual targeting

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[23] U.S. Department of Defense, *Report on the Nuclear Employment Strategy of the United States – 2020* (Washington, D.C.: Department of Defense, 2020), p. 7, available at https://www.esd.whs.mil/Portals/54/Documents/FOID/Reading%20Room/NCB/21-F-0591_2020_Report_of_the_Nuclear_Employement_Strategy_of_the_United_States.pdf.

[24] See, for instance, James R. Schlesinger, *Annual Defense Department Report, FY 1976 and FY 197T* (Washington, D.C.: Department of Defense, February 5, 1975), pp. II-6-II-7, available at https://history.defense.gov/Portals/70/Documents/annual_reports/1976-77_DoD_AR.pdf?ver=5Yhnnc5giX2RjfQtSjD-Vw%3d%3d.; and, Harold Brown, *Department of Defense Annual Report, Fiscal Year 1982* (Washington, D.C.: Department of Defense, January 19, 1981), p. 40, available at https://history.defense.gov/Portals/70/Documents/annual_reports/1982_DoD_AR.pdf?ver=2014-06-24-150904-113.; and, Caspar W. Weinberger, *Report of the Secretary of Defense Caspar W. Weinberger to the Congress* (Washington, D.C.: Department of Defense, February 4, 1985), p. 46, available at https://history.defense.gov/Portals/70/Documents/annual_reports/1986_DOD_AR.pdf?ver=2016-02-25-102404-647.

restraint during nuclear war is possible, yet senior U.S. officials are loathe to express confidence—much less certainty—that will be the outcome.[25]

It is at this point that the U.S. reliance on *offensive* conventional and nuclear threats to deter strikes on the homeland becomes open to question. If an adversary struck the U.S. homeland with a measured number of nuclear weapons for the purposes of coercion, for example, the United States would design its response to be devastating and outweigh any benefit the adversary may have expected—but that is cold comfort to the victims of the initial attack or to any further attacks by opponents. The promise to avenge is indeed powerful, but it cannot stop an attack as it occurs, and it certainly cannot guarantee that a conflict will end with the U.S. response. In short, *the reason deterrence failed originally may be the same reason it is unlikely to be re-established through a limited U.S. response*. If confirmation bias and groupthink are strongly rooted in an adversary's leadership's decision-making dynamic, then the likelihood that U.S. nuclear responses—no matter how significant or well-targeted—will successfully re-establish deterrence at acceptable costs to the United States may be distressingly low.[26]

WHY MIGHT ADVERSARIES LIMIT STRIKES?

To understand how best to deter coercive strikes on the U.S. homeland, and the questionable sufficiency of relying solely on offensive threats for that purpose, there must be an understanding of why an adversary might convey limited threats or willingly limit the type or number of targets in an attack. The motivations will likely vary from opponent to opponent, and a single motivating factor seems less likely than some combination of multiple considerations. With these caveats in mind, the motivations to limit an attack may be generally divided into positive and negative categories.

In the "positive" category, an adversary may hope to improve its chances of victory via *threats* of a limited coercive strike on the U.S. homeland. An adversary may threaten or conduct such a strike from a perceived position of weakness (a gamble) or strength (a demand) in the hopes that the United States will concede to the adversary's terms to end the conflict. This kind of strike may be considered an intra-war signal that political settlement offers the benefit of less cost to the United States than the cost of continued conflict. Additionally, an adversary may not wish to encourage a particular U.S. action, but rather promote a particular U.S. perception that the adversary is resolute and dangerous, and thus improve the chances that the U.S. leadership will offer concessions for fear of further escalation.

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[25] It is worth noting that mutual restraint during war is possible even under the most stressing of circumstances, but the only historical examples are conventional, not nuclear. See, for example, Jeffrey W. Legro, *Cooperation Under Fire: Anglo-German Restraint During World War II* (Ithaca, NY: Cornell University Press, 1995).

[26] For additional commentary on this point, see, Gray, "Presidential Directive 59: Flawed but Useful," op. cit., pp. 29-37.; and, Gray, "Defense, War-Fighting and Deterrence," op. cit., pp. 38-43.

In the "negative" category, an adversary may threaten a coercive strike against the U.S. homeland not so much to improve its chances of victory, but to deny the United States the prospect of success. According to this logic, an adversary may conduct a coercive strike against targets in the U.S. homeland to deter or halt ongoing U.S. actions during a conflict. That is, if the United States intentionally or unintentionally crosses an adversary's "red line" during a conflict, the adversary could select a particular, limited set of targets in the United States which, if destroyed, would either deter further U.S. involvement (e.g., the decision to come to the defense of an ally), or halt such actions (e.g., halting the projection of force overseas).

Whether the goals of an adversary's strikes on the U.S. homeland are meant to improve the adversary's chances of success, promote the U.S. perception of the likelihood of failure, or some combination, it is evident that an adversary is likely to choose targets that, if destroyed, negate a U.S. military advantage and send a clear political signal to the U.S. leadership about the cost of further conflict. It is no exaggeration to state that the consequences of an adversary's failed coercive strike against the United States might be existential—whether the failure resulted from misperceptions about the likely U.S. response or the less-than expected extent of the damage. In short, an adversary's strike against the U.S. homeland is inherently very risky, and thus likely to evoke careful consideration among an adversary's leadership about the potential costs and benefits. However, it is important to note here that history provides numerous examples of state leaders knowingly taking extreme risks to advance cherished goals they deem to be of existential importance.

The dual-risk nature of striking the U.S. homeland warrants special emphasis for deterrence purposes. Without homeland missile defenses, an adversary must have primarily only one concern, whether he has calculated correctly that the costs of the expected U.S. response will be less than the expected benefits of the strike.[27] Granted, this is a great concern, but still only one. On the other hand, by adding U.S. homeland missile defenses into the equation, the adversary must now be concerned with not only a greater than expected U.S. response, but also the prospect of having gained very little in the process. In short, U.S. homeland missile defenses contribute to the risk of an "all pain and no gain" scenario to the adversary. If the adversary's missiles work as expected against U.S. targets in the absence of missile defenses, but the U.S. response is costly, the adversary may still expect at least some net gain. The presence of U.S. homeland missile defenses, however, contributes to a different and potentially credible deterrence scenario by which the adversary can imagine the consequences of both miscalculating the U.S. response and having initiated a failed attack. Given the stakes of a potential conflict and the consequences of a failed attack, expanded homeland missile defenses may provide the critical additional set of fears in the adversary's calculations that tip the balance toward deterrence.

The question for U.S. policymakers then is, since an adversary that seriously considers a coercive strike against the U.S. homeland is likely to be very highly motivated, more risk-

[27] There are other secondary concerns, of course, such as whether the missiles will work correctly and whether the damage expectancy calculations are correct. These, however, can be mitigated by the adversary's potential choice, even likelihood, of launching more missiles than are strictly necessary as a hedge against miscalculation and failure.

tolerant, and perhaps even doubtful of U.S. resolve given the perceived stakes in the conflict, what can the United States do to improve the chances that deterrence functions effectively? If the deterrence problem for the United States lies in the adversary's perception of a lack of U.S. will in the face of severe threats of damage to its homeland, then what can the United States do to discourage that perception, and thus deter such attacks? U.S. homeland defenses that could limit both U.S. vulnerability to coercive threats and the prospective damage from coercive attacks appear potentially very helpful in this regard.

Summary of the Problem

Despite their best efforts, U.S. defense officials cannot have confidence they will control the process of escalation when the only tools they can employ are offensive threats—more or less limited in size and scope—against an adversary that may be equal parts paranoid, risk-tolerant, and even existentially-motivated. In short, the current U.S. escalation limitation strategy against a peer threat essentially *depends* on an ultimately cooperative opponent who recognizes the risks of attacking the United States, is open to the possibility of concession, can suitably assess U.S. intentions, and perceives the costs and likelihood of aggression are greater than the potential benefits and likelihood of victory. This U.S. strategy strays dangerously close to what the eminent strategist Colin Gray warned should be avoided in any defense strategy: being "wholly fault-intolerant."[28] That is, without a way to limit damage to the U.S. homeland other than an escalating series of offensive threats, the United States is, in the words of Keith Payne and Lawrence Fink, "gambling on perfection."[29]

Is it prudent for the United States to double down on the gamble that deterrence will continue to function reliably despite a lack of homeland missile defenses against Russia and China? The great Prussian strategist Carl von Clausewitz, writing on the nature of war, warns that, "No other human activity is so continuously or universally bound up with chance. And through the element of chance, guesswork and luck come to play a great part in war."[30] Given the role of chance in U.S. deterrence strategy, and the potentially existential consequences of miscalculations by either the United States or the adversary, U.S. officials should re-examine how homeland missile defenses could contribute to U.S. national interests. Unquestionably, there are additional means beyond homeland missile defense that could also contribute to deterrence and damage limitation, such as improved civil and air defense measures, but these are beyond the scope of this paper.

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[28] Colin S. Gray, "From Defense Philosophy to Force Planning: the Strategic Forces," *Defense Analysis*, Vol. 7, No. 4 (1991), p. 368.

[29] Keith B. Payne and Lawrence R. Fink, "Deterrence Without Defense: Gambling on Perfection," *Strategic Review*, Vol. 17, No. 1 (Winter 1989), pp. 25-40.

[30] Clausewitz, *On War*, op. cit., p. 96.

WHAT IS THE PURPOSE OF A HOMELAND MISSILE DEFENSE SYSTEM?

Before U.S. officials can determine the required size and complexity of a homeland missile defense system, they must first determine its purposes. The purposes of the missile defense system in turn determine the metrics for sufficiency. This point may appear banal, but critics of missile defense often charge that missile defense systems are not worth the investment because they are incapable of handling some particular mission that the system was never designed to handle. Thus, a missile defense system that is designed to defeat 50 warheads cannot be fairly judged as a failed investment because it can be overwhelmed by 500 warheads. Critics can certainly question whether a 50-warhead limit is a prudent design goal but measuring the value of a missile defense system must relate to its design goals.

The United States can consider a number of different purposes, or missions, that it wants its homeland missile defense system to support. At one end of the spectrum of choices is a leak-proof nationwide missile defense system that could reliably defeat any size of strategic missile attack, from any source, and from any domain—the original goal of President Reagan's 1983 vision for the Strategic Defense Initiative. Without a major breakthrough in directed energy, however, such an option appears infeasible today both technologically and fiscally. At the other end of the spectrum, the United States could opt for a strategy of bluff, hoping that a miniscule system could be made to appear larger and more capable than it really is, banking on the "threat that leaves something to chance" for deterrence. Such an option appears unworkable as an open society like the United States could not likely keep its missile defense system's minimal capabilities secret for long. As strategists have long recognized, and as the "Scowcroft Commission," stated explicitly, "Deterrence is not, and cannot be, bluff… Deterrence, on the contrary, requires military effectiveness."[31]

If the two options discussed above are excluded, the design choices for useful homeland missile defense systems then narrow to three general options: a system designed to only defeat accidental and unauthorized launches; maintenance and modernization of the current system designed to defeat rogue state threats; or, a system designed to stay ahead of the rogue state threat and defeat coercive attacks by Russia and China (with the inherent capability against accidental and unauthorized attacks).

The first option for a missile defense system designed to defend against accidental or unauthorized launches has some appeal due to recent events. In March 2022, the Indian military was conducting maintenance on a missile when a "technical malfunction" launched the missile which flew more than 75 miles into Pakistan.[32] Although there were no reported casualties, the dangerous incident between two nuclear-armed rivals highlights the possibility of accidental or even unauthorized missile launches. If the United States pursued building a homeland missile defense system designed to defeat such threats, it would likely

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[31] President's Commission on Strategic Forces, *Report of the President's Commission on Strategic Forces* (Washington, D.C.: Department of Defense, April 6, 1983), pp. 2, 6, available at https://www.cia.gov/readingroom/docs/CIA-RDP85M00364R001101620009-5.pdf.

[32] "India Accidentally Fires Missile into Pakistan," *BBC*, March 11, 2022, available at https://www.bbc.com/news/world-asia-india-60711653.

be scrutinized as a substantial investment of resources designed for too narrow a purpose, against an event with a very low probability of occurrence. That is, if the United States is going to invest its resources to design, test, and deploy interceptors that can defeat accidentally-launched missiles from any source, including technologically sophisticated adversaries, then restricting the program to combatting only accidentally-launched, and not purposely-launched, threats would likely be operationally-problematic, politically intolerable, and fiscally imprudent.

