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Operational Unpredictability and Deterrence

Evaluating Options for Complicating Adversary
Decisionmaking

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Preface

This report documents research and analysis conducted as part of a project entitled *Deterrence and Operational Unpredictability*, sponsored by the Office of the Deputy Chief of Staff, G-3/5/7, U.S. Army. The purpose of the project was to assess whether and how the Army might utilize unpredictability in force employment, posture, and operations to deter adversaries and identify the possible risks of such approaches.

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Executive Summary

The 2018 U.S. National Defense Strategy instructed the U.S. military to become more operationally unpredictable and suggested that doing so would help the United States deter attacks on U.S. partners. In this report, we propose a definition of U.S. operational unpredictability—adversary uncertainty about how the United States would fight—and develop four potential approaches for increasing U.S. operational unpredictability and deterring attacks on U.S. allies and partners. We also examine two Cold War era cases in which the United States sought to be more operationally unpredictable and assess how the four approaches could affect U.S. relations with Russia and China.

We find that increasing adversaries' perceptions of U.S. operational unpredictability may be possible if the United States has detailed information about their operational analysis and decisionmaking processes. The most promising approach appears to be increasing adversary uncertainty about the most likely U.S. course of action, often through the development of new capabilities. However, increasing U.S. operational unpredictability may be costly and, in some cases, involve negative side effects (e.g., reducing U.S. military effectiveness and increasing China's and Russia's threat perceptions). We recommend weighing the potential cost and effectiveness of these approaches against more traditional approaches to deterring U.S. adversaries.

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Summary

The research reported here was completed in July 2020, followed by security review by the sponsor and the Office of the Chief of Public Affairs, with final sign-off in July 2021.

The 2018 U.S. National Defense Strategy (NDS) instructed the U.S. military to become more operationally unpredictable, which we define as increasing adversary uncertainty about how the United States would fight. The NDS suggested that operational unpredictability would help the United States deter potential adversaries from attacking U.S. partners. At the same time, the NDS warned that becoming more operationally unpredictable could also undermine strategic predictability, which we define as adversary uncertainty about the conditions under which the United States will use force. The Army asked RAND Arroyo Center to develop the concept of operational unpredictability and its relationship to deterrence and to identify potential Army contributions to enhancing adversary perceptions of U.S. operational unpredictability.

Methodology

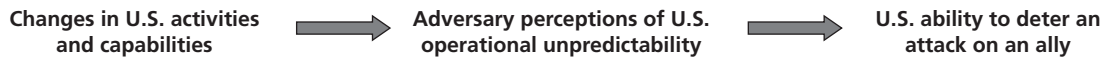
In this report, we develop the concept of operational unpredictability and explore its causes and consequences. In particular, we ask whether and how steady-state changes to U.S. military capabilities and activities might increase U.S. operational unpredictability and ultimately help to deter attacks on U.S. allies (extended deterrence).

To do so, we draw on the literatures on interstate signaling and deterrence to propose four potential approaches:

1. employing irregular deployment patterns
2. revealing and demonstrating capabilities that enable additional ways of fighting
3. bluffing about U.S. ability to fight in multiple ways
4. repeatedly revealing covert capabilities.

For each approach, we identify the limited range of conditions under which it might apply and key trade-offs. We then ask whether these conditions are present in the U.S.-Russia and U.S.-China relationship today. We also examine two Cold War-era cases in which the United States sought to increase perceptions of U.S. operational unpredictability, as we have defined it in this report.

Figure S.1
Relationships Explored in This Report



Findings

- Increasing U.S. operational unpredictability is only one of many approaches to enhancing extended deterrence.
- Limited information on Russian and Chinese intelligence, military planning, and decisionmaking processes makes it difficult to assess the potential effects of U.S. attempts to be operationally unpredictable.
- The available information suggests that increasing Russian and Chinese perceptions of U.S. operational unpredictability may be possible, but also costly.
- The most promising way to increase U.S. operational unpredictability is to publicize U.S. new capabilities and demonstrate that they give the United States multiple options for achieving its key objectives.
- This approach may enhance extended deterrence if each U.S. way of fighting requires different and costly adversary counters.
- This approach may have negative side effects, such as reducing U.S. readiness and increasing China's and Russia's threat perceptions.

Recommendations

- Compare the use of operational unpredictability with alternative approaches to deterring U.S. adversaries.
- Develop a clear logic linking activities intended to enhance U.S. operational unpredictability to desired outcomes, and consider potential trade-offs.
- Review existing intelligence and consider increased collection on Russia's and China's intelligence, military planning, and decisionmaking processes.
- Continue initiatives on Army and U.S. Department of Defense flexibility and agility, which may also increase U.S. operational unpredictability.

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Several scholars and practitioners participated in our workshops on Chinese and Russian reactions to U.S. attempts to create operational unpredictability and provided helpful feedback on our initial findings. We thank Simon Miles for suggestions on Soviet sources and archives.

We appreciate contributions from our RAND colleagues Cortez Cooper, Dara Massicot, Pauline Moore, Clint Reach, and Andrew Ziebell. Dylan Nir formatted our document.

Finally, we thank Lynn Davis (RAND) and Caitlin Talmadge (Georgetown University) for their thorough and thoughtful reviews of earlier drafts.

Abbreviations

ACE	agile combat employment
C2	command and control
CCP	Chinese Communist Party
CENTAG	Central Army Group
COA	course of action
DFE	Dynamic Force Employment
DIA	Defense Intelligence Agency
DoD	U.S. Department of Defense
DOTMLPF-P	doctrine, organization, training, materiel, leadership and education, personnel, facilities, and policy
EMCON	emissions control
FONOP	freedom of navigation operation
GIUK	Greenland–Iceland–United Kingdom
GRU	Russia’s Main Intelligence Directorate
GU	Russia’s Main Intelligence Directorate
ISR	intelligence, surveillance, and reconnaissance
NATO	North Atlantic Treaty Organization
NDS	National Defense Strategy
PGS	Prompt Global Strike
PLA	People’s Liberation Army
PLAAF	People’s Liberation Army Air Force
PLASSF	People’s Liberation Army Strategic Support Force
THAAD	Terminal High Altitude Area Defense

Introduction

The recent U.S. emphasis on strategic competition with China and Russia has renewed attention on the challenge of extended deterrence: dissuading adversaries from attacking U.S. allies. Russia's annexation of Crimea in 2014 prompted concerns about deterring Russian attacks on U.S. allies in Eastern Europe. Increasing Chinese influence and power projection capabilities have also affected U.S. thinking. Some in U.S. policymaking circles also believe that U.S. military activities have become overly predictable, in ways that could undermine extended deterrence. They worry that routinized patterns of deployment and concepts of operations allows potential adversaries to anticipate where, when, and how U.S. forces will operate. If this is the case, U.S. adversaries could have greater confidence in their ability to identify times and locations at which an attack on a U.S. ally or partner could succeed.

Notwithstanding these concerns, U.S. policymakers have also recognized the strategic benefits of predictability about U.S. intentions and commitments. U.S. strategists have therefore called on the military to be more operationally unpredictable without undermining U.S. strategic predictability. These twin mandates were codified in the 2018 U.S. National Defense Strategy (NDS):

Be strategically predictable, but operationally unpredictable. Deterring or defeating long-term strategic competitors is a fundamentally different challenge than the regional adversaries that were the focus of previous strategies. Our strength and integrated actions with allies will demonstrate our commitment to deterring aggression, but our dynamic force employment, military posture, and operations must introduce unpredictability to adversary decisionmakers. With our allies and partners, we will challenge competitors by maneuvering them into unfavorable positions, frustrating their efforts, precluding their options while expanding our own, and forcing them to confront conflict under adverse conditions.¹

To implement this guidance, the U.S. Army asked RAND Arroyo Center to answer several questions:

1. What is operational unpredictability?
2. How can the United States increase operational unpredictability?
3. How might greater U.S. operational unpredictability affect extended deterrence?

¹ Jim Mattis, *Summary of the 2018 National Defense Strategy of the United States of America: Sharpening the American Military's Competitive Edge*, Washington, D.C.: U.S. Department of Defense, 2018b, p. 6.

Since there is no official U.S. government or military definition of operational unpredictability or detailed discussion of how to create it, we began by developing the concept. We propose that U.S. operational unpredictability increases when the adversary is more uncertain about how the United States would fight in the event of conflict. This could include uncertainty about what operational concepts and forces the United States would employ in the event of conflict.

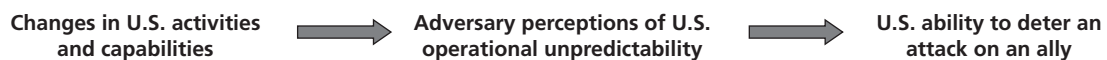
Operational unpredictability is distinct from strategic unpredictability. Strategic unpredictability increases when the adversary is more uncertain about whether and under what conditions the United States will use force to defend its allies. If an adversary becomes increasingly uncertain about whether the United States will launch an unprovoked attack, then perceptions of U.S. strategic unpredictability are also increasing. Chapter Two provides a more detailed discussion of these concepts.

Scope

In this report, we focus on how changes in U.S. military capabilities or activities in steady-state conditions—which we define as outside wartime—might affect adversary perceptions of U.S. operational unpredictability and the effectiveness of U.S. efforts to deter attacks on allies and partners (Figure 1.1). We also consider trade-offs associated with attempting to be more operationally unpredictable. In particular, we focus on ways that being more operationally unpredictable could undermine adversary perceptions of U.S. strategic predictability.

We do not consider the potential effects of operational unpredictability during conflict or consider the full range of trade-offs associated with attempting to be more operationally unpredictable (e.g., on relations with U.S. allies).² As concepts for operational unpredictability mature, understanding these effects will allow the United States to assess whether increasing operational unpredictability is, on net, beneficial for U.S. interests. It is important to remember that increasing U.S. operational unpredictability is only one of many options for enhancing deterrence. The United States could, for example, invest in more munitions or take other steps to improve its warfighting effectiveness that could help to deter U.S. adversaries without increasing U.S. operational unpredictability. Therefore, any decisions to invest in U.S. operational unpredictability have to be weighed against such alternatives.

Figure 1.1
Relationships Explored in This Report



² The NDS refers to operational unpredictability potentially helping the United States defeat adversaries. Given our focus on deterrence, we did not fully explore this topic. However, in this report we discuss ways that being operationally unpredictable in the steady state could reduce military effectiveness in wartime.

Report Organization

The term *operational unpredictability* has not yet been defined, and the logic connecting it to deterrence has not yet been developed, either by the U.S. government or in the broader literature. Therefore, we use a number of methods to specify the concept and assess whether U.S. operational unpredictability could help to deter Russia and China from attacking U.S. allies.

In Chapter Two, we develop key concepts and describe our methodology for generating potential approaches to increasing U.S. operational unpredictability and thereby deterring attacks on U.S. allies. In Chapters Three through Six, we develop four potential approaches: employing irregular deployment patterns, revealing and demonstrating capabilities that enable additional ways of fighting, bluffing about U.S. ability to fight in multiple ways, and repeatedly revealing covert capabilities. For each approach, we discuss the limited range of conditions under which it might apply and identify key trade-offs. We also ask whether each approach could help to deter China and Russia from attacking a U.S. ally. We show in these chapters that increasing U.S. operational unpredictability is not likely to be an easy or inexpensive way to enhance extended deterrence. Chapter Seven concludes with findings and recommendations.

In the appendixes, we discuss two examples from the Cold War era in which the United States sought to be operationally unpredictable, though it used different terms at the time. These are both examples of one of the proposed approaches: revealing and demonstrating capabilities that enable additional ways of fighting.

Key Concepts and Methodology for Generating Options for Enhancing U.S. Operational Unpredictability

This report asks how the United States could change its steady-state capabilities and activities (independent variable) to increase U.S. operational unpredictability (intervening variable) and, ultimately, help to deter adversaries from attacking U.S. allies (dependent variable). The U.S. Department of Defense (DoD) has not yet defined these concepts or explained the relationships it sees among them. Therefore, this chapter develops these key concepts and explains our methodology for developing approaches to enhancing U.S. operational unpredictability and the United States' ability to deter attacks on its allies and partners.

Steady-State Changes in U.S. Capabilities and Activities

DoD argues that a great deal of competitive behavior takes place outside wartime and therefore eschews the term *peacetime*. The department has been intensely focused on how U.S. military policies outside wartime, what we refer to as the steady state, could affect adversary perceptions.¹ It is in this context that the NDS discusses the concept of operational unpredictability. Therefore, the independent variable in this report is steady-state changes in U.S. military capabilities and activities.

Changes in U.S. capabilities result from combining existing forces and systems in new ways or increasing the amount of capacity. To develop new capabilities, the United States can make changes to one or more of the following categories: doctrine, organization, training, materiel, leadership, personnel, facilities, and policy (DOTMLPF-P). For example, under the framework of multidomain operations, the Air Force and Army are combining technical innovations with new tactics and training to develop the capability to suppress sophisticated enemy air defenses.²

U.S. steady-state activities include exercises, deployments, security cooperation, and posture changes. The United States can make changes to these activities by varying their characteristics, including size, timing, and which forces participate. For example, rather than having a major exercise every six months, the United States might have only two months between exercises, followed by an eight-month gap.

¹ See, for example, Joint Doctrine Note 1-19, *Competition Continuum*, June 3, 2019.

² For a discussion of multidomain operations generally, see TRADOC Pamphlet 525-3-1, *The U.S. Army in Multi-Domain Operations 2028*, Fort Eustis, Va.: U.S. Army Training and Doctrine Command, December 6, 2018, pp. i, vii.

In subsequent chapters, we discuss in more detail ways the United States could make steady-state changes to U.S. capabilities or activities and how those changes could increase U.S. operational unpredictability.

Operational Unpredictability

Increasing operational unpredictability entails making an adversary more uncertain about how the United States will fight in the event of conflict. This might include uncertainty regarding what forces the United States will use in a future conflict, what operational concepts the United States will employ, from where U.S. forces will operate, or the direction of a potential attack. Importantly, U.S. operational unpredictability is in the eye of the beholder; the United States may attempt to be operationally unpredictable, but the attempt will only succeed if adversary uncertainty about how the United States would fight increases. In order for the adversary to see the United States as operationally unpredictable, the adversary has to both believe that the United States has multiple options for future military operations and be uncertain about which of those options the United States would choose.

Our analysis focuses on the operational level of war. Operational planning is conducted by combatant and sub-unified commands and their components, as well as by joint task forces. Operational planning involves identifying the military objectives that will help to achieve the national end state, as well as one or more courses of action (COAs) for achieving each operational objective.³ Each COA is a unique combination of operational concepts, forces, systems, and other enablers that are employed to achieve an objective.⁴ We are not concerned with increasing adversary uncertainty about specific tactics or systems, but rather about the United States' key operational objectives or COAs for achieving them.

To illustrate the difference between strategic and operational unpredictability, consider a notional example in which China launches an amphibious invasion to seize and occupy Taiwan. The United States would be strategically unpredictable if China was unsure whether the United States would respond to such an attack by attempting to prevent an invasion, coercing China through a military blockade, or imposing economic sanctions rather than responding militarily. Operational unpredictability, on the other hand, is adversary uncertainty about how the United States would approach either of the two strategic responses that involve the use of military force. To deny a Chinese invasion of Taiwan, the United States might have an operational objective of stopping the flow of Chinese naval forces. The United States would

³ Joint Publication 5-0, *Joint Planning*, Washington, D.C.: Joint Chiefs of Staff, June 16, 2017, pp. IV-18–IV-30. U.S. Department of Defense, *DoD Dictionary of Military and Associated Terms*, Washington, D.C., July 2019, p. 163.

⁴ The term *concept of operations* can refer to a specific way of achieving an objective at any level of warfare. For example, during contingency planning, combatant commanders may begin by producing multiple alternative options for how to achieve the national objectives assigned to them by the President and the Secretary of Defense. Each of these COAs has an overarching COA that includes key operational tasks, forces required, and other details. The combatant commander's subordinates, component commanders, develop COAs for achieving their assigned objectives. When we discuss COAs in this report, we are discussing options for achieving these objectives, which are the key component pieces of an overarching contingency plan. For a discussion of COA development as part of the contingency planning process, see Joint Publication 5-0, 2017, pp. II-19, II-26. Developing multiple COAs is a mainstay of the Army's planning process. See Army Doctrine Publication 5-0, *The Operations Process* (Washington, D.C.: Department of the Army, July 2019), which lays out the Army's military decisionmaking process, and emphasizes the importance of multiple COAs.

be more operationally unpredictable if it increased Chinese uncertainty about how the United States would go about attacking China's invading naval forces.

U.S. adversaries cannot directly observe which COAs the United States is capable of executing or prefers. Rather, adversaries must try to predict how the United States will fight by observing U.S. activities, gaining intelligence on new acquisition programs, and reviewing sources of information such as U.S. doctrine and operational concepts.

As the adversary gathers information, uncertainty could creep into its assessments of likely U.S. actions because of lack of information, too much information, uncertainty about the accuracy of the information, or difficulty deciding how pieces of information fit together. Therefore, uncertainty could develop for reasons unrelated to intentional U.S. attempts to be operationally unpredictable.

Extended Deterrence

In this report, we ask whether greater U.S. operational unpredictability helps the United States deter attacks on its allies and partners—that is, whether greater U.S. operational unpredictability helps improve extended deterrence.⁵ We focus on deterring conventional attacks on an ally or partner, rather than adversary interventions short of war. For example, would increasing U.S. operational unpredictability make Russia less likely to launch a conventional attack to seize control of Latvia, Lithuania, or Estonia? When we ask whether U.S. operational unpredictability helps to deter U.S. adversaries in this report, we specifically mean whether it deters them from attacking a U.S. ally or partner.