The second option, which the United States currently appears to be pursuing, is maintaining and modernizing the existing GMD system, which will eventually incorporate the Next Generation Interceptor (NGI), designed to defeat more advanced rogue state threats.[33] This option has the benefit of striving to stay ahead of the rogue state threat, but it is not designed to defeat missile threats from Russia or China. Yet, it appears that if the United States continued with its current plan, this would only delay a decision on whether or not to design a system to intercept some number of Russian or Chinese ballistic missiles. As the North Korean ICBM program continues, and presumably incorporates more and better countermeasures designed to defeat a U.S. missile defense system, it may approach a point where the delta between the technological sophistication of North Korean and, for example, Chinese countermeasures is insignificant. In short, a U.S. homeland missile defense system designed to intercept advanced North Korean missiles may, in the future, also be able to intercept a measure of Russian or Chinese missiles. If that is the case, then the United States could designate an expanded mission set for NGI that includes intercepting Russian and Chinese ballistic missiles while the program is still in its relatively early stages and could potentially accommodate redesign requests with less cost.

The third and final option, the one recommended here for the United States to pursue, is a homeland missile defense system designed to deter, and if necessary, defeat coercive attacks from Russia and China while staying ahead of the rogue state threat and protecting against accidental and unauthorized launches. Such a system would be designed to defeat the kinds of coercive attacks against the U.S. homeland that Russia or China might consider as a means of deterring, disrupting, or delaying U.S. intervention in defense of allies overseas. This option would be designed to both defeat a core tenet of Russia's and China's military theories of victory against the United States, while defending America's preferred strategy of basing many of its military forces in the homeland to be dispatched abroad when needed.[34]

A defense against "coercive" attacks is meant to convey the U.S. intent to defeat attacks that are restricted in their size and scope, as envisioned by Russian and Chinese defense officials, to discourage U.S. actions to combat regional aggression overseas. U.S. intelligence estimates would necessarily inform missile defense architecture designers, especially

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[33] Sasha Baker, *Statement of Ms. Sasha Baker, Deputy Under Secretary of Defense for Policy* (Washington, D.C.: House Armed Services Committee, March 1, 2022), p. 7, available at https://docs.house.gov/meetings/AS/AS29/20220301/114435/HHRG-117-AS29-Wstate-BakerS-20220301.pdf.

[34] For more on a U.S. "victory denial" deterrence strategy, see, Keith B. Payne and Matthew R. Costlow, "A Victory Denial Approach to Deterrence," *Journal of Policy & Strategy*, Vol. 2, No. 2 (2022), pp. 31-48, available at https://nipp.org/wp-content/uploads/2022/05/Special-Issue-final.pdf.

with—to the extent available—analysis on what Russia and China may target in coercive attacks, and with how many, and what types of, missiles. Since deterrence requirements can, and likely will, shift, there is no precise "right" number of interceptors or missiles to be defeated—only better or worse-informed estimates of what might be needed to allow deterrence to continue to function.

The requirements of such a system are not unlimited—the ability to defeat only five warheads would likely not be enough to deter a coercive attack, but the ability to defeat several thousand warheads would seem in excess of the requirements. Instead, a system designed to defeat hundreds of warheads, while certainly ambitious and a long-term goal, appears likely to provide enough capability against significant and repeated coercive attacks on the homeland while retaining enough of a hedge in case the United States underestimates the opponent's will or technological capabilities.

The technical aspects of the proposed missile defense system are beyond the policy-focused scope of this paper and are best assessed in a classified setting in any case. But, for the purposes of clarity, the proposed system will likely need to focus on defeating cruise and ballistic missiles first as these are the most numerous and potentially likely threats; hypersonic glide vehicles, or other maneuvering threats, however, must also be included once the technology needed to defeat them matures.[35] On the topic of basing, whether on land, at sea, in the air, or in space, this paper remains agnostic on the specific ratios—each basing mode will likely play some role as they all offer advantages and disadvantages in factors such as cost, mobility, ease of access, coverage, vulnerability, etc. A space-based layer would, in all likelihood, however, play a major role for sensors and shooters in the system as it provides for the most intercept attempts at the earliest stages of a missile's flight. Finally, this paper is agnostic on which phases of missile flight (boost-phase, mid-course, and terminal) the proposed missile defense system should cover in what proportion. Again, such a discussion, while clearly valuable and necessary, must build on the more fundamental question that is the focus of this paper: *should* the United States expand its missile defense mission? Questions of *how best* to accomplish the new policy goal will naturally follow.

As for the question of *what* in the homeland the United States should seek to defend and limit damage to, the answer is both societal (population centers) and politico-military (leadership, command and control, military, etc.). In one sense, there is no clean distinction between the two categories in this regard since some politico-military targets are co-located with societal targets—damage against one may inevitably lead to damage against the other, especially in case of the employment of nuclear weapons. Additionally, the choice of interceptor-basing can further diminish the importance of distinctions between the two categories; simply by the nature of space-based interceptors being able to intercept missiles earlier in their flight, by definition they can defend both societal and politico-military targets. As a missile reaches its terminal phase of flight, closest in distance to its target, is when the question of "what to defend?" becomes most pertinent. Given the public testimony by

[35] Jen Judson, "Raytheon, Northrop Advance in Competition to Develop Hypersonic Weapons Interceptor," *Defense News*, June 24, 2022, available at https://www.defensenews.com/pentagon/2022/06/24/raytheon-northrop-advance-in-competition-to-develop-hypersonic-weapons-interceptor/.

USSTRATCOM and USNORTHCOM Commanders cited above, U.S. defense officials should prioritize terminal defenses for those capabilities that enable U.S. force projection overseas. Overall, the question of what should be protected must include two primary categories: the capabilities that adversaries are most likely to target given their coercive purposes, and the capabilities that are most critical to the U.S. national defense strategy. U.S. officials should prioritize defending those capabilities that overlap in both categories.

The following section details the potential benefits that the United States could realize if it pursued a homeland missile defense system designed to deter and defeat coercive attacks from Russia and China, while staying ahead of the rogue state threat. Some benefits are necessarily more consequential than others, but each is an important factor for policymakers to consider.

POTENTIAL BENEFITS OF AN EXPANDED HOMELAND MISSILE DEFENSE SYSTEM

It is tempting to place the potential benefits of an expanded homeland missile defense system into one of two categories—pre-conflict (deterrence) and intra-conflict or post-attack (damage limitation). However, this is an artificial and potentially unhelpful distinction. An adversary may be deterred from attacking simply by the chance that the system could work, or because the United States rigorously and visibly tested the system, thus demonstrating its damage limitation capabilities, which in turn could enhance deterrence. Similarly, an adversary that perceives little likelihood of success through limited coercive attacks on the U.S. homeland (deterrence) may seek an arms control agreement with the United States or shift its investments to areas where it has a more exploitable advantage (a potential form of damage limitation). Deterrence and damage limitation are therefore inextricably connected—making any bifurcation of the potential benefits between the two categories potentially misleading.

The following subsections therefore list the potential benefits of an expanded homeland missile defense system with the most consequential appearing first and the more secondary benefits appearing later.

Improved Deterrent Effects by Denying Russia's and China's Theories of Victory

As senior U.S. defense officials have testified, Russia and China are increasingly investing in missiles to strike the U.S. homeland, a lynchpin capability for their regional ambitions and the foundation for their coercive strategies against the United States. A U.S. homeland missile defense system that is designed to defeat coercive attacks could greatly improve deterrence by raising the threshold or "entry price" for attacking the U.S. homeland, while still holding in reserve the deterrent threat of a devastating U.S. offensive response. In this sense, the deterrent threat of denial is additive to the deterrent threat of punishment—an attack could fail *and* be too costly.

A key concept in this regard is "complicating" the adversary's attack plans—an oft-used term that is rarely expounded upon. In essence, an expanded U.S. homeland missile defense system creates unfavorable operational and political tradeoffs for the adversary. If, for example, Russia considers conducting a coercive strike against the U.S. homeland that has an expanded missile defense system, it could launch more missiles in an attempt to overwhelm the missile defenses, but it risks potentially signaling that it has unlimited intentions—that is, U.S. officials might see the missile attack as so numerous that it might be the leading edge of a first strike, thus encouraging a potentially larger U.S. response. If that option is deemed too risky to the Russian leadership, then perhaps it could add expensive countermeasures to its missiles—but this option could increase cost, add weight, decrease range, increase complexity, and still risk having a significant number of missiles intercepted. Finally, Russia could adapt its tactics and perhaps operate its submarines closer to the U.S. coast to decrease warning time and intercept attempts, but such actions again may risk unintentionally signaling to U.S. leaders an incoming first strike, or at a minimum, raising the risk of Russian submarines being detected before they launch their missiles. In short, the presence of an expanded U.S. homeland missile defense system denies the adversary his preferred coercive attack plan—it raises risks, increases costs, and adds uncertainty. Again, an adversary's leadership may require a *high confidence* assessment that its proposed coercive attack on the United States will work as planned, so the uncertainties, risks, and tradeoffs listed above may prove decisive for deterrence.

An expanded U.S. homeland missile defense system could strengthen deterrence against coercive missile attacks by lowering the perceived value of making such threats against the United States in the first place. Russia and China, among others, may believe that issuing ultimatums, implicit threats, or explicit threats of coercive attacks against the U.S. homeland can limit the U.S. leadership's freedom of action during a crisis or conflict, raising the prospect and perceived likelihood of "winning" without much or any fighting. Yet, adversary leaderships may pause before issuing such threats if the United States had the capability to defeat coercive attacks against its homeland since following through on the threats and failing might reduce the value of future threats and demands against the United States. Such an attack would demonstrate weakness, not strength, and would do so at great risk.

Additionally, an expanded U.S. homeland missile defense system can further help deter attack by increasing the chance that the United States will detect the adversary's preparations—the larger the attack needed to defeat U.S. missile defenses, potentially the better chance those preparations will be detected. If the United States receives enough advanced warning it can take further actions that may greatly lower the adversary's chances for success, such as dispersing mobile assets, hardening facilities, alerting military forces, etc. Active homeland missile defenses present an especially valuable capability in denying, or at least diminishing, the advantages an adversary may perceive in conducting a surprise attack.

For example, two of the most comprehensive reviews of the Russian defense literature on escalation indicate that Russian strategists perceive major advantages in preemptive action at the early stages of conflict—thus indicating significant reliance on surprise. One

report states, "As the Russian military considers operations during the transition from the threatened period to direct conflict, they display a noticeable desire for preemption and an expectation that Russian forces will seek to neutralize the threat as it is forming."[36] Additionally, as NATO staff officer Dave Johnson notes, "The SODCIT [strategic operation for the destruction of critically important targets] and defensive aerospace campaigns are part of Russia's military response to the perceived threat of a mass aerospace attack by the U.S. and its NATO Allies and as such have a strong pre-emptive component."[37]

Importantly for deterrence, especially in the case of Russia, it appears the prospect of conducting a coercive strike in the presence of missile defenses is a source of apprehension among Russian military strategists. For example, in a review of the Russian literature on the subject, the authors of a recent report state that, "When considering conflict thresholds escalating from large-scale war to nuclear war, some Russian analysts also write of the need to learn from the US experience of integrating strategic offensive and defensive operations. The deployment of US missile defenses also weighs heavily on the minds of Russian planners in considering the likely utility and effectiveness of their own strategic nuclear forces as part of such operations."[38] The authors further underline their point by noting U.S. missile defense is a "fixation" for Russian military strategists.[39] It appears the Russian "fixation" with U.S. missile defense even extends to the theater level: "Russian deliberations on the threat posed by theater US missile defense to these calibrated escalation approaches also telegraph one of the likely potential counters to single or grouped strikes."[40] These conclusions indicate that if the relatively limited current U.S. homeland missile defense system can produce this amount of uncertainty among Russian military planners, an expanded system could potentially have very powerful deterrent effects.

Ability to Limit Damage Without Offensive Strikes

As a geographically separated power, the United States can essentially decide when and where to intervene overseas in support of allies, and has hoped to effectively preclude attacks against the homeland by fighting "over there." Now, Russia, China, and North Korea can potentially reach the United States with their weapons and may believe that a coercive strike (or full-scale attack in the case of North Korea) is the least intolerable option they have during a crisis or conflict. Should deterrence fail, the United States could undertake a strategy of attempting to restore deterrence and limit damage via offensive strikes against the

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[36] Michael Kofman, Anya Fink, Jeffrey Edmonds, et. al., *Russian Strategy for Escalation Management: Evolution of Key Concepts* (Washington, D.C.: CNA, April 2020), pp. 28-29, available at https://www.cna.org/CNA_files/PDF/DRM-2019-U-022455-1Rev.pdf.

[37] Dave Johnson, *Russia's Conventional Precision Strike Capabilities, Regional Crises, and Nuclear Thresholds* (Livermore, CA: Lawrence Livermore National Laboratory, February 2018), p. 55, available at https://cgsr.llnl.gov/content/assets/docs/Precision-Strike-Capabilities-report-v3-7.pdf.

[38] Kofman, Fink, Edmonds, et. al., *Russian Strategy for Escalation Management: Evolution of Key Concepts*, op. cit, p. 65.

[39] Loc cit.

[40] Ibid., p. 75.

adversary in the hope that both sides could arrive at a political settlement. The risks inherent in this strategy, detailed above, are obvious—especially given that both sides will have potentially already demonstrated their willingness to employ nuclear weapons.

The U.S. ability to limit damage via a homeland missile defense system, however, likely poses far less escalation risk during a conflict and can protect critical infrastructure—thus allowing the United States to maintain its military readiness. Given the co-location of critical infrastructure and populous urban centers in the United States (ports, railyards, power plants, military bases, etc.), even an imperfect defense against conventional strikes—and in some cases, even nuclear strikes—could potentially save many lives and limit damage to recoverable levels. Even leaving aside the inherent value of protecting human lives, the economic costs of losing a major city to an enemy attack is staggering. In 2006, the RAND corporation estimated that a nuclear attack on the Port of Long Beach, California (encompassing the Port of Los Angeles as well) could cost more than $1 trillion.[41]

If, as previously discussed, an adversary chooses to attack the U.S. homeland with conventional or nuclear missile strikes for coercive purposes, then the adversary is likely seeking some tangible politico-military advantage by disrupting, delaying, or deterring further U.S. action overseas—an attack of such scale and significance that the adversary is going to likely seek a high degree of confidence that it will work as planned before deciding to execute that plan. An expanded U.S. homeland missile defense system, however, could vastly complicate such an attack. The U.S. ability to limit damage to critical targets could enable the United States to recover more quickly, thus making the attack a failure and perhaps contributing to deterring further attempts. Should the adversary deem a failed conventional attack on the U.S. homeland as not worth the risk, it would then be forced to contemplate nuclear strikes on the U.S. homeland to improve the chances that missiles which get through the defenses can deliver the required levels of destruction to the critical infrastructure. This option, however, invites an even larger set of risks by introducing the possibility of a U.S. response including nuclear strikes against the adversary's homeland.

It is worth dwelling for a moment on the great importance of a U.S. ability to limit damage to the homeland at the conventional level for deterrence purposes—both operationally and strategically. At the operational level, the less damage the adversary can inflict on U.S. force projection or command and control capabilities, the more freedom of action available to U.S. leadership, including to protect allies abroad. More importantly, however, at the strategic level, the U.S. ability to limit damage to its homeland from conventional weapons during a conflict helps raise the threshold against an adversary's escalation efforts. Greatly complicating or foreclosing conventional attack options against the U.S. homeland leaves the adversary with three basic choices: conciliation, continued regional conflict where U.S. conventional forces can be brought to bear, or escalation to nuclear strikes against a defended U.S. homeland infrastructure that can respond with devastating effects. None of

[41] Charles Meade and Roger C. Molander, *Considering the Effects of a Catastrophic Terrorist Attack* (Santa Monica, CA: RAND Corporation, 2006), p. 6, available at https://www.rand.org/content/dam/rand/pubs/technical_reports/2006/RAND_TR391.pdf.

these options are likely to appear attractive, but some clearly involve less risk, thus potentially strengthening deterrence.

Additionally, given the U.S. geographic separation from its allies and partners overseas, damage to U.S. critical infrastructure—especially the infrastructure that facilitates military force flow overseas—would be uniquely disruptive to U.S. defense plans. Since the United States will likely ship the bulk of its forces overseas rather than fly them, given the lack of assets and the associated costs, any delays caused by adversary attacks will be additive to the long lead times of mobilization and transportation across the sea. For allies and partners facing large-scale attacks, such disruptions and delays in the United States could mean the difference between survival and defeat. The U.S. ability to limit damage to its homeland, therefore, will be critical to securing its, and its allies', national interests.

Supports Existing U.S. Policy and Defense Strategy by Defending the Homeland

Critics of an expanded U.S. homeland missile defense system will no doubt emphasize its discontinuity with past U.S. missile defense practice, but past policy and bureaucratic inertia are no sound bases for dismissing the system, especially in light of the fact that improved homeland missile defenses would support the Department of Defense's longstanding number one mission: defending the homeland.[42] If anything, such a missile defense system will grant great credibility to that number one mission by protecting critical potential targets at home so that the United States can project power abroad. This benefit can be summarized as providing the U.S. leadership "freedom of action"—a sterile phrase when bereft of context.

The current U.S. policy dilemma with respect to supporting Ukraine in its ongoing defense against a Russian invasion provides an important example of how U.S. "freedom of action" can be constrained. Senior U.S. officials have repeatedly expressed the desire to avoid escalation with Russia, making it a major criterion for decisions on what kind of weapons it will supply to Ukraine and in what amounts. A U.S. leadership with an expanded homeland missile defense system designed to defeat coercive attacks from Russia, however, might consider a broader set of options in militarily assisting Ukraine. If, by chance, U.S. military assistance did cross an unknown Russian "red line," there would be a way to limit that damage and potentially end the process of escalation. The same sorts of considerations may also apply in a potential conflict with Russia over a NATO ally or with China over Taiwan—a United States that is better defended may be more willing to pursue its national interests by aiding allies and partners overseas. In the words of the nuclear strategist Herman Kahn, "To put it another way, the side with some kind of defense has an excuse for being firm or arguing

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[42] For a recent bipartisan list of statements to this effect, see, U.S. Department of Defense, *Quadrennial Defense Review 2014* (Washington, D.C.: Department of Defense, 2014), p. 12, available at https://history.defense.gov/Portals/70/Documents/quadrennial/QDR2014.pdf?ver=tXH94SVvSQLVw-ENZ-a2pQ%3d%3d.; and, U.S. Department of Defense, *Summary of the 2018 National Defense Strategy of the United States of America* (Washington, D.C.: Department of Defense, 2018), p. 4, available at https://dod.defense.gov/Portals/1/Documents/pubs/2018-National-Defense-Strategy-Summary.pdf.; and, U.S. Department of Defense, *Fact Sheet: 2022 National Defense Strategy* (Washington, D.C.: Department of Defense, 2022), p. 1, available at https://media.defense.gov/2022/Mar/28/2002964702/-1/-1/1/NDS-FACT-SHEET.PDF.

that it will stand firm. The side without the defense correspondingly has an excuse or a motivation for backing down, or strong incentive for accepting arguments in favor of backing down—or at least allies and neutrals are likely to believe that this is the situation."[43]

Two historical examples from World War II may further illustrate how the vulnerability of homelands can greatly affect a leadership's freedom of action. First, while British leaders were sympathetic towards Czechoslovakia in the face of German aggression in 1938, they declined to intervene militarily in large part because of their perceived lack of adequate air defenses against German bombers.[44] In this case, the vulnerability of the British homeland led the British leadership to conclude it could not safely pursue its national interests. Two years later, in 1940, homeland defenses enabled a leadership's freedom of action, but this time it was Germany's. The British and French were deterred from attacking Germany before it moved east to invade Poland in large part because of Germany's *Sigfried Line*, a large set of fortifications that British and French planners projected would inflict massive losses on their rearming, but still unprepared armies. Germany, on the other hand, was able to invade Poland in large part because its *Sigfried Line* defenses freed up more troops for the invasion.[45]

Thus, an expanded U.S. homeland missile defense system can contribute usefully to a larger set of options for a U.S. leadership that is understandably concerned about how the adversary will respond—especially against the U.S. homeland. First, such a system can allow U.S. leaders to consider new options that may not be brought up when the homeland is vulnerable. Second, such a system could reduce the risk of particular options to acceptable levels that U.S. leaders may have considered too risky with a highly vulnerable homeland. An expanded set of options for the U.S. leadership, newly available options, and those with reduced risk, open up new avenues for defending U.S. and allied national interests in ways that may be more likely to succeed than before.

Discourages Perceptions that the United States Lacks Political Will

If deterrence is in danger of failing because an adversary perceives the U.S. leadership is lacking political will, the addition of an expanded U.S. homeland missile defense system could significantly contribute to reversing, or at least diminishing, that belief. Given the inherent credibility that the United States would employ missiles defenses to defend its homeland, the adversary will likely attribute *a greater* level of resolve to U.S. leaders than otherwise would be the case. This may, in turn, contribute to deterring an attack on the homeland.

There are two specific ways that the United States could potentially benefit from an expanded homeland missile defense system's effect on the adversary's perception of U.S. will

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[43] Herman Kahn, "The Case for a Thin System," chapter in, Johan J. Holst and William Schneider Jr., *Why ABM? Policy Issues in the Missile Defense Controversy* (New York: Pergamon Press, 1969), p. 76.

[44] Norrin M. Ripsman and Jack S. Levy, "Wishful Thinking or Buying Time? The Logic of British Appeasement in the 1930s," *International Security*, Vol. 33, No. 2 (Fall 2008), pp. 173-174.

[45] For additional commentary on this case, see John J. Mearsheimer, *Conventional Deterrence* (Ithaca, NY: Cornell University Press, 1983), pp. 67-98.

or resolve: increased credibility of U.S. initiation of force and increased credibility of an effective U.S. response to an adversary's initiation of force. First, if an adversary believes that the United States has the ability to limit damage to itself, then it is more likely to see U.S. extended nuclear deterrence threats for allies as less risky for Washington, and thus more credible.[46] If so, then the adversary may decide that large-scale conventional conflict, chemical attacks, or biological attacks, would not be worth the risk and be deterred from taking such steps.

A second potential benefit of an expanded homeland missile defense system is that it may discourage an adversary's perception that it has the freedom to engage in nuclear first use in support of its expansionist goals. As stated by one report on the topic, "In the past, missile defense advocates, including Herman Kahn and Colin Gray, emphasized the value of U.S. missile defense for the credibility it could provide for U.S. nuclear escalation deterrence threats. In this case, however, the value is in helping to deny [an adversary] any expectation that *it can wield credible* nuclear first-use escalation threats."[47] Or, as Albert Wohlstetter explained during the Cold War, "In a war, when all alternatives may be extremely risky to an adversary, we may not convince him that the alternative to nuclear attack is riskier than the others if we have persuaded him also that it can be done safely because we won't retaliate for fear of the unlimited harm we would bring on ourselves."[48] In short, if the adversary believes the United States has the credible ability to limit damage to itself, then it may be less inclined to initiate the process of nuclear escalation, knowing that its first-use options are both risky and limited in their potential effect by U.S. missile defenses.

The presence of U.S. homeland missile defenses capable of defeating coercive level attacks could force the adversary to consider the need to launch a comparatively larger attack—an attack size that then is more likely to be deterred by U.S. strategic response capabilities.

Strengthens Assurance of Allies and Partners

All throughout the Cold War, the United States sought to provide assurance to its allies and partners, especially in Europe, that even though the United States was vulnerable to Soviet attack, that fact would not discourage it from supporting NATO in the event of a Soviet attack. To make this assurance credible in the eyes of allies, the United States based tens of thousands of troops and thousands of nuclear weapons in Europe and regularly conducted joint exercises with the Alliance. And yet, as the distinguished strategist Lawrence Freedman wrote in the 1980s, "The nagging question remains: why should states base their

[46] The yet-to-be-released 2022 *Nuclear Posture Review* will contain the definitive language, but the existing Department of Defense fact sheet on the 2022 NPR indicates that a "no first use" statement is not part of the document. See, Department of Defense, *Fact Sheet: 2022 Nuclear Posture Review and Missile Defense Review* (Washington, D.C.: Department of Defense, 2022), p. 1, available at https://media.defense.gov/2022/Mar/29/2002965339/-1/-1/1/FACT-SHEET-2022-NUCLEAR-POSTURE-REVIEW-AND-MISSILE-DEFENSE-REVIEW.PDF.

[47] Emphasis in original. Payne and Costlow, "A Victory Denial Approach to Deterrence," op. cit., p. 41.

[48] Albert Wohlstetter, "Bishops, Statesmen, and Other Strategists on the Bombing of Innocents," *Commentary*, Vol. 75, No. 6 (June 1983), p. 33.

international behavior on the presumption that they have the backing of a particular super-power, when the implications for the super-power are potentially suicidal?"[49] In 1979, the recently retired Secretary of State Henry Kissinger, in a speech to NATO officials, stated even more bluntly, "And therefore I would say—what I might not say in office—that our European allies should not keep asking us to multiply strategic assurances that we cannot possibly mean or if we do mean, we should not want to execute because if we execute, we risk the destruction of civilization."[50]

Yet, with an expanded homeland missile defense system in place, U.S. leaders may be seen as more able to take risks in defense of allies and partners—even nuclear risks. Such a decision will certainly not be taken lightly, even in the presence of significantly effective homeland missile defenses, but such a system may be the crucial factor that provides credibility to U.S. deterrence threats in the eyes of adversaries—which is what matters for deterrence purposes. Allied and partner leadership must make critical defense decisions during a crisis or conflict, some of which will likely hinge on their perceptions of U.S. willingness to commit forces for their defense. If they are unsure of the U.S. commitment, they may be more willing to concede early, thus damaging U.S. national interests. As Hudson Institute scholars Herman Kahn, Donald Brennan, and E. S. Boylan stated in this regard, "The more likely it appears that U.S. military support would mean America exposing itself to nuclear blows, the less likely it will appear that the U.S. would take such risks to honor its military commitments."[51] Thus it is in the U.S. national interests to reduce the chance that allies perceive the United States as a less-than-credible defense partner by expanding its homeland missile defenses, increasing the U.S. ability to successfully resist coercion and reducing the risks of assisting allies.