The absolute strength of the U.S. extended deterrent in any situation depends on the U.S. adversary, ally, type of attack, and a range of other factors, such as geography. For example, the U.S. deterrent against a Russian attack on Germany is likely stronger than on Baltic allies, in part because Germany is easier to defend. Although the specifics are context-dependent, there are broad policies and strategies that the United States has historically used to deter attacks on its allies. In general, extended deterrence means convincing the adversary that the costs of attacking a U.S. ally or partner would outweigh the benefits.

Deconstructing how attackers make cost-benefit calculations about using force is therefore a helpful first step to identifying ways that U.S. operational unpredictability could help the United States deter attacks on its allies. Deterrence scholars often start from the assumption that attackers consider the costs and benefits of aggression relative to nonaggression.⁶ Since an attacker cannot be certain how other states will respond to aggression or how war will unfold,

⁵ Specifically, we focus on what Huth terms *extended general deterrence*, which refers to steps the United States takes to deter attacks on an ally prior to the onset of a crisis (Paul K. Huth, "Extended Deterrence and the Outbreak of War," *The American Political Science Review*, Vol. 82, No. 2, 1988, p. 424). For a discussion of the challenges of extended deterrence, see Thomas C. Schelling, *Arms and Influence*, New Haven, Conn.: Yale University Press, 1966.

⁶ Glenn H. Snyder, *Deterrence by Denial and Punishment*, Woodrow Wilson School of Public and International Affairs Center of International Studies Princeton University, Research Monograph No. 1, January 2, 1959, p. 3; John J. Mearsheimer, *Conventional Deterrence*, Ithaca, N.Y.: Cornell University Press, 1985, pp. 14, 28; Robert A. Pape, *Bombing to Win: Air Power and Coercion in War*, Ithaca, N.Y.: Cornell University Press, 1996, p. 16. A state may anticipate that the status quo will prevail if it does nothing. However, it may also have concerns about trends in the international system or about another state's behavior that lead it to assess that inaction will lead to outcomes worse than the status quo (Pape, 1996; Robert Jervis, "Rational Deterrence: Theory and Evidence," *World Politics*, Vol. 41, No. 2, 1989c, pp. 190–191; Mearsheimer, 1985, pp. 14, 28).

attackers also consider the likelihood that they will gain the benefits they seek or bear the costs they expect. How an adversary weighs costs, benefits, and probabilities depends on the adversary's tolerance for risk.⁷ Deterrence scholars have noted that there are other, nonrational factors that can cause adversary decisionmaking to deviate from a purely rational cost-benefit calculation.⁸ Still, this stylized cost-benefit model offers a starting point for understanding the key drivers of adversary decisions about the use of force.

There are many factors that drive adversary assessments of each term in this cost-benefit calculation (Table 2.1). U.S. extended deterrence policies seek to affect these inputs to adversary decisionmaking. For example, extended deterrence is stronger if the United States can reduce the benefits the adversary would gain from an attack. Reassuring an adversary about U.S. intentions may reduce an adversary's threat perceptions and therefore motivations to attack to seize strategically valuable territory.⁹

Similarly, a potential aggressor is likely to consider whether an attack on a U.S. ally or partner will succeed. U.S. forward presence and mutual defense commitments are aimed, in part, at convincing U.S. adversaries that the United States can and will repel an attack, a strategy known as deterrence by denial.¹⁰

Table 2.1
Factors That Influence a State's Decision About the Use of Force

Categories	Sample Factors That May Affect Adversary Calculations
Benefits of aggression relative to nonaggression	• Security gains • Resource gains • Domestic political gains
Likelihood of success	• Other countries' capability to deny the state's objectives • Other countries' will to deny the state's objectives
Costs of aggression relative to nonaggression	• Costs of preparing for and carrying out an attack • Other countries' capability to inflict casualties • Other countries' capability to impose military punishment • Economic or diplomatic punishment • Domestic political losses
Likelihood of aggression producing costs	• Other countries' will to sustain military operations • Other countries' resolve to punish

⁷ Richard Ned Lebow and Janice Gross Stein, "Rational Deterrence Theory: I Think, Therefore I Deter," *World Politics*, Vol. 41, No. 2, 1989.

⁸ We account for psychological, domestic political, and other forces in some of the examples in Table 2.1. For example, Lebow and Stein (1989) stress the importance of domestic variables. Here we incorporate it into a rational deterrence framework by listing "domestic political gains" as a possible benefit of aggression. See also Sharman (2007) on rationalist versus constructivist interpretations of reputation.

⁹ For a discussion of security motivations for expansion, see Charles L. Glaser, "Political Consequences of Military Strategy: Expanding and Refining the Spiral and Deterrence Models," *World Politics*, 1992; Charles L. Glaser, "The Security Dilemma Revisited," *World Politics*, 1997.

¹⁰ These tools can also be used for other strategies, such as deterrence by punishment. For example, U.S. commitments and a small forward presence may be used to signal a willingness to punish an adversary for attacking rather than denying an initial invasion (James D. Morrow, "Alliances: Why Write Them Down?" *Annual Review of Political Science*, Vol. 3, No. 1, 2000; Brett Ashley Leeds, "Do Alliances Deter Aggression? The Influence of Military Alliances on the Initiation of Militarized Interstate Disputes," *American Journal of Political Science*, Vol. 47, No. 3, 2003. For a discussion of deterrence by denial, see Snyder, 1959).

U.S. policy can also raise an aggressor's assessment of the costs of an attack, known as deterrence by punishment. The United States can increase an adversary's expected military losses, for example, by convincing the adversary that an attack will lead to a long war of attrition rather than a quick victory. The United States might do this by developing the logistics capability to sustain forces for a long time and the ability to move reinforcements to theater even under attack. Having the ability to impose economic and diplomatic sanctions and conduct other military operations, such as blockades, can also raise the costs of conflict. The United States has also expressed its willingness to use nuclear weapons in defense of an ally, extending its so-called nuclear umbrella over other states. Because conventional wars can escalate once they begin, a U.S. adversary has to consider the possibility that an attack on a U.S. ally could escalate to nuclear war, leading to huge military and civilian costs.¹¹

Many scholars contend that the possibility of nuclear escalation makes a conventional conflict between the United States and other nuclear powers, such as Russia and China, very unlikely.¹² In the strongest version of this position, the risk of direct conventional conflict between great powers is so low that the effects of other policies aimed at enhancing deterrence are marginal. For example, some scholars argue that policies aimed at enhancing deterrence by denial are unnecessary when both sides have nuclear weapons and a small conventional presence on the ground.¹³ Although there is variation in how strong these scholars believe the effects of nuclear weapons on conflict are between great powers, the effects are thought to dampen the risk of conflict to some degree.

Adversary power and intentions can change over time. Therefore, U.S. policymakers and analysts often reexamine which attacks an adversary might consider and whether the current constellation of policies are sufficient to deter these attacks. For example, as noted above, Russia's annexation of Crimea led to fears about attacks on NATO members along Russia's periphery.¹⁴ The United States and its NATO partners therefore sought to deter a Russian attack by, among other things, moving more forces into the Baltic states.

Increasing U.S. operational unpredictability is therefore an additional tool for the United States to consider within this broader context. The value of operational unpredictability as a tool to deter an adversary in individual circumstances (e.g., deterring a Chinese seizure of disputed islands in the East China Sea) depends, in part, on how strong deterrence already is, given the existing foundation of U.S. alliances, military power, posture, and nuclear guarantees. Moreover, the value of increasing U.S. operational unpredictability to deter U.S. adversaries depends on the trade-offs of doing so relative to alternative options for enhancing deterrence.

In the chapters that follow, we propose ways that U.S. operational unpredictability might affect the United States' ability to deter its adversaries, either by convincing an adversary that its costs of attacking a U.S. ally are higher or that its likelihood of success is lower.

¹¹ Snyder, 1959; Robert Jervis, *The Meaning of the Nuclear Revolution: Statecraft and the Prospect of Armageddon*, Ithaca, N.Y.: Cornell University Press, 1989b.

¹² See, for example, Jervis, 1989b, pp. 23–24; Barry R. Posen, *Restraint: A New Foundation for U.S. Grand Strategy*, Ithaca, N.Y.: Cornell University Press, 2014.

¹³ Jervis, 1989b, p. 45; Kenneth N. Waltz, "Nuclear Myths and Political Realities," *American Political Science Review*, Vol. 84, No. 3, September 1990, p. 739.

¹⁴ David A. Shlapak and Michael Johnson, *Reinforcing Deterrence on NATO's Eastern Flank: Wargaming the Defense of the Baltics*, Santa Monica, Calif.: RAND Corporation, RR-1253-A, 2016.

Generating and Evaluating Approaches to Enhancing U.S. Operational Unpredictability and Ability to Deter Attacks on U.S. Allies

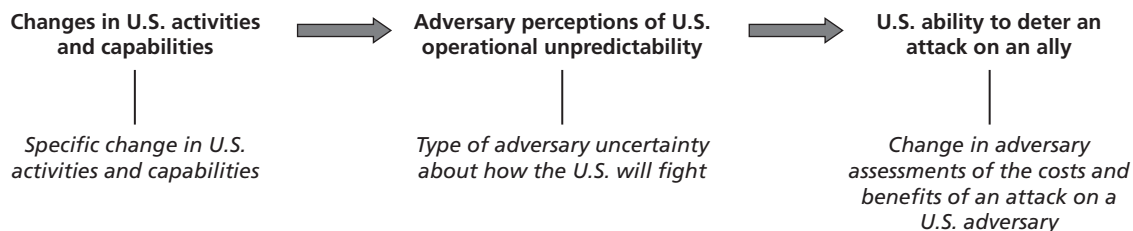
The next four chapters present approaches to increasing U.S. operational unpredictability and ability to deter attacks on U.S. allies. Each approach is a specific manifestation of the general logic shown in Figure 1.1 in Chapter One. In each chapter, we describe a specific way that the United States would change its steady-state capabilities and activities, the specific type of uncertainty about how the United States would fight that these changes might create, and a specific way that this uncertainty could affect an adversary's cost-benefit calculations about an attack on a U.S. ally (Figure 2.1). These approaches are derived from the literature on interstate signaling, perception, and deterrence. In assessing these approaches, we show that, logically, none of them is easy to implement or likely to work in all cases. Rather, a number of conditions would have to be in place for these approaches to be effective.

We also discuss the potential costs and risks of each approach. Given the exploratory nature of this report, we did not consider all possible costs and risks. Rather, we focused primarily on whether there were any ways in which each approach could unintentionally undermine U.S. extended deterrence or strategic predictability.

Finally, we evaluate how each approach could affect China's and Russia's perceptions and behaviors. Assessing how China and Russia will react to U.S. attempts to be operationally unpredictable is difficult, because their decisionmaking is opaque and affected by a number of geopolitical, domestic political, and other considerations. Still, in each chapter we offer an assessment based on the best available public information. We reviewed publicly available primary and secondary sources and consulted analysts that study the Russian and Chinese military, decisionmaking structures, and political and diplomatic institutions. Sources included official remarks and commentary by Chinese and Russian political and military leaders; official government documents, such as strategy documents and laws; articles published in Russian and Chinese academic journals; analyses, scholarship, and commentary by foreign analysts and scholars; and news reporting.

These sources present inherent challenges and limitations. Decisionmakers' rhetoric can sometimes provide insight into their states' genuine perceptions and motivations, but it can also be used as a tool to shape the perceptions of domestic and foreign audiences. Therefore, we assume that senior Russian and Chinese leaders' public remarks are a mix of legitimate concerns and positions and false or inflated anxieties. In an attempt to address this limitation,

Figure 2.1
Generic Approach to Increasing U.S. Operational Unpredictability and U.S. Ability to Deter an Adversary



we are cautious about drawing conclusions that Chinese or Russian analysts discount potential U.S. concepts, capabilities, or activities because of stated U.S. weaknesses. Instead, we use the frequency with which Chinese or Russian analysts write about a given issue, the level of detail in the analyses, and changes in policy or budgets that result from the change in U.S. activities or capabilities as indicators of how seriously these countries take a new U.S. concept, capability, or activity.¹⁵ A state's willingness to expend resources, particularly at times when its economy is weaker, as Russia's has been due to relatively low oil prices, can be a useful indicator of its genuine priorities and interests. Even where publicly available information is limited, the logic we outline as we assess how each approach could affect Russian and Chinese perceptions and behavior could help planners evaluate additional evidence that they may be able to access.

¹⁵ For a discussion of this approach in the context of Soviet military journals, see Steven M. Meyer, *Soviet Style Theater Assessments*, Cambridge, Mass.: Massachusetts Institute of Technology, September, 1989, p. 6.

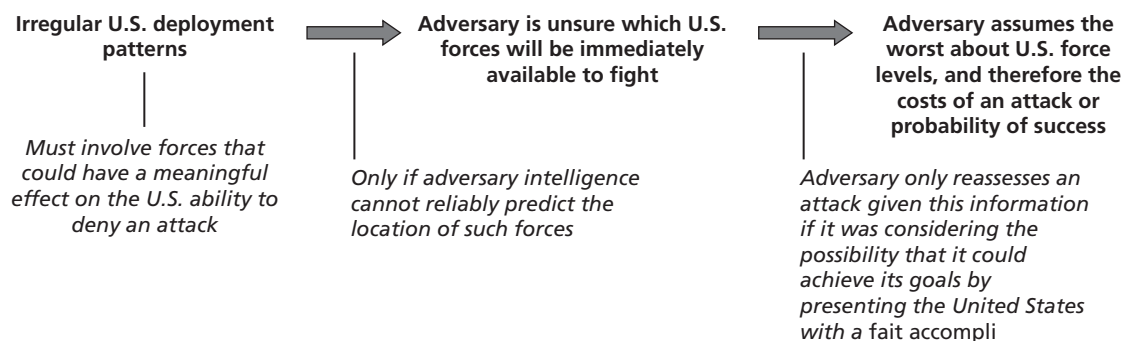
Approach 1: Create Irregular Deployment Patterns

One of the specific approaches policymakers have suggested for increasing U.S. operational unpredictability is to make U.S. deployment patterns less predictable. Then Secretary of Defense James Mattis used the Navy as an example, explaining, “When we send them out, it may be for a shorter deployment. There will be three carriers in the South China Sea today, and then, two weeks from now, there’s only one there, and two of them are in the Indian Ocean.”¹ Policymakers did not explain the logic of how such changes in deployments might help to deter U.S. adversaries from attacking U.S. allies. Therefore, this chapter develops a possible logic and asks whether irregular deployment patterns could help to deter Russia or China today.

We find that, in theory, irregular deployment patterns could make it difficult for adversaries to predict what U.S. forces would be available to respond to an attack at any given time. This uncertainty could cause an adversary to delay an attack, question its chances of success, or reassess its costs. As Figure 3.1 shows, we find that, logically, the relevance of this approach depends on whether U.S. deployment changes involve forces that could meaningfully affect the outcome of the conflict, the adversary’s ability to predict the location of U.S. forces, and the adversary’s military strategy.

In practice, we find that it may be difficult to apply this approach to Russia and China in the near term. Publicly available information suggests that these two states have significant global intelligence capabilities that could enable them to predict the availability of operationally relevant U.S. forces in advance of an attack. As a result, this approach may not effectively

Figure 3.1
Hypothesized Effects of Irregular Deployment Patterns



¹ David B. Larter, “Jim Mattis’ ‘Dynamic Force Employment’ Concept Just Got Real for the US Navy,” *Defense News*, July 16, 2018a.

increase U.S. operational unpredictability or help to deter U.S. adversaries. Our assessment rests on limited publicly available information about Russian and Chinese intelligence capabilities. If planners have greater access to information about these topics, they can apply the logic outlined in the sections that follow to make their own assessment about the utility of this approach.

Changes to U.S. Capabilities and Activities

To create irregular deployment patterns, the United States could vary the length of deployments, the amount of time between them, or deployment locations. In addition to changing the characteristics of the deployments themselves, the United States could enforce stricter operations security procedures surrounding the deployments. For example, the United States might give units less notice about future deployments, making it harder for adversary intelligence to collect information on U.S. plans.

For irregular deployment patterns to affect adversary decisionmaking, however, they would need to meet a key condition: Deployments would need to involve forces that could have operationally relevant effects on a future conflict. The operationally relevant size likely depends on the size of the adversary's own military forces. Weaker adversaries may be concerned about small changes in U.S. deployments; more powerful adversaries, by contrast, may not update their military assessments based on irregular deployment patterns involving a small number of U.S. forces. Which forces and deployment locations are operationally relevant depends on the types of attacks the United States aims to deter. To deter a Russian invasion of a NATO member, for example, changes in ground deployment patterns may be more relevant than naval deployment patterns. Conversely, China may be relatively more concerned about changes in air and naval deployments.

Potential Effects on U.S. Operational Unpredictability

Assuming that changes in U.S. deployment patterns are of sufficient size to plausibly affect adversary decisionmaking, the next question is whether these changes make the adversary more uncertain about how the United States would fight. In particular, the United States would be trying to increase the adversary's uncertainty about which forces will be in (or able to quickly reach) their region at any given time. If successful, the adversary would not know which or how many U.S. forces would be immediately available to respond to an attack.

Whether this is possible depends on adversary intelligence capabilities and timelines for committing to an attack. If the adversary has sufficient intelligence, it may be able to predict U.S. deployments in spite of U.S. efforts to obscure that information. For example, the adversary may believe it can mine the content of U.S. military member social media posts to figure out which units are likely to deploy and when. If the adversary is confident it can make such predictions before it has to commit to an attack, then the changes in U.S. deployments will not have increased U.S. operational unpredictability.