Damage Limitation Against a First Strike

Given the emerging trilateral nuclear deterrence environment and Russia's and China's expansionist goals and growing nuclear arsenals, the dangers of a first strike against the United States are likely increasing. In the bilateral Cold War, the United States had to be concerned about surviving a Soviet first strike with enough nuclear weapons left to accomplish U.S. objectives against the Soviets, who would have had a greatly diminished nuclear arsenal after conducting the first strike. This is no longer the concern in a trilateral environment. U.S. nuclear planners must be concerned with not only surviving a first strike (from Russia, China, or both), but also surviving with enough nuclear weapons to confront both Russia and China, and to accomplish U.S. objectives without resorting to counter-

[49] Lawrence Freedman, *Strategic Defence in the Nuclear Age*, Adelphi Papers #224 (London: International Institute for Strategic Studies, Autumn 1987), p. 23.

[50] Henry Kissinger, *NATO – The Next Thirty Years* (Washington, D.C.: Center for Strategic and International Studies, September 1, 1979), p. 11, available at https://findit.library.yale.edu/catalog/digcoll:559343.

[51] E. S. Boylan, D. G. Brennan, and H. Kahn, *An Analysis of 'Assured Destruction'* (Croton-on-Hudson, NY: Hudson Institute, March 20, 1972), p. 16, available at https://apps.dtic.mil/sti/pdfs/AD0750721.pdf.

population targeting, an option that is highly immoral, against the laws of war, and non-credible.[52]

A U.S. homeland missile defense system designed to defeat limited strikes from Russia and China may provide some protection to U.S. nuclear assets against a Russian or Chinese first strike, most notably submarine and bomber bases, and possibly, via preferential defense tactics, against an adversary's first strike against U.S. ICBM fields. Even a modest layer of missile defenses can provide a "time-saving" option to allow mobile nuclear command and control capabilities, like E-4Bs (National Airborne Operations Centers), to disperse and perform their missions.[53]

Improved Crisis Stability

Although referenced obliquely earlier, it is worth discussing explicitly the potential benefits an expanded homeland missile defense system could provide in times of crisis. The first and most obvious way is that, with the presence of significant active defenses, U.S. leaders may be less pressured to consider preemptive strikes with conventional or nuclear weapons for damage limitation.[54] That is, without significant missile defense capabilities U.S. leaders could calculate that conflict is inevitable and therefore preemption is the least miserable option. With significant homeland missile defense capabilities, however, U.S. leaders may have time to consider additional options with fewer incentives to go on the offensive—indeed, the presence of such defenses may strengthen the position of elements of the leadership to advocate for continued diplomatic engagement during a crisis, potentially lengthening decision-making time.

Additionally, as stated above, the presence of significant defensive damage limitation capabilities during a crisis may confer an element of credibility or resolve to the U.S. leadership in the mind of the adversary. Whether this credibility is "earned" through U.S. actions or the product of U.S. homeland missile defenses' mere existence, an adversary may be more likely to believe U.S. leaders are resolute in their position in part because they can limit damage effectively if a crisis devolves into a war. In short, the presence of significant U.S. homeland missile defenses presents an additional barrier to the adversary to escalate a crisis into conventional or nuclear war.

Moreover, a potential benefit of significant U.S. homeland missile defenses is hedging against the possibility of U.S. or an adversary's miscalculation. The United States or the adversary could unknowingly cross the other's "red line" during a crisis, but the presence of

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[52] See especially in this regard, Keith B. Payne and David J. Trachtenberg, *Deterrence in the Emerging Threat Environment: What is Different and Why it Matters, Occasional Paper*, Vol. 2, No. 8 (Fairfax, VA: National Institute for Public Policy, August 2022), available at https://nipp.org/wp-content/uploads/2022/08/OP-Vol.-2-No.-8.pdf.

[53] For more on E-4Bs, see, U.S. Air Force, "E-4B," *AF.mil*, November 2016, available at https://www.af.mil/About-Us/Fact-Sheets/Display/Article/104503/e-4b/.

[54] Consider, for example, the account of events in 1994 regarding North Korea, as stated in Ashton B. Carter and William J. Perry, "Back to the Brink," *The Washington Post*, October 20, 2002, available at https://www.washingtonpost.com/archive/opinions/2002/10/20/back-to-the-brink/078e6a56-fc48-458d-a70e-33bc3d97cdf9/.

U.S. missile defense could aid in keeping the situation contained and the damage limited. Without significant homeland missile defenses, such miscalculations stand less of a chance of being contained since both sides would have to exercise restraint in the face of enormous pressure to respond with offensive strikes. Since the practice of deterrence is an art and not a science, and adversary intentions are difficult to glean in even the most peaceful circumstances, it is possible that the United States or the adversary could miscalculate or unknowingly trigger an adversary's response with its actions—in which case, having a final line of defense against unrestrained conflict might be particularly valuable. Defending against such a possibility, and its attendant consequences, seems only prudent.

A Strengthened Technological Base for Breakthrough Research

A common criticism against significant investments in homeland missile defense is that such investments will only become useful if there is major technological breakthrough—and since, in the critics' opinion, such a breakthrough does not appear imminent, the investments are not worth the cost. This assertion is problematic, however, since one cannot be sure what technological advances are feasible without funding the necessary research. Should the United States establish a serious commitment to homeland missile defense (a steady "demand" signal to market forces), U.S. industry will respond and continue pushing the boundaries of the possible through research and development. By transitioning missile defense technology from a fairly niche enterprise to a national priority, U.S. defense officials can establish a dynamic technological base that is incentivized to pursue research and development in "breakthrough" technologies. Israel, for instance, has a national-level commitment to air and missile defense, and appears to be on the leading edge of applying laser technology to missile defense problems.[55] The United States, which has clear qualitative technological advantages over states like Russia and China, should consider building on its advantages by committing to the technology-intensive research demanded by missile defense.

Hedge Against Bluffers, Lunatics, Fanatics, and Mishaps

The aphorism "expect the unexpected" applies even to international security. Simply put, an expanded homeland missile defense system will help protect against the unexpected, whether that is state leaders who are beyond deterrence for reasons of irrationality or fanaticism, accidents, unauthorized launches, or pure gamblers willing to risk the fate of their nation. As Herman Kahn stated, "In an offensive deterrent situation, the irrational or irresponsible have a clear and possibly overwhelming advantage over the sober, prudential, 'reasonable' people. For this reason alone it is probably wrong to try to make the balance of

[55] Laurie Kellman, "Israel Successfully Tests New Laser Missile Defense System," *Defense News*, April 15, 2022, available at https://www.defensenews.com/training-sim/2022/04/15/israel-successfully-tests-new-laser-missile-defense-system/.; See also, Ilan Berman, *The Logic of Israel's Laser Wall* (Fairfax, VA: National Institute for Public Policy, June 23, 2022), Information Series #526, available at https://nipp.org/wp-content/uploads/2022/06/IS-526.pdf.

terror excessively stark."[56] One might add that the highly motivated, in addition to the irrational and irresponsible, may have advantages in crisis or conflict situations with the United States—and if their advantage in the balance of resolve is not counter-balanced by a demonstrated U.S. ability to limit damage to the homeland, opponents may simply calculate that the risks of crossing U.S. "red lines" are acceptable in pursuit of their strategic goals.

Hedge Against Rapid Military Shifts

Another potential benefit to expanded U.S. homeland missile defense is the improved U.S. ability to hedge against rapid shifts in the balance of military forces. Given the rapid pace of technological change today, it is not unreasonable to assume that states like Russia or China could make swift and unexpected advances in their military capabilities, whether regional or intercontinental. The traditionally long lead times for major U.S. defense programs typically precludes quick adjustments to the U.S. force posture, but the presence of significant homeland missile defense capabilities may lessen the perceived U.S. need to initiate crash programs to research and develop counters to emerging adversary technologies. To the extent that a U.S. missile defense-based hedge can contribute to lessening the perceived need for crash offensive weapon development programs, the United States may have an improved position over the long-term competition in technology with states like Russia and China.

ANSWERING CRITICISMS

It is no coincidence that two of the fiercest debates among U.S. defense strategists in the past 50 years were on the topic of missile defense: the 1972 ABM Treaty and President Reagan's 1983 announcement of the Strategic Defense Initiative. Debates about missile defense, most especially homeland missile defense, appear to involve all the volatility of debates about nuclear strategy—since their topics are closely related—but add another layer of fundamental questions about the desirability, or, as some assert, lack of choice, of living in a world governed by mutually assured destruction (MAD). Undoubtedly, the prospect of an expanded U.S. homeland missile defense system will generate a critical response among those already inclined to view any sort of population-defending system as "destabilizing," but the following answers to anticipated criticism aims to persuade those who are open-minded to the benefits of improved U.S. homeland missile defense, but who also want answers to critics' claims. Readers will notice that the anticipated criticism, "expanded and improved U.S. homeland missile defense is technologically infeasible" is not included in the following discussion. This is deliberate. First, because this is a policy-focused paper and such technical discussions warrant their own dedicated studies—which others have written on

[56] Kahn, "The Case for a Thin System," op. cit., p. 84.

quite well.[57] Second, this criticism was weak, but plausible, in the early 1970s, and dubious in the 1980s, but is discredited today. As the United States, Russia, and China all pursue expanded and improved homeland missile defense systems, the critics who insist all their efforts are technically infeasible appear increasingly isolated—the broader debate has largely moved beyond whether the United States *can* defend against adversary missiles to a useful extent, to whether it *should* do so. The following answers to criticisms reflect the shift in the debate. The three criticisms addressed are that an expanded U.S. homeland missile defense system: will be destabilizing during a crisis because of first strike fears; will not satisfy the "Nitze criterion" of being "cost-effective at the margin;" and, will cause an arms race.

It Will Be Destabilizing During a Crisis Because of First Strike Fears

An oft-voiced criticism of U.S. homeland missile defense is that it could produce two separate dangers, perhaps simultaneously: first, the presence of very capable U.S. homeland missile defenses will cause first strike incentives among U.S. leaders because they will believe the defenses can negate the uncoordinated and diminished adversary response to a U.S. first strike within acceptable levels of risk and damage. Second, that the adversary will perceive an increased risk of a massive U.S. first strike because the United States is modernizing its nuclear arsenal, in addition to its significant conventional precision-strike capabilities, to the point where even imperfect defenses could negate the adversary's response—thus inducing first strike incentives in the adversary's leadership during a crisis.[58] Together, these suggested possibilities are the basis for Thomas Schelling's famous concern about the "reciprocal fear of surprise attack."[59]

Both criticisms falter on the fact that such concerns sound plausible in theory, but in practice, a whole host of factors make them implausible. To begin with the criticism that expanded U.S. homeland missile defense could incentivize U.S. leaders to consider

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[57] For example, see, Tom Karako and Masao Dahlgren, *Complex Air Defense: Countering the Hypersonic Missile Threat* (Washington, D.C.: Center for Strategic and International Studies, February 2022), available at https://csis-website-prod.s3.amazonaws.com/s3fs-public/publication/220207_Karako_Complex_AirDefense.pdf?SmaHq1sva9Sk.TSlzpXqWY72fg8PdLvA.; and, Ian William, Masao Dahlgren, and Thomas G. Roberts, *Boost-Phase Missile Defense: Interrogating the Assumptions* (Washington, D.C.: Center for Strategic and International Studies, June 2022), available at https://csis-website-prod.s3.amazonaws.com/s3fs-public/publication/220624_Karako_BoostPhase_MissileDefense.pdf?WjJxlNM58oru1LK21LC9untewoK_UAQD.; and, Tom Karako, Matt Strohmeyer, Ian Williams, Wes Rumbaugh, and Ken Harmon, *North America is a Region, Too: An Integrated, Phased, and Affordable Approach to Air and Missile Defense of the Homeland* (Washington, D.C.: Center for Strategic and International Studies, July 2022), available at https://csis-website-prod.s3.amazonaws.com/s3fs-public/publication/220714_Karako_North_America.pdf?BhIKa8jHHF_kV94NXRMx6D4m2o6LQqUf.

[58] Charles L. Glaser, *Analyzing Strategic Nuclear Policy* (Princeton, NJ: Princeton University Press, 1990), pp. 116-119.; Jaganath Sankaran and Steve Fetter, "Reexamining Homeland Missile Defense against North Korea," *The Washington Quarterly*, Vol. 43, No. 3 (Fall 2020), p. 56.; and, Ankit Panda, *Congressional Testimony* (Washington, D.C.: Senate Armed Services Committee, June 9, 2021), p. 9, available at https://www.armed-services.senate.gov/imo/media/doc/Ankit%20Panda.%206.9.21%20testimony1.pdf.

[59] T.C. Schelling, *Reciprocal Fear of Surprise Attack* (Santa Monica, CA: The RAND Corporation, May 28, 1958), available at https://www.rand.org/content/dam/rand/pubs/papers/2007/P1342.pdf.

preemption or a first strike, context is key. As multiple recent Department of Defense publications have made clear, U.S. officials believe the most likely scenario for an adversary's nuclear employment is a limited nuclear strike in the context of an ongoing conventional conflict.[60] If the United States received advanced warning or indications that a limited strike was imminent, the possibility of employing an expanded U.S. homeland missile defense system would provide a potentially attractive option to U.S. leaders who wish to avoid the obvious risks inherent in preemptive strikes. In short, an expanded homeland missile defense system would usefully expand the range of options for U.S. leaders by providing a feasible alternative to preemptive strikes—thus potentially lowering the incentives for preemption.

If critics of homeland missile defense still believe there may be temptations to preempt among U.S. leaders, then an additional illustration may be useful. For a scenario like North Korea, even if U.S. leaders were incredibly confident that their improved homeland missile defenses could intercept even the largest North Korean nuclear response that survived a U.S. first strike, that would not diminish U.S. and allied concerns about the amount of damage North Korea could inflict on South Korea or Japan during even the most effective U.S. first strike. Even if one biases the assumptions in a strike plan to improve U.S. performance and decrease North Korean performance, there is still the significant chance that North Korean strikes could kill millions of civilians in allied urban centers. It is highly unlikely that U.S., much less allied, leaders would become cavalier in such a situation. If, even under this "best case scenario" for an effective U.S. first strike, U.S. and allied leaders are still likely to be very apprehensive, then how much *less likely* are they to feel emboldened to conduct preemptive attacks against Russia or China, whose nuclear arsenal sizes and land masses are orders of magnitude greater than North Korea's?

Additionally, as was recognized even during the Cold War, if the United States did try to pursue an effective first strike force posture, the effort itself would meet all sorts of resistance both politically at home, and among allies abroad.[61] Longtime observers in Russia and China of American defense issues would likely quickly recognize the infeasibility of the United States pursuing a first strike posture, especially given the shifting nature of U.S. political power, transparency in defense spending, and the long lead times for (what would undoubtedly be) multiple massive and new defense programs.

The reasons why even very effective U.S. homeland missile defenses are unlikely to stimulate truly convincing first strike temptations for its leadership are operational and political. Colin Gray cites six operational challenges to a first strike even in the presence of the attacker's highly effective homeland defenses: the possibility of catastrophic failure of the missile defense system under the most stressing real world conditions; the rate of

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[60] Ash Carter, "Remarks by Secretary Carter to Troops at Minot Air Force Base, North Dakota," *Defense.gov*, September 26, 2016, available at https://www.defense.gov/News/Transcripts/Transcript/Article/956079/remarks-by-secretary-carter-to-troops-at-minot-air-force-base-north-dakota/.; and, U.S. Department of Defense, *Report on the Nuclear Employment Strategy of the United States – 2020*, op. cit., p. 7.

[61] Benjamin S. Lambeth, "Soviet Perspectives on the SDI," chapter in, Samuel F. Wells Jr. and Robert S. Litwak, eds., *Strategic Defenses and Soviet-American Relations* (Cambridge, MA: Ballinger Publishing Company, 1987), p. 54.

"leakage" in the missile defense system and the damage caused; unexpectedly effective adversary tactics; local denial of conventional forces; the possibility of a prolonged conflict against an adversary with mobilization capacity; and, finally, the possibility of a "nuclear winter" that ultimately costs more than any apparent benefits of a first strike.[62] As Gray notes, a state's leadership may dismiss one or more of these challenges as unlikely, but the combination of all six as real possibilities indicates that even a greatly expanded and effective U.S. homeland missile defense system is unlikely to make the option of a first strike sound very appealing to U.S. leaders.

There is even the near-term prospect that whatever possible incentives U.S. leaders may feel to conduct a preemptive first strike will actually *decrease* over the next decade, *even with the potential addition* of expanded homeland missile defenses. If China's nuclear arsenal grows to a projected 1,000 nuclear warheads by 2030, and if Russia's strategic nuclear arsenal also grows as projected, U.S. leaders will likely realize that even in the event of a first strike against Russia or China, the United States could find itself at a major strategic disadvantage compared to the remaining nuclear-armed adversary, as it seeks to remedy its depleted (or severely damaged) nuclear forces and infrastructure.[63] Given the nature of a "first strike," the ultimate "cannot fail" mission that practically demands redundant and overlapping targeting techniques, the U.S. nuclear arsenal will likely be far smaller after a first strike than before, and, given the lengthy lead times for the production of additional nuclear weapons, the short-term outlook for deterring the remaining adversarial nuclear power will appear especially bleak. The outlook will appear even bleaker still considering the potential damage that adversary missiles impose should they break through or overwhelm U.S. homeland defenses. Additionally, Russian and Chinese leaders are also likely to increasingly recognize this fundamental strategic dilemma for the United States; although the potential consequences of this are unknown, they are unlikely to be beneficial to the United States.

The second, and perhaps more fundamental reason why improved U.S. homeland missile defenses are unlikely to stimulate first strike incentives is political in nature. As the British strategist Laurence Martin wrote, "A power believing itself, on technical calculations, to have a fairly clean first-strike capability may well refrain from implementing this capability because of moral considerations, because it must always have residual doubts about the calculations and about the operational uncertainties of even the most meticulous force analysis, or (perhaps most fundamentally) because it may lack the political will or compulsion to act even the when the risks are low."[64] In short, critics of homeland missile

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[62] Colin S. Gray, "Deterrence, Arms Control, and the Defense Transition," *Orbis*, Vol. 28, No. 2 (Summer 1984), pp. 233-239.

[63] On the projected growth in the nuclear arsenals of China and Russia respectively, see, U.S. Department of Defense, *Military and Security Developments Involving the People's Republic of China* (Washington, D.C.: Department of Defense, 2021), p. 90, available at https://media.defense.gov/2021/Nov/03/2002885874/-1/-1/0/2021-CMPR-FINAL.PDF.; and, Robert P. Ashley Jr., "Russian and Chinese Nuclear Modernization Trends," *DIA.mil*, May 29, 2019, available at https://www.dia.mil/Articles/Speeches-and-Testimonies/Article/1859890/russian-and-chinese-nuclear-modernization-trends/.

[64] Laurence Martin, "The Determinants of Change: Deterrence and Technology," chapter in, *The Future of Strategic Deterrence Part II*, Adelphi Papers #161 (London: International Institute for Strategic Studies, Autumn 1980), p. 11.

defense often assume that the potential technical capability to conduct a first strike is enough to raise the risks of such a strike, when in reality, there must not only be the political will to back a first strike to raise the risks, but also a political will combined with a high degree of risk-acceptance. Under these circumstances, the likelihood that even greatly improved U.S. homeland defenses significantly bolsters the temptation to conduct a first strike appears remote indeed.

Critics will likely respond, however, that even if U.S. leaders are unlikely to be tempted by the option of a first strike, adversaries will still believe the United States is preparing for a first strike—thus increasing their incentive to strike first before they are potentially disarmed. A major unstated assumption in this criticism, of course, is that adversaries will indeed believe they are vulnerable to a U.S. first strike and their threatened response will be ineffective for deterrence. Given the authoritarian nature of the regimes in Moscow and Beijing, there will be, at least, strong incentives for civilian and military officials to tell their respective rulers that their state is not vulnerable to a U.S. first strike—lest the dictator wonder why they have failed to secure the state against a first strike. Indeed, one pertinent historical example illustrates the competing incentives that adversary leaderships will face should the United States seriously pursue an expanded U.S. homeland missile defense system. Then-Soviet leader Yuri Andropov responded to U.S. President Reagan's announcement of the Strategic Defense Initiative by stating that the United States, in pursuing its missile defenses, was actually pursuing a first strike capability against the Soviet Union; but simultaneously stated that "All attempts at achieving military superiority over the Soviet Union are futile. The Soviet Union will never allow them to succeed. It will never be caught defenseless by any threat."[65]

This commentary, in fact, highlights what is likely to be the standard reaction by Russia, China, and North Korea to the prospect of significantly improved U.S. homeland missile defenses. Their leaders will likely employ apocalyptic-sounding language, meant to shock and dismay U.S. and allied audiences and erode support for these kinds of defenses. There are significant indications that this is Russia's current strategy against the far more limited U.S. homeland missile defense system today.[66] When Russia's and China's coercive strategies for achieving their revisionist aims depend upon missile-based threats against the U.S. homeland, it should be no surprise that they will protest loudly against any threat to their strategy and goals. Critics, at this point, will interject that Russian, Chinese, and North Korean leaders will still have reason to fear these developments even if they do not overtly pursue their revisionist aims—the United States could still attempt a first strike to eliminate a potential threat. In that case, under this assumption, adversary leaderships have strong incentives to strike first before they are potentially disarmed by the United States.

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[65] Yuri Andropov, as quoted in, Dusko Dodder, "Andropov Accuses Reagan of Lying About Soviet Arms," *The Washington Post*, March 27, 1983, available at https://www.washingtonpost.com/archive/politics/1983/03/27/andropov-accuses-reagan-of-lying-about-soviet-arms/67117e3b-ca00-4f1c-9a28-fcaf6fd0c697/.

[66] Matthew R. Costlow, *The Folly of Limiting U.S. Missile Defenses for Nuclear Arms Control* (Fairfax, VA: National Institute for Public Policy, October 18, 2021) Information Series #505, available at https://nipp.org/information_series/matthew-r-costlow-the-folly-of-limiting-u-s-missile-defenses-for-nuclear-arms-control-no-505-october-18-2021/.

The obvious flaw in the logic of this criticism is that adversary leaderships have very strong incentives *not to attempt* a first strike against the United States—because doing so would turn the *possibility* of suffering existential damage into the *near certainty* of existential damage. The presence of U.S. active defenses does not degrade the deterrent effect of U.S. retaliatory capabilities. That is, when faced with the possibility of a United States with very credible damage limitation capabilities, an adversary certainly *could* decide to strike the United States with everything that it possessed, but what would this accomplish? U.S. forces capable of delivering a devastating response could make the adversary's first strike the worst possible outcome for the adversary. It would, as Otto von Bismarck famously quipped, be a case of committing national suicide for fear of death. Historically, the Soviet Union continued to function under a U.S. nuclear *monopoly* from 1945-1949, and clear U.S. strategic first strike advantages from 1950 to the early 1960s, even during times of crisis. China, likewise, has continued to function while at a clear disadvantage relative to the United States for its entire existence as a nuclear power, since 1964. In short, Russia, China, and North Korea have decades of historical experience living under the theoretical possibility of a U.S. first strike without seeing a first strike of their own as a strategic necessity. U.S. defenses to deter and defeat coercive threats would not fundamentally change that circumstance for them.

Critics of U.S. homeland missile defense ultimately fail to account for the range of options available to adversarial states that are faced with a better-defended United States, options beyond surrender or suicide. For instance, the Soviet Union perceived the United States was improving its damage limitation capabilities at an intolerable pace, so it came to the negotiating table and agreed to the ABM Treaty and the Strategic Arms Limitation Talks interim agreement. As additional evidence that U.S. pursuit of missile defense does not preclude arms control agreements, the United States and the Soviet Union agreed to the Intermediate Range Nuclear Forces (INF) Treaty in 1987 while the Reagan administration was still pursuing its vision for the Strategic Defense Initiative.[67] As stated by Colin Gray, "Even if the [Soviet] military balance tomorrow looks likely to be worse than that today, the balance today is most unlikely to offer a good prospect of success. Furthermore, Soviet leaders will have an attractive alternative both to suicide today and inferiority tomorrow—and that is a defensive competition managed by arms control."[68] The already unlikely prospect of increased adversary incentives for a first strike against the United States falls even further when one considers that Russia and China are both pursuing homeland missile defenses against the United States, even appearing to do so jointly.[69] This provides yet

[67] Robert Soofer, "Missile Defense is Compatible with Arms Control," *War on the Rocks*, April 29, 2021, available at https://warontherocks.com/2021/04/missile-defense-is-compatible-with-arms-control/.

[68] Colin S. Gray, "The Case for Strategic Defence," *Survival*, Vol. 27, No. 2 (March/April 1985), p. 53.