How This Approach Could Help to Deter Attacks on U.S. Allies

All things being equal, a U.S. adversary will prefer to time an attack on a U.S. ally for the moment when the fewest U.S. forces are available. If the adversary is uncertain about which U.S. forces will be in or could be rapidly deployed to the region, then the adversary would have a difficult time identifying the ideal timing for an attack. In the absence of clear information, the adversary may delay an attack while it tries to gain more information about U.S. deployment patterns. Alternatively, the adversary may assume the worst about the availability of U.S. forces. Planning for the highest plausible number of U.S. forces should lead the adversary to assess that the costs of preparing for conflict are higher or its chances of success are lower. In either case, the adversary would be less likely to attack and, therefore, U.S. extended deterrence would be stronger.

The extent to which this logic holds depends on what military strategy the adversary is willing to employ. An adversary may only be willing to attack if it can achieve its aims quickly at a relatively low cost. Such a strategy is more plausible if the adversary has limited aims, believes it can overwhelm local forces, and assesses that the United States would not counterattack in the face of a *fait accompli*. Introducing the possibility that a larger number of U.S. forces could unexpectedly arrive could potentially deter an adversary that will only fight under these conditions. However, another adversary may be willing to attack even if it has to fight a longer, wider conflict. An adversary considering the viability of an attrition strategy will be concerned about the forces that the United States can bring to bear over a longer period of time, not just those that are immediately available.² Therefore, uncertainty about the number of forces that are in or could quickly arrive in theater is unlikely to substantially change such an adversary's calculations about its prospects for success. This suggests that deterrence is only likely to be enhanced through this approach if the adversary's only acceptable military strategy to achieve a quick victory and to present the United States with is a *fait accompli*.

Costs and Risks

There may be a wide range of potential costs to irregular deployments, such as additional stress on military families. Here, we focus on those that undermine adversary perceptions of U.S. strategic predictability.

Irregular Deployment Patterns May Inadvertently Hinder Cooperation

Adversaries observe U.S. activities imperfectly and infer U.S. intent both from what the United States does and from the broader context in which U.S. actions occur. Frequent changes in the timing, location, and other characteristics of military activities run the risk of being misinterpreted by adversaries. In particular, adversaries may extrapolate a strategic signal that the United States did not intend. For example, in an effort to be operationally unpredictable, the United States may undertake a large deployment that coincidentally occurs in the wake of an adversary's cooperative gesture, such as the disabling of a missile test site. In this situation, the

² For more on military strategies and how alternative expectations about conflict affect deterrence, see Mearsheimer (1985).

adversary may perceive the deployment as a rebuke of the cooperative gesture, thereby reducing the likelihood that the adversary will undertake subsequent cooperative activities.

Deployments to Some Locations Could Threaten the Adversary

Changes in deployment locations may threaten the adversary if these changes bring U.S. forces into closer contact with adversary forces or to areas that could be used offensively to threaten core adversary interests.

When the United States conducts activities in a particular location, the United States improves its understanding of the geography and ability to operate in that area. Moreover, if the United States begins routinely operating in these areas, the adversary may worry that it will be difficult to detect U.S. operations that precede an attack from regular peacetime exercises or other activities.³ When the area in question could be used to launch an attack on the adversary's vital interests, the adversary may infer aggressive U.S. intent. The areas that are most sensitive depends on the adversary but may often be in areas closest to the adversary's homeland.

Even if the adversary does not see U.S. attempts to increase its operational unpredictability as a signal of current offensive U.S. intentions, operational unpredictability could increase adversary concerns about the risk of inadvertent escalation. If changes in U.S. activities bring U.S. forces into closer contact with the adversary's homeland or forces, there is a greater risk of accidents. An incident between the two countries' forces could lead to a cycle of military responses that make conflict more likely.⁴ In the extreme, if a state comes to believe that conflict is inevitable, it may have an incentive to achieve surprise or gain the initiative in what it sees as a spiraling conflict by launching a preemptive first strike.⁵

Could This Approach Help to Deter Russia from Attacking a U.S. Ally?

This section explores whether irregular deployment patterns could increase U.S. operational unpredictability and thereby help to deter Russia from attacking a U.S. ally. Above, we showed that three factors determine the effectiveness of this approach: the number and type of forces involved in irregular deployments that would be needed to affect Russian perceptions, Russian intelligence capabilities, and Russia's military strategy. To make our assessment, therefore, we consider each of these factors in turn.

Number and Type of U.S. Forces Involved in Irregular Deployments

Currently, the United States has a relatively fixed number of total forces based in Europe, including permanently stationed forces and forces being persistently rotated in theater.⁶ The

³ On the importance of geography to threat perceptions generally, see Stephen M. Walt, *The Origins of Alliances*, Ithaca, N.Y.: Cornell University Press, 1987.

⁴ Dale C. Copeland, *The Origins of Major War*, Ithaca, N.Y.: Cornell University Press, 2001, pp. 35–43.

⁵ Stephen Van Evera, *Causes of War: Structures of Power and the Roots of International Conflict*, Ithaca, N.Y.: Cornell University Press, 1999, pp. 35–44.

⁶ Funding for military personnel under the European Deterrence Initiative, formerly the European Reassurance Initiative, has remained relatively consistent starting with fiscal year 2017, the first fiscal year following the 2016 NATO decision to deploy four rotational battlegroups to Poland, Lithuania, Latvia, and Estonia. This funding is not representative of all U.S. active duty personnel deployed to the European theater, but offers some evidence related to the consistency of

United States could attempt to be more operationally unpredictable with the same number of forces by adjusting its rotational deployments to have periods in which the number of forces surges and others in which it falls below current levels. Alternatively, the United States could keep the current baseline but devote additional forces to create surges in the number of U.S. forces in the region. To be operationally relevant, the number of forces involved would have to be significant. For example, in one widely discussed scenario, the defense of U.S. Baltic allies, RAND analysts calculate that NATO would need six to eight brigades in or able to rapidly deploy to the Baltics to stop a Russian *fait accompli*.⁷ Currently, NATO's enhanced forward presence involves four battalions based in Estonia, Latvia, Lithuania, and Poland.⁸ This suggests that, to be operationally relevant to the defense of these countries in such a scenario, the United States would need to have irregular deployments involving multiple brigades. This would be a large and costly undertaking on the scale of the Defender exercise.⁹

The United States could also enhance its ability to rapidly deploy forces. Current analyses suggest long timelines for deploying substantial additional ground forces from the continental United States to Europe, and particularly Eastern Europe.¹⁰ Significantly higher readiness of relevant units or improved transit infrastructure in Europe may also increase Russian uncertainty regarding which units could be available at any point in time.

Russia's Intelligence on U.S. Deployments

Russia's ability to predict which U.S. forces will be available in a potential conflict depends, in part, on Russia's ability to track the location and movement of U.S. forces. A more detailed assessment of Russian intelligence capabilities and U.S. vulnerabilities would be needed to fully assess how quickly and reliably Russia can detect changes in U.S. deployments. However,

recent U.S. presence. For additional detail, see Office of the Under Secretary of Defense (Comptroller), *European Deterrence Initiative: Department of Defense Budget Fiscal Year (FY) 2019*, Washington, D.C.: U.S. Department of Defense, February 2018; Office of the Under Secretary of Defense (Comptroller), *European Reassurance Initiative: Department of Defense Budget Fiscal Year (FY) 2018*, Washington, D.C.: U.S. Department of Defense, May 2017; Office of the Under Secretary of Defense (Comptroller), *European Reassurance Initiative: Department of Defense Budget Fiscal Year (FY) 2017*, Washington, D.C.: U.S. Department of Defense, February 2016.

⁷ Shlapak and Johnson, 2016.

⁸ North Atlantic Treaty Organization, "Enhanced Forward Presence (EFP)," in *NATO.int*.

⁹ U.S. Army Europe Public Affairs Office, *DEFENDER-Europe 20 Builds USEUCOM Strategic Readiness in Support of the National Defense Strategy*, October 7, 2019.