[69] U.S. Department of Defense, "Chinese and Russian Missile Defense: Strategies and Capabilities," *Defense.gov*, July 28, 2020, available at https://media.defense.gov/2020/Jul/28/2002466237/-1/-1/1/CHINESE_RUSSIAN_MISSILE_DEFENSE_FACT_SHEET.PDF.; and, "Russia is Helping China Build a Missile Defence System, Putin Says," *The Guardian*, October 3, 2019, available at https://www.theguardian.com/world/2019/oct/04/russia-is-helping-china-build-a-missile-defence-system-putin-says.

another option that does not involve a first strike against the United States—Russia and China could simply choose to respond by increasing their own missile defense capabilities.

U.S. Homeland Missile Defenses Will Not Be Cost-effective at the Margin

What are the valid criteria for choosing a homeland missile defense system? A budget planner may say "cost," a force planner may say "kill probability," an engineer may say "efficiency," and a President may say, for domestic purposes, "reliability." In truth, these and many other criteria impose a set of performance requirements on missile defense in general, but U.S. homeland missile defense in particular. Yet, since 1985, the so-called "Nitze criteria" have been central to the debate on U.S. homeland missile defense. Then-Special Adviser to President Reagan on Arms Reduction Negotiations, Paul H. Nitze proposed three criteria—explained in greater detail in 1986—for how the Reagan administration would judge whether the technology produced by the Strategic Defense Initiative should be pursued: the missile defenses had to be effective, survivable, and "cost-effective at the margin."[70] For critics of U.S. homeland missile defense, even if they concede a system could be effective and could be survivable, they retreat to the *primus inter pares* of the criteria, that systems are unlikely to be "cost-effective at the margin."[71]

I wish to challenge the elevation of this particular criterion, not because economic considerations are invalid—they are wholly necessary and worth significant consideration—but because "cost-effective at the margin" is subjectively applied only to missile defense to the point where critics have largely lost sight of the strategic context. Namely, there is nothing unique about missile defense systems to suggest that the costs to build them in relation to the costs to defeat them should dominate the question of their value to U.S. security interests. In short, questions of cost-effectiveness—like any other criterion—should be viewed in the broader context of the purposes of a missile defense system, and the value the United States places on its mission.

The following discussion briefly examines the origin of Nitze's "cost effective" criterion for SDI, its unstated assumptions, its seemingly unique application to missile defense, its logical deficiencies, and finally suggests an improved definition of "cost effective" as it relates to missile defense.

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[70] Paul H. Nitze, "On the Road to a More Stable Peace," as reprinted in, U.S. Department of State, *Current Policy*, No. 675 (Washington, D.C.: Department of State, 1985), speech given February 20, 1985, p. 2, available at https://catalog.hathitrust.org/Record/007397611.; and, Paul H. Nitze, "SDI, Arms Control, and Stability: Toward a New Synthesis," as reprinted in, U.S. Department of State, *Current Policy*, No. 845 (Washington, D.C.: Department of State, 1986), speech given June 3, 1986, p. 2, available at https://catalog.hathitrust.org/Record/007408951.

[71] For criticisms along these lines, see, Andrey Baklitsky, James Cameron, and Steven Pifer, *Missile Defense and the Offense-Defense Relationship*, Deep Cuts Working Paper #14 (Berlin: Deep Cuts Commission, October 2021), pp. 23-24, available at https://deepcuts.org/images/PDF/DeepCuts_WP14.pdf.; and, Jaganath Sankaran and Steve Fetter, "Defending the United States: Revisiting National Missile Defense against North Korea," *International Security*, Vol. 46, No. 3 (Winter 2021/22), pp. 68-70.; and, Steven Pifer, "The Biden Nuclear Posture Review: Defense, Offense, and Avoiding Arms Races," *Arms Control Association*, January/February 2022, available at https://www.armscontrol.org/act/2022-01/features/biden-nuclear-posture-review-defense-offense-avoiding-arms-races.

What is "Cost Effective at the Margin?" When Amb. Nitze first proposed his three criteria for assessing whether a missile defense system should be pursued under SDI in 1985, the program was in its technological exploration phase. In other words, these were criteria for theoretical systems that had not yet been developed. The criteria were meant to, in Nitze's words, "… serve as guidance to all those in the executive branch who would be out talking, lecturing, and testifying on the developments at the Shultz-Gromyko meeting [on nuclear arms control and missile defense]."[72] In 1985, Amb. Nitze explained that: "New defensive systems must also be cost effective at the margin—that is they must be cheap enough to add additional defensive capability so that the other side has no incentive to add additional offensive capability to overcome the defense. If this criterion is not met, the defensive systems could encourage a proliferation of countermeasures and additional offensive weapons to overcome deployed defenses instead of a redirection of effort from offense to defense."[73]

A little over a year later in 1986, Amb. Nitze elaborated on his "cost-effective" criterion for SDI, saying, "… the defensive system must be able to maintain its effectiveness against the offense at less cost than it would take to develop offensive countermeasures and proliferate the ballistic missiles necessary to overcome it," adding that such criteria "… has valid application to other military systems as well…"[74] In his memoir, Nitze stated that while he believed U.S. technology was unable to meet the criterion at the time, he defended supporting the criterion by noting that U.S. technology was capable of "unexpected breakthroughs" and such a breakthrough could have provided "negotiating leverage" during nuclear arms control talks with the Soviet Union.[75]

As Nitze notes, critics of the criteria at the time believed his intentions were far from noble and they suspected he hoped to trade away SDI as a serious program in exchange for Soviet concessions—making it appear the United States gained something tangible while giving up undeveloped technology.[76] Indeed, these beliefs appear to have some merit given that in each of his major speeches on SDI, the central importance he places on meeting his criteria is both times connected with the broader prospects for arms control with the Soviet Union.

Whatever the case may be, "cost-effective at the margin" gained an especially hallowed place among critics in the debate over homeland missile defense since it appeared unlikely that the cost of a defensive interceptor would ever drop below the cost of an offensive missile. Thus, even if a missile defense system was effective and survivable—two incredibly important criteria in and of themselves—if the missile interceptors cost more, or were likely to begin an arms race, then the whole system was deemed not worth considering on the grounds of cost and arms race stability.

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[72] Paul H. Nitze, *From Hiroshima to Glasnost: At the Center of Decision – A Memoir* (New York: Grove Weidenfeld, 1989), p. 407.

[73] Nitze, "On the Road to a More Stable Peace," op. cit., p. 2.

[74] Nitze, "SDI, Arms Control, and Stability: Toward a New Synthesis," op. cit., p. 2.

[75] Paul H. Nitze, *From Hiroshima to Glasnost: At the Center of Decision – A Memoir*, op. cit., p. 408.

[76] Loc cit.

Unstated Assumptions Behind the "Cost Effective at the Margin" Criterion. For a broader understanding of why "cost effective at the margin" is a poor choice for a criterion with essential veto power over any potential missile defense system, it is useful to state explicitly the unstated assumptions behind the criterion. First, the criterion assumes that the adversary knows, and is confident in its knowledge of, the "true" cost-exchange ratio between its missiles and countermeasures and U.S. missile interceptors. Second, it assumes that the adversary will want to spend the funds necessary to provide some level of confidence in being able to defeat U.S. missile defenses. Third, and more fundamentally, it assumes that the adversary indeed *can spend* more funds on defeating U.S. missile defenses, funds that the adversary may believe are better spent on more pressing needs. Fourth, and perhaps most fundamentally, it assumes that the adversary does not already believe it can defeat U.S. missile defenses with the appropriate confidence level—an assumption that currently contradicts a host of senior Russian statements about their ability to defeat U.S. missile defenses.[77] These assumptions, both individually and collectively, range in credibility from doubtful to, at best, potentially true only in limited scenarios.

A Criterion Unique to Missile Defense. Given Amb. Nitze's comment that "cost-effective at the margin" applies to other major U.S. defense programs, an outside observer might be surprised just how untrue that rings today. While there are certainly debates about the wisdom of investing great deals of money in weapon systems that are particularly pricey given their vulnerability to lower-cost counters, no other major program is judged to be not worth the investment on that reason alone. For example, the lead ship of the Ford-class of U.S. aircraft carriers, CVN-78 *Gerald R. Ford*, cost approximately $13 billion to procure.[78] While there are no official open-source estimates of what a weapon might cost that could enable Russia or China to sink this aircraft carrier, one can safely assume the figure is far below $13 billion. Likewise, other major defense programs like the F-35 joint strike fighter, Abrams tanks, and likely even satellites all may theoretically be defeated by less costly counters—that is, they are not "cost-effective at the margin" according to the Nitze criterion.

Yet, the United States still invests massively in these and other capabilities; the question then is: why is the "cost-effective at the margin" criterion given such priority when evaluating missile defenses but not other systems?

There are two likely answers. First, critics of missile defense hope to focus debate on the subject on the one area where they can quantify an expected disadvantage for missile defense—as of today, it does likely cost more to successfully intercept a missile than it does to build and deploy that missile. As is discussed below, however, this observation does not end the debate. That logic, if applied to other defense systems with equal emphasis, would reduce the U.S. military to something not worthy of the name. Indeed, it is obvious that

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[77] Costlow, *The Folly of Limiting U.S. Missile Defenses for Nuclear Arms Control*, op. cit., pp. 6-8.

[78] Ronald O'Rourke, *Navy Ford (CVN-78) Class Aircraft Carrier Program: Background and Issues for Congress* (Washington, D.C.: Congressional Research Service, March 25, 2021), p. 1, available at https://crsreports.congress.gov/product/pdf/RS/RS20643/248.

focusing primarily on cost-exchange ratios *for any defense program* is penny-wise and pound-foolish.

A second reason why missile defense critics insist so emphatically on prioritizing the "cost-effective at the margin" criterion to missile defense is that it simplifies (in a manner to their liking) the "equation" of whether a missile defense system is worth the investment. It ignores the primary roles for missile defense, i.e., deterring war and limiting damage should deterrence fail. Missile defense systems may spend most of their operational life fulfilling one role primarily, i.e., deterrence, and it is impossible to quantify the value of a near-infinite series of non-events.[79] Instead, it is easier for critics of missile defense to ignore the deterrent value of the system and focus on what can, notionally, be quantified: costs of U.S. and adversary equipment. Analysts, as Thomas Schelling noted, simply cannot afford to ignore the "incalculables" just because they cannot be quantified: there is "… a common difficulty in defense planning: budgets need calculations, and the 'incalculables', however central they are to strategy, get subordinated to 'hard facts', whether or not hardness equals relevance or assumptions are facts."[80]

Towards a New Definition of "Cost Effective" for Missile Defense. The Nitze criterion of "cost-effective at the margin" was clearly flawed at birth, inexplicably elevated above other criteria and applied politically with such force uniquely against missile defenses. How then can one fairly judge the level of investment that is appropriate for missile defense? Clearly the "cost" criterion must be a major factor in U.S. decisions on missile defense—the question is how does the "cost" criterion relate to the other criteria?

At the more fundamental level, which defense objectives does the United States value most? Clearly, the most highly valued objectives are those which, if failed to be achieved, would be the most consequential for the United States. Thus, both the 2018 and 2022 summaries of the *National Defense Strategies* list "defending the homeland" as the number one objective or priority.[81] Any analysis, therefore, of the appropriate criteria for homeland missile defense that does not account for the value of the "defending the homeland" objective is taking the issue out of context. In other words, the appropriate level of investments in time, money, and opportunity costs rise according to the relative priority of the objective. The United States simply ought to be willing to invest more in the most consequential missions than it is in the less consequential missions.

Under the objective of "defending the homeland," U.S. officials could plausibly decide U.S. policy will be to deter, and if necessary, defeat and limit the damage from coercive missile strikes on the U.S. homeland, no matter the attacker. This objective would necessarily be a high priority, which means relatively more value would be placed on criteria like

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[79] This is not to say that during peacetime missile defenses are not fulfilling roles other than deterrence, such as assurance, protection against accidental or unauthorized launches, cost imposition, etc.

[80] T. C. Schelling, *Controlled Response and Strategic Warfare*, Adelphi Papers #19 (London: The Institute for Strategic Studies, 1965), p. 5.

[81] U.S. Department of Defense, *Summary of the 2018 National Defense Strategy of the United States of America*, op. cit., p. 4.; and, U.S. Department of Defense, *Fact Sheet: 2022 National Defense Strategy*, op. cit., p. 1.

"effectiveness" and "reliability" than on "cost." In this sense, the relative priority given to the criterion "cost" only makes strategic sense when properly placed in the context of what is at stake for U.S. policy. Elevating the criterion of "cost effective at the margin" to the level of a veto factor, as the Nitze criteria does in this case, makes little sense when the United States certainly would be willing to bear greater costs for a higher priority objective. Clearly, if the United States intercepted 10 North Korean warheads headed towards major cities in the U.S. homeland, no one with any sense would question the system's value simply because it cost more, even substantially more, to intercept those warheads than it did for North Korea to build and launch them.