¹⁰ There are multiple steps in the deployment process that can increase the amount of time for a large-scale deployment of U.S. troops. Recent studies have found that rapid, large-scale deployment to any theater from the continental United States will face significant hurdles along many steps of the force projection process, including (but not limited to) mobilization of reserves, home station throughput, and availability of strategic lift, such as sealift (Bradley Martin and Roland J. Yardley, *Approaches to Strategic Sealift Readiness*, Santa Monica, Calif.: RAND Corporation, 2019; Michael E. Linick, Igor Mikolic-Torreira, Katharina Ley Best, Alexander Stephenson, Jeremy M. Eckhauser, Isaac Baruffi, Christopher M. Carson, Eric J. Duckworth, and Melissa Bauman, *A Throughput-Based Analysis of Army Active Component/Reserve Component Mix for Major Contingency Surge Operations*, Santa Monica, Calif.: RAND Corporation, RR-1516-OSD, 2019; Ellen M. Pint, *Army Installation Rail Operations: Implications of Increased Outsourcing*, Santa Monica, Calif.: RAND Corporation, 2017). For a discussion of logistical challenges the U.S. faces in deploying troops to Europe specifically, see David B. Larter, "The US Army Is Preparing to Fight in Europe, but Can It Even Get There?" *Defense News*, October 8, 2018b. For a discussion of recent U.S. efforts to test strategies for shorter deployment timelines of troops to Europe as part of DoD's Dynamic Force Employment Strategy, see Ryan Pickrell, "The US Military Is Dusting Off This Cold War Tactic in Hopes of Catching Russia Off Guard," *Business Insider*, March 29, 2019; David Rising, "US Testing New Rapid-Deployment Strategy in Europe," Associated Press, March 21, 2019.

in general terms, open-source information suggests that Russia has significant space-based military, civil, and commercial intelligence, surveillance, and reconnaissance (ISR) systems.¹¹ Moreover, Russia has substantial cyber capabilities that could potentially be used to collect intelligence on deployment plans and movements of U.S. forces.¹² The limited available information on Russian intelligence capabilities suggests Russia would likely detect movements by operationally relevant forces (e.g., large numbers of U.S. ground forces).

That said, there are steps that the United States could take to delay Russian detection of U.S. deployments. Greater operations security, for example, could reduce the lead time that Russian intelligence has in identifying the planned or in-progress deployment of particular units.¹³ Steps such as these may enhance U.S. operational unpredictability to some extent.

Russia's Military Strategy

Assuming irregular deployment patterns or rapid deployment capability improvements succeed in increasing U.S. operational unpredictability, how might it affect the United States' ability to deter Russia? As noted above, it depends on whether Russia is considering the possibility that it can achieve its aims through a quick victory. Here, we consider the implications for deterring a Russian attack on U.S. allies in the Baltics specifically, but the same logic could be applied to other cases.

Recent analysis has questioned whether Russia sees benefits in a conventional attack on a NATO member. For example, some analysts have noted that Russia no longer considers the Baltic states "as within its direct sphere of influence."¹⁴ Moreover, there is reason to suspect that existing policies are already sufficient to deter a Russian attack if Russia were to contemplate one. Although Russia has used subversion in some NATO countries, there is no evidence it would risk a war with the United States by launching an overt conventional attack on a NATO member.¹⁵ In fact, Russia's opposition to NATO membership for states on its periphery may indicate that it sees NATO commitments as strong.

Still, analysis has shown that Russia is likely capable of quickly overrunning the Baltic countries if it wanted to.¹⁶ The United States may want to have the ability to deter a Russian attack in case Russian motivations change in the future. For example, if NATO deployed

¹¹ Defense Intelligence Agency, *Challenges to Security in Space*, Washington, D.C., January, 2019, p. 27.

¹² Russia's Main Intelligence Directorate (at the time known by, and now still commonly referred to by, the acronym GRU, but now formally known as the GU) has been implicated in cyber-based intelligence collection far beyond Russia's borders. For example, the United States has accused the GRU of conducting spear phishing operations to collect information to enable its 2016 U.S. presidential election interference efforts ("United States of America v. Borisovich Netyksho, et al.," United States District Court for the District of Columbia, filed July 13, 2018).

¹³ In August 2018, the U.S. DoD issued a new policy which prohibits deploying service members from enabling geolocation features on personal devices such as smartphones or fitness trackers while in "locations designated as operational areas," in an effort to address operations security risks; Jim Garamone, "New Policy Prohibits GPS Tracking in Deployed Settings," U.S. Department of Defense, August 6, 2018. For the original policy memorandum, see Patrick M. Shanahan, "Use of Geo-Location Capable Devices, Applications, and Services," August 3, 2018.

¹⁴ Andrew Radin and Clint Reach, *Russian Views of the International Order*, Santa Monica, Calif.: RAND Corporation, RR-1826-OSD, 2017, p. 10; Bryan Frederick, Matthew Povlock, Stephen Watts, Miranda Priebe, and Edward Geist, *Assessing Russian Reactions to U.S. and NATO Posture Enhancements*, Santa Monica, Calif.: RAND Corporation, RR-1879-AF, 2017, p. 49.

¹⁵ Agnia Grigas, *Beyond Crimea: The New Russian Empire*, New Haven, Conn.: Yale University Press, 2016, p. 148.

¹⁶ Shlapak and Johnson, 2016.

weapon systems in the Baltics or nearby states that could allow the United States or NATO to execute a surprise decapitating strike on Russia, Russia may see greater benefits of an attack.¹⁷ Given the possibility that Russian intentions could change, does Russia believe it could achieve a quick victory with a conventional attack on a NATO member? We have not found any publicly available evidence that suggests that Russia believes this is a viable strategy. That said, we cannot exclude the possibility. In this case, the lack of information on Russia's military strategy is not critical for assessing the utility of Approach 1 for increasing U.S. operational unpredictability. As noted above, Russia's intelligence capabilities and the size of U.S. forces that would be required likely make Approach 1 untenable anyway.

Costs and Risks

As noted above, this approach could create costs and risks that apply generally to any U.S. adversary. For Russia specifically, there are some deployment locations that may be particularly sensitive. We expect that deployments of air and ground forces closer to Russia's borders, and particularly those that take place in Russia's "near abroad"—former-Soviet countries (excluding the NATO-member Baltic states)—are more likely to be threatening to Russia than in other parts of the globe.¹⁸ Within NATO countries, large increases in the number of U.S. forces closer to Russia, such as in the Baltic states or Poland, may also be more threatening than other changes to U.S. deployment locations.

Summary of Likely Effects on Russia's Perceptions and Behavior

The United States has a number of options, such as improved operations security to increase Russian uncertainty about the disposition of U.S. forces to some extent. Lack of information on Russian intelligence capabilities and decision timelines makes it difficult to assess with confidence how significantly these steps could affect Russian perceptions and behavior. But the best available public information suggests two reasons to question whether the United States can use irregular deployment patterns to significantly affect adversary calculations. First, substantial Russian intelligence capabilities, the difficulty of masking the movements of large numbers of ground forces, and long deployment timelines suggest that it would be difficult to prevent Russia from predicting the availability of U.S. forces in any given scenario. Second, there is no evidence that Russia believes it can win a quick victory through a conventional attack on a NATO country, so Russian decisions about the use of force in these scenarios would not be driven primarily by the immediate availability of U.S. forces. Planners with access to more information on Russia's intelligence capabilities or military strategy could apply the logic above to make their own assessments of the viability of this approach.

As noted above, irregular deployment patterns could also create additional costs, such as creating confusing signals about U.S. willingness to cooperate with Russia or triggering Russian threat perceptions. Irregular deployments that increase the number of U.S. forces near Russia and particularly in Russia's near abroad could threaten Russia and increase trade-offs associated with Approach 1.

¹⁷ Russian officials have publicly voiced concerns over the prospect of a U.S. deployment of intermediate-range missiles in the Baltics; "Russia to Do Everything to Prevent Deployment of US Missiles to Baltic States," *TASS*, February 2, 2019.

¹⁸ The term *near abroad* is often used to refer to Russia's perceived sphere of influence, which as Radin and Reach note is often characterized by Russian analysts as the former Soviet Union, not including the Baltic states. See Radin and Reach (2017).

Could This Approach Help to Deter China from Attacking a U.S. Ally or Partner?

In this section, we consider how irregular U.S. deployment patterns could affect China's perceptions and behavior. As examples, the United States might wish to deter a Chinese invasion of Taiwan or seizure of disputed islands claimed by Japan. If China were contemplating such an attack, it would likely consider the possibility of a U.S. response. Following the logic outlined above, U.S. irregular deployments would have to involve substantial numbers of high-end U.S. air and naval forces to be operationally relevant against a militarily capable China. To assess whether such changes would affect U.S. operational unpredictability and deterrence, we look at China's intelligence on U.S. deployments, as well as at China's military strategy.

China's Intelligence on U.S. Deployments

Publicly available sources suggest that China has sophisticated technical and human intelligence collection capabilities. Moreover, Chinese collection of intelligence on the United States and the U.S. military appears to be a major priority. Although we do not have detailed information on China's ability to collect intelligence on U.S. deployments specifically, what is publicly known about its intelligence capabilities generally suggests that China would be able to predict the availability of operationally relevant U.S. forces.