A historical example makes clear the importance of first defining the political objective and then, and only then, choosing the appropriate corresponding criteria. In a classic RAND report on the subject of defense acquisition, the authors Charles Hitch and Roland McKean employ the example of the allies in World War II studying the various alternatives to sink the most enemy ships at the least cost in man-years of effort. As they point out, choosing the "sinking enemy ships" criterion to measure gain was a poor choice because the real allied objective was to stop enemy ships from achieving their objectives—a mission that does not actually require sinking ships and may be done more cheaply through mine-laying for the same effect.[82] In the same way, the U.S. policy objective should not be "to intercept adversary missiles" *per se*; instead, the objective should be to deter, and if necessary, defeat and limit damage from coercive missile strikes against the U.S. homeland—an objective to which active missile defenses can contribute. Once U.S. policy determines the political goals (deterrence and damage limitation) and the stakes in achieving that goal (very high), only then can one discuss costs, among other criteria, in a realistic and contextually appropriate way.

Thus, the criterion for "cost-effectiveness" for missile defense must encapsulate more than a purely financial comparison of unit costs between a missile and the missile interceptor; an analysis that stopped there covers only the "cost" in the term "cost-effective." The analysis must answer the follow-on question: effective towards what end? This is the question for policymakers—once they answer that question, then analysts can rationally debate the place for the "cost" criterion.

As a final exercise, it is useful to take the "Nitze criteria" (effectiveness, survivability, and cost-effective at the margin) at face value, eliminate one, and ask whether the United States might rationally pursue a system that fulfills only two of the three criteria. The most obvious scenario, as suggested by this analysis, is a system that is effective and survivable, but still costs more to intercept a missile than it does for the adversary to build and deploy the missile. Might it be reasonable to pursue such a system? Even a cursory analysis of the options indicates yes, such a course might be very reasonable given the value of what is being defended.

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[82] Charles J. Hitch and Roland N. McKean, *The Economics of Defense in the Nuclear Age* (Santa Monica, CA: The RAND Corporation, March 1960), p. 170.

A missile defense system that could effectively defend itself and defeat 200 adversary missiles, for example, would be of great interest to the United States even if it cost more for the United States to defend against those missiles than it did for the adversary to employ them. After all, at a certain point an adversary must begin to consider if sending more than 200 missiles against the U.S. homeland to overcome the missile defense system risks appearing to the United States to be the opening salvo of a first strike—with the attendant risk that the United States will respond accordingly. Even if critics of missile defense would not choose this option themselves, the point is that the "cost-effective at the margin" criterion for missile defense should not have veto-power over any possible missile defense system.

In conclusion, Carl von Clausewitz stated in his classic book *On War* that war is not simply a contest between physical forces; he in fact derided the idea of reducing war between opponents down to "comparative figures of their strength" as a "kind of war by algebra."[83] Just as war cannot be simplified to a comparison of forces, neither can missile defense be judged by "cost-effectiveness" alone—a "war by algebra." Critics of missile defense have yet to explain why such a criterion only seems to apply to missile defenses and not other major defense programs, or why a system that provides very significant deterrence and damage limitation benefits must always be outweighed by cost-driven considerations alone.

This analysis does not indicate that the "cost-effectiveness" criterion is worthless, far from it; it only seeks to remove that particular criterion from its pedestal as a veto factor in the debate over missile defense. All criteria for a weapon system's sufficiency, cost-effectiveness included, must relate ultimately to the national objective that the system is designed to support. The supposed inviolability of the "Nitze criteria" has placed unworthy constraints on the U.S. debate about missile defense to the detriment of both policies and capabilities. Instead, U.S. officials must make a clear-eyed assessment of their defense policy priorities, what is at stake in achieving those priorities, and only then determine the criteria for missile defense's sufficiency.

It Will Cause an Arms Race

There is perhaps no more often-stated, or dubious, criticism of U.S. homeland missile defense than that it will cause an arms race. Critics state that by developing and deploying very effective homeland missile defenses, other states will begin to fear a U.S. first strike capability and will in turn increase their own missile strike capabilities; this then leads the United States to either increase its missile defenses, offensive strike capabilities, or both, in response, thus perpetuating an "action-reaction" cycle (arms race instability).[84] The

[83] Clausewitz, *On War*, op. cit., p. 84.

[84] For examples, see, Panda, *Congressional Testimony*, op. cit., p. 8.; Baklitsky, Cameron, and Pifer, *Missile Defense and the Offense-Defense Relationship*, op. cit., p. 19.; Daryl G. Kimball, "Missile Defense and the Arms Race," *Arms Control Today*, December 2020, available at https://www.armscontrol.org/act/2020-12/focus/missile-defense-arms-race.; and James M. Acton, "The U.S. Exit From the Anti-Ballistic Missile Treaty Has Fueled a New Arms Race," *Carnegie Endowment for*

corollary claim is that if the United States refrains from building missile defenses, then other states will likewise refrain from building additional missiles. Both assertions deserve further scrutiny, as does the broader concept of an "arms race."

This section will therefore focus on three fundamental weaknesses in the arms race criticism: the historical record, its logical flaws, and its broader misunderstanding of how and why states react to the actions of others.

The Historical Record: Missing Races and Unrequited Restraint. The historical record on the existence, or lack thereof, of arms races in response to improved homeland defenses refutes any simplistic notion that for every U.S. defensive action, there will be an equal and opposite offensive action.[85] Before the invention of ICBMs, in the age of intercontinental bombers, the Soviet Union—even though it faced a United States with a credible first strike capability for over a decade and a half—did not embark on a large crash build-up of bombers that could range the United States.[86] U.S. restraint, and eventual elimination of its homeland missile defense capabilities under the ABM Treaty neither induced a similar Soviet reaction in its defense investments (which continued and grew) nor in its offense investments (which continued and grew at an even faster pace *after* signing the ABM Treaty).[87] Finally, even after the United States officially notified Russia of its intention to withdraw from the ABM Treaty in 2001, Washington and Moscow were able to agree to the Strategic Offensive Reductions Treaty (SORT), also known as the "Moscow Treaty"—and, eight years later, the New Strategic Arms Reduction Treaty (New START), which codified lower force levels. The fact that the United States has grown its homeland missile defenses to 44 interceptors today and the Russian strategic nuclear arsenal since 2001 has declined significantly, demonstrates there is nothing inevitable about an arms race caused by U.S. missile defenses.

The Logical Flaws. Predictably, critics will then point to China's apparent reaction to the growth in U.S. homeland missile defenses—as U.S. homeland missile defenses grew numerically, so too did China's missile arsenal. This, however, is a classic case of confusing correlation and causation. Proponents of U.S. homeland missile defense do not deny that China likely has and will react to U.S. missile defense capabilities at some level, but the evidence that U.S. missile defenses are the causative, or even a primary, motivating factor for changes in China's nuclear arsenal grows weaker every year. In 2021, non-government analysts publicly discovered three new ICBM fields in China, with each field containing over a hundred ICBM silos—concurrent with an updated assessment from the U.S. Department of

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International Peace, December 13, 2021, available at https://carnegieendowment.org/2021/12/13/u.s.-exit-from-anti-ballistic-missile-treaty-has-fueled-new-arms-race-pub-85977.

[85] For additional analysis, see Matthew R. Costlow, "The Missile Defense 'Arms Race' Myth," *Strategic Studies Quarterly*, Vol. 15, No. 1 (Spring 2021), pp. 3-9.

[86] Thomas Mahnken, "The Cold War Arms Race: Introduction," chapter in, Thomas Mahnken, Joseph Maiolo, and David Stevenson, eds., *Arms Races in International Politics: From the Nineteenth Century to the Twenty-First Century* (Oxford, UK: Oxford University Press, 2016), p. 137.

[87] David J. Trachtenberg, Michaela Dodge, and Keith B. Payne, *The "Action-Reaction" Arms Race Narrative vs. Historical Realities* (Fairfax, VA: National Institute for Public Policy, March 2021), pp. 21-30, available at https://nipp.org/wp-content/uploads/2021/04/Action-Reaction-pub.pdf.

Defense that China intends to possess "at least 1,000 warheads by 2030."[88] Given the rapid shift in policy and the sheer magnitude of China's preferred force size, plus the relative projected consistency in U.S. missile defense capabilities, U.S. homeland missile defenses do not appear to be a major factor in China's nuclear expansion. If they were a major factor, one would expect to see, at most, a gradual growth in China's nuclear arsenal that matches expected U.S. advances—not the projected sudden and very rapid growth.

Misunderstanding the Nature of Arms Competitions. The assertion that building improved U.S. homeland missile defenses will likely cause an arms race is based on assumptions, much like the criterion on cost effectiveness, that adversaries will react in the particular manner, and for the reasons, that critics posit. But, as demonstrated above, history demonstrates that opponents have responded very differently from what critics have asserted as being virtually inevitable. In fact, there is nothing either automatic or predictable about what weapons a state develops, why, and when. This dynamic indicates that real world defense acquisition is driven by far more factors than simply reacting to what the United States is doing. Russia, China, and North Korea all have their own domestically-driven considerations (bureaucratic power struggles, funding battles, budget limits, technical capability), ideological considerations (how particular weapons represent the state's status on the world stage, contribution to grand strategy, a weapon's potential propaganda value), and operational considerations (geographic limitations, contribution to short-term military goals, synchronization with other defense programs, infrastructure delays). The fact that Russia and China developed ICBM-centric nuclear arsenals while the United States developed an SLBM-centric nuclear arsenal, and the long-standing difference in overall force size levels, is indication enough that there is no mechanistic relationship between U.S. defense priorities and those of other states.

It is especially important to note in this regard that even if Russia or China directly increase their missile arsenals in response to an expanded and improved U.S. homeland missile defense system, that in and of itself would not negate the value of the system. Since the system would be designed to deter and defeat coercive attacks against the U.S. homeland, larger Russian or Chinese arsenals *per se* would not necessarily demand a further increase the capabilities of the U.S. missile defense system in response. While larger Russian and Chinese arsenals may place greater deterrence requirements on U.S. nuclear forces above the level of coercive attacks on the homeland, the original purpose of the expanded and improved U.S. homeland missile defense system would still stand and be of value. If adversary strategic nuclear arsenals grow in response to expanded U.S. homeland missile defenses, far from a certainty, that would only *increase* the importance of raising the threshold for nuclear war by deterrence threats of punishment *and* defense-based deterrence threats of denial.

The notion that expanded U.S. missile defenses will likely cause an arms race is further discredited when one considers how un-race-like the U.S. defense acquisition process is—

[88] U.S. Department of Defense, *Military and Security Developments Involving the People's Republic of China*, op. cit., pp. 60, 90.

with major defense program timelines from design to deployment often measured not in single years, but in decades. An expanded and improved U.S. homeland missile defense system will not happen overnight and given the open nature of U.S. political debate and shifting political power between two major parties, adversaries will likely be able to follow U.S. missile defense developments in near real time as timeline and capability projections shift. In short, this arms dynamic is hardly worthy of the name "race," which should temper concerns about arms race or crisis instability—there is no need for other states to act rashly when the system in question may be more than a decade, or more, away from a reality.

In conclusion, before submitting to the seemingly appealing logic of "action-reaction" dynamics at play with U.S. missile defenses, U.S. policymakers should consider the range of options available to adversaries beyond "racing," the historical record that contradicts arms racing theory, and the inherently complicated and multi-factored defense acquisition process that plays out differently in each country according to their unique characteristics. In short, arms racing in response to an expanding U.S. homeland missile defense system is neither guaranteed nor reflective of the value of the system. Additionally, critics of U.S. homeland missile defense, as Herman Kahn pointed out over 50 years ago, "…really cannot have it both ways. They point out, presumably correctly, that on paper it is easy to counter and largely nullify the [thin missile defense] system (subject of course, to the uncertainties I have already discussed). They then argue that the Soviets will be so concerned… that they will react in a serious and dramatic way, accelerating the arms race."[89] Whether or not Russia, China, North Korea, or some other power will be concerned at the prospect of an improved and expanded U.S. homeland missile defense system, the United States cannot allow an adversary's potential concerns to have veto power over whether it should pursue a system that, in its net effect, will contribute greatly to its national interests around the world.

GENERAL PRINCIPLES FOR AN EXPANDED AND IMPROVED U.S. HOMELAND MISSILE DEFENSE POSTURE

The recommended general principles that follow are meant more to inform policymakers and general readers than specialists in missile defense architecture building. That being said, there are aspects of missile defense technology that are critical to understand if only for the context of policy decisions about what missile defenses may be in the U.S. national interest, and in what priority. There are two key concepts in this regard that are examined below: "layering" of missile defenses, and missile defense "countermeasures."