According to the U.S.-China Economic and Security Review Commission, Chinese cyber espionage and human infiltration of U.S. national security organizations are among the most serious threats.¹⁹ China uses its cyber capabilities to intrude into U.S. government networks to exfiltrate sensitive information, including from defense industries. The People's Liberation Army (PLA) cyber force is targeting information that could help "build an operational picture of U.S. defense networks, military disposition, logistics, and related military capabilities that could be exploited prior to or during a crisis."²⁰ China has intruded into the networks of U.S. defense contractors to steal military data and technology to assist in and accelerate its own defense modernization. China, for example, has stolen data on F-22 aircraft, F-35 aircraft, and a new U.S. supersonic anti-ship missile.²¹ In addition to collecting information directly from the United States, China gathers information from U.S. allies and partners. The reliance of U.S. allies and partners in Europe and Latin America on Chinese-supplied telecommunications networks is a key vulnerability and could facilitate Chinese intelligence collection.²²

The PLA also operates "an extensive and increasingly sophisticated range of ground-, sea-, air-, and space-based assets."²³ The PLA improved its ability to collect and integrate intelligence on the U.S. military with the inauguration of the PLA Strategic Support Force (PLASSF)

¹⁹ U.S.-China Economic and Security Review Commission, *Report to Congress*, Washington, D.C.: Government Publishing Office, 2018, p. 183.

²⁰ Office of the Secretary of Defense, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2019*, Washington, D.C.: U.S. Department of Defense, 2019, p. 65.

²¹ Ryan Pickrell, "Chinese Hackers Are Reportedly Stealing Loads of US Navy Secrets, and the Navy Is Scrambling to Stop it," *Business Insider*, 2018.

²² U.S.-China Economic and Security Review Commission, 2018, p. 467.

²³ U.S.-China Economic and Security Review Commission, *Report to Congress*, Washington, D.C.: Government Publishing Office, 2016, p. 293.

How does China interpret the NDS conception of strategic predictability and operational unpredictability?

There is limited literature on how China interprets the U.S. NDS's call for the United States to "be strategically predictable, but operationally unpredictable."^a Chinese articles have translated the concept literally (战略上可预测, 行动上不可预测) and did not translate the term as operational "surprise" (行动上出其不意). Most articles have not offered much explanation of the term aside from linking it to the U.S. concept of Dynamic Force Employment (DFE).

Select articles provide some elaboration. One article, for example, offers that it means "the Pentagon or White House will assess security trends from a larger global perspective and it will be difficult to predict when, where, and in what format specific confrontations will arise."^b Another Chinese analyst writes that strategic predictability and operational unpredictability are intended to provide U.S. decisionmakers with better military options, forcing adversaries to fight under unfavorable conditions, ultimately leading to the defeat of adversary operations. The same analyst elaborates that unpredictability is one of three main elements of the U.S. concept of DFE and that it involves "using flexible force deployment to allow competitors to be completely unprepared and to doubt the strategic intentions of [U.S.] deployments to ultimately give up their strategic or operational plan."^c Thus far, China experts have most explicitly linked DFE to U.S. Navy operations, particularly the desire for shorter and more unpredictable U.S. aircraft carrier deployments.^d

Chinese media has carried some discussion of the limitations of their understanding of DFE. Chinese media translated a 2018 U.S. article that points out hurdles DFE needs to overcome for implementation. For example, U.S. combatant commanders might object to force reductions in their area of operation. DFE may signal less U.S. commitment and strain relationships with allies and partners.^e One expert adds that DFE is likely to rely on small but highly skilled units. While the sudden appearance of these units may be a threat to weaker countries, it is unlikely to threaten more militarily capable countries, and the capabilities these small units can bring will be limited.^f Similarly, some have suggested that U.S. attempts to make its aircraft carriers operationally unpredictable only work against countries that do not have longer-range detection capabilities; China can still largely predict which routes U.S. aircraft carriers might take.^g

^a Jim Mattis, *Summary of the 2018 National Defense Strategy of the United States of America*, Washington, D.C.: U.S. Department of Defense, 2018a, p. 5.

^b This article also cites a U.S. source to posit that one way this concept could be put into practice is to no longer maintain U.S. troops at the front line, but pull back troops to the United States and, after fully assessing what the adversary intends to do, then deployment troops forward. See Wang Quan, "U.S. Navy Updates Principles for Use of Military [美海军刷新用兵原则]," China Military website, January 14, 2019.

^c According to the article, the other two elements of DFE are agility (or the ability to rapidly and flexibly apply forces), and proactive deployments (which means that U.S. deployments are based on evaluation and experimentation and not just reactive responses). See Hu Xiaodao, "U.S. Restarting 'Dynamic Force Employment' Strategy to Counter RUSSIA [美重启“动态部署”战略制衡俄罗斯]," April 8, 2019.

^d Sohu News, "U.S. Carrier Strike Group in Rarely Seen Operation in the Atlantic Ocean, Potentially Seeking to Contest Russian Navy [美航母打击群罕见驶入大西洋, 或意图与俄罗斯海军较量]," October 1, 2018.

^e Sina News, "Will the U.S. Military Implement 'Dynamic Force Employment' and Change Its Way of War? [美军是否会实行“动态作战”, 转变作战方式?]," 2018b.; the original U.S. article can be found here: Tyson Wetzel, "Dynamic Force Employment: A Vital Tool in Winning Strategic Global Competitions," *RealClearDefense*, Vol. 2019, October 1, 2018.

^f Hu Xiaodao, 2019.

^g Creaders.net, "U.S. Aircraft Carrier 'Unpredictable' Deployment Might Be Useful against Russia, but not China [" 军航母"神出鬼没"部署对俄或许有用 但对中国无效]," 2018.

in 2015.²⁴ It consolidates the PLA's technical intelligence collection (signals and electronic) across different departments and units into one organization that reports directly to the Central Military Commission.²⁵ This change could enable the PLASSF to "gain the comprehensive perspective necessary to identify gaps in collection, assess emerging needs, and tailor operations and acquisitions to address shortfalls and new challenges."²⁶ At the same time, the PLASSF's national space-based surveillance capability can build on existing theater-based or theater-subordinate collection capabilities.²⁷

China's military intelligence capability has also improved as the PLA has increased its capabilities and the range of its activities. China has the most robust collection capabilities in its immediate neighborhood, and this capability is expanding with growing PLA reach. Longer-range PLA Navy deployments, including its submarine deployments to the Indian Ocean since 2013, have afforded the PLA opportunity to collect information on U.S. and partner capabilities in the Indian Ocean and elsewhere.²⁸ Since 2015, the trend of PLA Air Force (PLAAF) long-distance overwater training and flights has enabled the PLAAF to collect intelligence on its neighbors and the militaries operating in the East China Sea and South China Sea.²⁹ China has also not been shy about directly sending intelligence collection assets close to ongoing U.S. activities or exercises to gather information on U.S. operations and capabilities.³⁰

Overall, these publicly known capabilities suggest that China would likely be able to predict operationally relevant changes in U.S. deployments in advance of deciding to initiate an attack. Therefore, irregular deployment patterns may not increase U.S. operational unpredictability.

China's Military Strategy

China may anticipate that it could achieve a quick victory if it wanted to seize a maritime feature in the South China Sea disputed by one of China's weaker Southeast Asian neighbors.³¹ For example, a PLA maritime militia vessel could use military force against a Southeast Asian coast guard vessel before the United States could intervene. Washington has not clearly stated whether the U.S.-Philippine defense treaty covers such incidents, so Beijing may believe that

²⁴ Kevin L. Pollpeter, Michael S. Chase, and Eric Heginbotham, *The Creation of the PLA Strategic Support Force and Its Implications for Chinese Military Space Operations*, Santa Monica, Calif.: RAND Corporation, RR-2058-AF, 2017.

²⁵ The PLASSF now controls the national-level technical collection assets, including "space-based electro-optical imagery intelligence, synthetic aperture radar, electronic intelligence platforms from across the GSD [General Staff Department] and GAD [General Armament Department], electronic support capabilities from the former Fourth Department, and strategic, long-range ground-based collection systems from the former Third Department" (John Costello and Joe McReynolds, *China's Strategic Support Force: A Force for the New Era*, Washington, D.C.: National Defense University, October, 2018, p. 37; Peter Mattis, "China Reorients Strategic Military Intelligence," *Jane's*, 2017).

²⁶ Costello and McReynolds, 2018, p. 37.

²⁷ Costello and McReynolds, 2018, pp. 37–38.

²⁸ U.S.-China Economic and Security Review Commission, 2016, p. 177.

²⁹ U.S.-China Economic and Security Review Commission, 2016, p. 172.

³⁰ For example, China sent an intelligence collection ship to monitor the 2018 U.S. Rim of the Pacific Exercise. See U.S.-China Economic and Security Review Commission, 2016, p. 171.

³¹ For example, see Lan D. Ngo, "South China Sea: Detering a Fait Accompli," *The National Interest*, May 12, 2019.

Washington may accept a *fait accompli* in one of these disputes.³² Irregular U.S. deployments may affect the timing of such an attack, but not China's willingness to launch it since Chinese intelligence would likely be aware of U.S. forces in or near the theater.

In other cases, such as a Chinese attack on Taiwan or against features that Japan claims in the East China Sea, China would face greater local resistance and a higher likelihood of a U.S. response. In these cases, China would need to worry about the forces that the United States could bring to bear over a longer period, not just those that would be immediately available. Therefore, this approach is least likely to be relevant in scenarios involving Taiwan or Japan.