"Layering" missile defenses means the United States could deploy missile defense systems optimized to defeat incoming missiles at different stages of their flight—the most common categories of which are "boost phase" (when the missile is ascending shortly after launch), "mid-course" when the ballistic missile has entered outer space, and "terminal"

[89] Herman Kahn, "The Case for a Thin System," chapter in, Johan J. Holst and William Schneider Jr., *Why ABM? Policy Issues in the Missile Defense Controversy* (New York: Pergamon Press, 1969), p. 81.

when the missile has re-entered the atmosphere and is close to its target. The advantage of layering missile defenses is that one "layer" of missile defense may defeat the adversary missile at its earliest stages of flight, but if not, then another "layer" of missile defenses (likely another system) may be able to defeat the missile as it passes within range of its interceptors.

"Countermeasures," also known as "penetration aids," are devices designed to lower the chance that an interceptor will successfully target and destroy the warhead. These devices can enable a number of tactics such as making all potentially threatening objects look alike to the interceptor and radar (such as "balloons" of equal size and shape) or actively interfering with the interceptor's kill vehicle's sensors (jamming or dazzling).[90] Countermeasures can technically be deployed at any stage of a ballistic missile's flight, but are most likely to be deployed either in the boost-phase or the mid-course since re-entering the earth's atmosphere in the terminal stage could cause the lighter countermeasures to have observably different flight patterns than the heavier (and more likely to be a warhead) objects, on which U.S. missile defenses could then focus. The great advantage of space-based missile defense, therefore, is that such a system could potentially intercept adversary missiles before they deploy countermeasures and multiple warheads.

The most important factor to note in this regard is that the adversary would likely need to include different countermeasures in its missile's payload that are optimized to defeat missile defenses at each separate stage of flight. Including these different types of countermeasures is a cost that may impact the total number of warheads a missile can carry, the missile's range (due to the added weight of countermeasures), and the added complexity of the overall system.[91] In short, cheap and lightweight countermeasures may allow for more warheads per missile, but if the missile interceptors can distinguish the warheads from the countermeasures, then the warheads are more vulnerable. On the other hand, relatively expensive and heavy countermeasures that more accurately resemble a warhead may be more effective in defeating a missile interceptor, but take up scarce space in the missile payload, reduce its effective range, and could potentially limit targeting options.

What then might be the advantages of "layering" a U.S. homeland missile defense system in the presence of adversary countermeasures? The advantages appear to be threefold. First, having multiple systems that can potentially make multiple intercept attempts at each stage increases the overall reliability of the system. If, for example, one "layer" of missile defenses experiences some technical problem, whether temporary or longer-lasting, the other "layers" can potentially adapt their tactics to compensate. Second, having multiple "layers" of missile defense increases the resiliency of the overall system, in case one "layer" is degraded due to adversary attacks or tactics. Third, having multiple "layers" of missile

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[90] For official descriptions of the different types of countermeasures, see, U.S. Department of Defense, Ballistic Missile Defense Organization, *Ballistic Missile Defense: Glossary* (Washington, D.C.: Department of Defense, June 1997), available at https://webharvest.gov/peth04/20041027220247/http://www.defenselink.mil/specials/missiledefense/glossary.pdf.

[91] This point was well understood during debates over the Strategic Defense Initiative. See, U.S. Department of Defense, *Defense Against Ballistic Missiles: An Assessment of Technologies and Policy Implications* (Washington, D.C.: Department of Defense, April 1984), p. 11.

defense increases the overall effectiveness of the system by providing multiple intercept attempts at each stage of the target missile's flight. For example, if there are three "layers" of U.S. missile defense (perhaps boost-phase, mid-course, and terminal), and each layer has a 50 percent chance of destroying the adversary missile per attempt, then there is an 87.5% chance the system will destroy the warhead successfully. If the system provides one more intercept attempt with a 50 percent chance of success, the overall chance for a successful kill increases to 94%. Finally, states that wish to test potentially advanced countermeasures designed to defeat U.S. missile defenses may seek to test them in a realistic environment, potentially providing an opportunity for U.S. intelligence assets to collect information that could be used to make U.S. missile interceptors more effective.[92]

Thus, having multiple "layers" of missile defense vastly complicates the difficulties for adversary attack planners, and more broadly, force planners, because countermeasures that may perform well in one stage of flight may not perform well in other stages. This point, in fact, was well recognized even during the early days of the Strategic Defense Initiative, as stated by the strategist Fred S. Hoffman:

> The existence of several different layers of defense would pose a complex problem to the offense in the design of countermeasures. Approaches that would be most effective against one layer would not in general be effective against others, and the existence of different types of sensors would pose conflicting requirements on decoys or jamming devices. The random attrition that attacking missiles would experience in early layers would make it much more difficult to concentrate forces on specific targets or to coordinate attacks designed to destroy or penetrate later layers. In this respect, a multilayer defense is similar to a counterforce attack in disorganizing structured attacks but superior in that the defense does not have to initiate the conflict.[93]

Given the consequences of a failed coercive attack on the United States, the adversary is likely to err on the side of overestimating U.S. defense effectiveness, which in turn, is likely to increase the overall deterrent effect. Again, quoting Fred Hoffman, "Conservatism is likely to limit their [the adversary's] reliance on clever, relatively cheap, but questionably effective countermeasures."[94]

Then-Director of the Ballistic Missile Defense Organization (later, the Missile Defense Agency), General Ronald Kadish testified in the year 2000, that:

> In other words, countermeasures may be easy science on paper, but effective ones are not all that simple to develop and even less simple to implement. The engineering challenges are very substantial. Structural issues can affect range,

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[92] Steve Lambakis, *The Future of Homeland Missile Defense* (Fairfax, VA: National Institute for Public Policy, 2014), pp. 42-43, available at https://nipp.org/wp-content/uploads/2021/05/Future-of-Homeland-Missile-Defenses.pdf.

[93] Fred S. Hoffman, "Imperfect Strategies, Near-Perfect Defenses, and the SDI," chapter in, Fred S. Hoffman, Albert Wohlstetter, and David S. Yost, eds., *Swords and Shields: NATO, the USSR, and New Choices for Long-Range Offense and Defense* (Lexington, MA: Lexington Books, 1987), p. 208.

[94] Ibid., p. 213.

> accuracy and payload, and no nation can place confidence in the effectiveness of its program without testing… In my view, credible, sophisticated countermeasures are costly, tough to develop, and difficult to make effective against our NMD design. Simple, cheap attempts can be readily countered by our system.[95]

In summary, an adversary is unlikely to know all the relevant capabilities of the U.S. missile defense system, and given the consequential nature of a coercive attack on the homeland of the nuclear-armed United States, the adversary is likely to bias its attack estimates in favor of the United States, thus contributing to deterrence.

CONCLUSION

Since the United States has so far eschewed pursuing missile defenses designed to deter and defeat coercive attacks from Russia and China, U.S. deterrence strategy is like a boxer who can punch but is incapable of defending against a punch, choosing to only threaten punishment in response to an attack, without the possibility of protecting against an attack. Given the potential for deterrence failure against the nuclear-armed opponents of Russia and China, not to mention North Korea or some future unknown threat, how much longer are U.S. policymakers willing to tolerate restricted deterrence and damage limitation options?[96]

The prospect of an expanded and more capable U.S. homeland missile defense system will not elevate the United States above the concern of the damage from an adversary's major nuclear strike, but it could contribute to deterring the possibility of a coercive strike, and should deterrence fail, limiting the damage of such a strike. The noted U.S. physicist Freeman Dyson in 1984 elucidated a pithy "live-and-let-live" U.S. defense policy that accounted for the possibility of effective U.S. homeland missile defenses, a policy he acknowledged is based heavily on the writings on Donald Brennan some 20 years earlier: "We maintain the ability to damage you as badly as you can damage us, but we prefer our own protection to your destruction."[97] U.S. Cold War strategists Herman Kahn, Donald Brennan, and E.S. Boylan stated the same idea in a different way: "The aim of the Defense Department should not be to assure the destruction of some minimum number of Soviet citizens, but rather to save the maximum number of Americans."[98] Or, as Donald Brennan stated individually in 1969, "It is much more a matter of preference and conscious decision whether we and the Soviets wish to spend our strategic-force budgets chiefly to increase the level of 'hostages' on the other

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[95] Ronald T. Kadish, as quoted in, *National Missile Defense: Test Failures and Technology Development* (Washington, D.C.: Committee on Government Reform, September 8, 2000), available at https://www.govinfo.gov/content/pkg/CHRG-106hhrg74374/html/CHRG-106hhrg74374.htm.

[96] Payne and Trachtenberg, *Deterrence in the Emerging Threat Environment: What is Different and Why it Matters*, op. cit.

[97] Freeman Dyson, *Weapons and Hope* (New York: Harper & Row Publishers, 1984), p. 274. I fully recognize that Dyson's subsequent explanation of what he believes his policy should entail in terms of force posture differs substantially from what I recommend in this paper. Nevertheless, Dyson's policy phrasing is useful for the greater point that it conveys.

[98] Boylan, Brennan, and Kahn, *An Analysis of 'Assured Destruction'*, op. cit., p. 14.

side or to decrease our own."[99] Stated more bluntly, Brennan bemoaned that many "… seem committed to support forever a strategic posture that appears to favor dead Russians over live Americans. I believe that this choice is just as bizarre as it appears; we should rather prefer live Americans to dead Russians, and we should not choose deliberately to live forever under a nuclear sword of Damocles."[100]

In summary, there is clearly a growing threat to the U.S. homeland, both in adversaries' capabilities and will, to conduct coercive strikes in furtherance of their hegemonic ambitions and to deter U.S. intervention in support of its allies and partners. Quantitative and qualitative increases in U.S. offensive capabilities are a necessary component in deterring this threat, but these alone are insufficient. The United States has a unique opportunity to shift its missile defense policy away from its near-sole focus on rogue state threats to the U.S. homeland to include the larger, and more consequential, threat of coercive strikes from Russia or China. If the United States adapted its homeland missile defense policy to this emerging reality, it may reap a number of benefits, including: denying Russia's and China's military theories of victory, supporting existing U.S. defense strategy, limiting damage without offensive strikes in case deterrence fails, discouraging perceptions that the United States lacks political will, strengthening assurance, and improving crisis stability. While critics will respond with the usual commentary that expanded homeland missile defense will prompt first strike fears, will not be cost-effective, and will increase the chances of arms races, these concerns are not well-founded and ignore the historical record.

Carl von Clausewitz, the great strategist and practitioner of war, stated, "So long as I have not overthrown my opponent I am bound to fear he may overthrow me. Thus I am not in control: he dictates to me as much as I dictate to him."[101] An expanded and improved U.S. homeland missile defense system designed to deter and defeat coercive Russian and Chinese strikes will not, by itself, allow the United States to overthrow any opponent, but it will reduce U.S. dependence on an adversary's restraint during a conflict, provide the United States with greater control over its own destiny, and advance an imposing deterrence threat to dictate caution to any adversary.

About the Author

Matthew R. Costlow is a Senior Analyst at the National Institute for Public Policy. His areas of expertise are in nuclear deterrence, missile defense policy, arms control, and Russia's and China's nuclear doctrine. His work has been published by *Comparative Strategy*, *Strategic Studies Quarterly*, and the *Bulletin of the Atomic Scientists*. He has also published numerous opinion pieces in the Institute's *Information Series* as well as the *Wall Street Journal*, *War on the Rocks*, *Defense News*, and *Defense One*.

While working for the National Institute, Mr. Costlow graduated in 2012 from Missouri State University with an M.S. in Defense and Strategic Studies. His thesis, "Gunboat Diplomacy in the South

[99] Brennan, "The Case for Missile Defense," op. cit., p. 443.

[100] Donald G. Brennan, "The Case for Population Defense," chapter in, Holst and Schneider Jr., *Why ABM?*, op. cit., p. 116.

[101] Clausewitz, *On War*, op. cit., p. 98.

China Sea" was chosen for publication at the U.S. Air Force Institute for National Security Studies. He is currently a Ph.D. candidate in Political Science at George Mason University.

From 2012-2019, Mr. Costlow worked as an Analyst at National Institute, specializing in many of the same areas he currently writes on. In 2018, he assisted former Senator Jon Kyl in drafting nuclear and missile defense policy recommendations on the bipartisan National Defense Strategy Commission. Before 2012, he researched cybersecurity, emergency management, and foreign airpower acquisition at the Congressional Research Service. Prior to that, he worked at SAIC on federal and state emergency management best practices.

From 2019-2021, Mr. Costlow served as a Special Assistant in the office of Nuclear and Missile Defense policy, Department of Defense. He received the Office of the Secretary of Defense Award for Exceptional Public Service. Mr. Costlow also serves as a Special Advisor to the USSTRATCOM Strategic Advisory Group.