Costs and Risks

As detailed in Chapter Four, Chinese leaders have identified maintaining control over and unity with Taiwan, Tibet, and Xinjiang as core interests. Therefore, China is likely to view U.S. military operations in the vicinity of and related to Taiwan, Tibet, and Xinjiang as most sensitive. U.S. deployments in or near the South China Sea or East China Sea, including freedom of navigation operations (FONOPs), exercises in the region, and efforts to bolster regional allied and partner capabilities, may be seen as challenging China's control of its maritime claims but would not likely threaten China as much as the activities described above.

Summary of Likely Effects on China's Perceptions and Behavior

Given China's intelligence capabilities and the large number of forces that would be required to be operationally relevant, irregular deployment patterns are unlikely to significantly increase Chinese perceptions of U.S. operational unpredictability. Changes in U.S. deployments that bring U.S. forces near disputed territory or what China considers to be separatist regions (e.g., Taiwan) could increase China's perception of U.S. offensive intent.

Conclusion

The United States could attempt to make the location of U.S. forces in peacetime less predictable. This could make it difficult for Russia or China to find an ideal time to launch an attack far in advance and increase the demands on intelligence organizations. However, each country's significant intelligence capabilities mean that, in the shorter term, each state would likely have confidence that it has a reliable understanding of the distribution of U.S. forces prior to launching an attack.

Irregular deployments could also come at a cost to the United States. Deployments might create additional stresses on the U.S. military and military families. Irregular deployments could also be misinterpreted by U.S. allies.

³² During the 2012 standoff between China and the Philippines at Scarborough Shoal, Chinese fishermen had occupied the Philippine-claimed shoal, and Manila sent its navy to dispel the Chinese intruders. China responded by sending armed naval assets, leading to a standoff. As tensions escalated on both sides, the United States provided diplomatic assistance to help both sides de-escalate. The United States neither clarified that the U.S.-Philippines defense treaty covered the South China Sea nor offered to intervene militarily. While the Philippines stepped back, China kept its ships at the shoal and began exercising de facto control. See Michael Green, Kathleen Hicks, Zack Cooper, John Schaus, and Jake Douglas, "Counter-Coercion Series: Scarborough Shoal Standoff," Asia Maritime Transparency Initiative, Center for Strategic and International Studies, May 22, 2017.

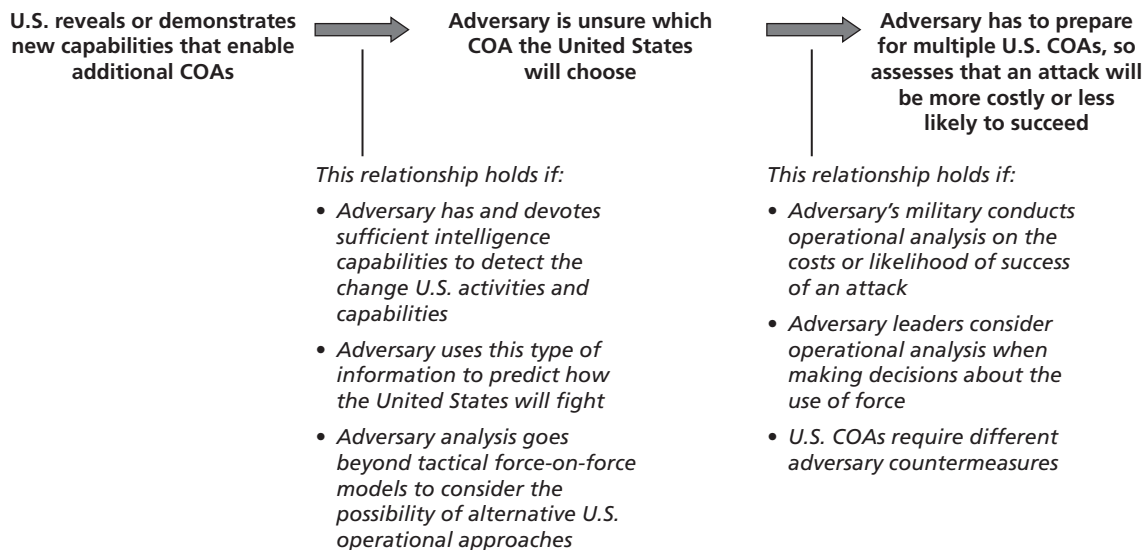
In the future, dramatic improvements in U.S. mobility could potentially affect adversary decisionmaking in ways outlined in this chapter. Investments in capabilities that allow the United States to move forces more quickly with little notice may make it harder for adversaries to predict whether or when U.S. forces will be able to arrive quickly in a given region.

Approach 2: Reveal or Demonstrate New Capabilities

Another approach to increasing U.S. operational unpredictability would be to reveal or demonstrate new capabilities. Unlike the previous approach that aims to obscure information about deployments, this approach seeks to publicize information about U.S. capabilities. The idea is that the United States would develop new capabilities that give it more options for how to fight and then reveal and demonstrate them to convince the adversary that the United States has multiple, credible options. If the United States succeeds in this, the adversary would have to devote more resources to overcome the full range of U.S. options or consider the possibility that an attack will be unsuccessful. In either case, the adversary would be less likely to attack a U.S. ally.

Figure 4.1 summarizes the logic of this approach and several conditions that would have to be in place for it to work. In particular, this approach depends on how the adversary gathers intelligence and makes military assessments. As noted in the previous chapter, public information on China's and Russia's intelligence and decisionmaking processes is limited, which makes it difficult to assess the potential effectiveness of this approach. The best available information suggests that, for both countries, enhancing U.S. operational unpredictability and enhancing deterrence through this approach may be possible but would be difficult and costly.

Figure 4.1
Hypothesized Effects of Revealing and Demonstrating New Capabilities



Changes to U.S. Capabilities and Activities

To take this approach to enhancing U.S. operational unpredictability, the United States would develop new capabilities or combine existing capabilities in new ways to enable additional operational COAs in conflicts with Russia or China. In doing so, the United States may need to develop multiple new capabilities. For example, the United States has conducted exercises on emerging Air Force operational concepts for operating from a large number of distributed air bases. These exercises have demonstrated many capabilities such as the ability to arm and refuel quickly at austere bases.¹ However, COAs that involve distributed operations are not viable if the United States will not have political access to a larger number of allied bases in wartime. Relatedly, the Army has demonstrated the capability to use ground-based fires against maritime targets. In wartime, the Army would also need access in the right geographic area to employ these ground fires in a contingency. To enable COAs involving either of these capabilities, the United States would need to foster political relationships that could plausibly lead to the needed access in wartime.

The second step would be to reveal these capabilities and explain how they enable new COAs. The United States could reveal this information through public announcements or by allowing adversary intelligence to detect the changes. Just having the ability to execute a wider range of COAs will not increase an adversary's perception of U.S. operational unpredictability. The adversary needs to be aware of the relevant U.S. capabilities and how they enable the United States to fight in new ways.

The third step would be to demonstrate the relevant capabilities, especially combinations that begin to approximate COAs that the United States would employ in wartime. To be credible, the adversary must believe that the United States can carry out a new way of fighting under combat conditions and at scale. The United States can demonstrate capabilities through steady-state activities such as exercises, force posture, deployments, and security cooperation activities. In this approach, U.S. actions should not be unpredictable or hidden. In fact, this approach relies on clearly and repeatedly demonstrating U.S. capabilities and a willingness to use them to make multiple U.S. options credible to the adversary. It is only information about which COA the United States prefers to employ in wartime that the United States would need to obscure.

Finally, the United States could make investments that allow it to wait longer before committing to a COA as war approaches. U.S. peacetime posture, capacity, the flexibility of U.S. forces, and decision timelines can all affect how much time and what preparations are required prior to executing different COAs. In the midst of a crisis, the adversary may be able to start ruling out COAs based on which preparations the United States has underway and how long it would take to complete preparations for alternative U.S. COAs. U.S. COAs that would take longer to prepare may not seem viable, reducing adversary perceptions of U.S. operational unpredictability.² If the United States can reduce the amount of time before the onset of conflict when it has to commit to a particular COA, then it may be able to appear operationally unpredictable for a longer period.

¹ See, for example, Westin Warburton, "Service Members Exercise New Operational Concepts During ARCTIC ACE," Kadena Air Base, August 9, 2017.

² The relevance of this will in part depend on the adversary's operational time frame for making decisions. If it needs to decide on its choice of a COA prior to the U.S. choice, operational unpredictability will be preserved.

Potential Effects on U.S. Operational Unpredictability

Just because the United States reveals or demonstrates multiple ways of fighting, the adversary will not necessarily see the United States as operationally unpredictable. In this section, we discuss several factors that help determine the viability of this approach.

Adversary Ability to Detect Changes in U.S. Capabilities and Activities

Even if the United States intends for the adversary to observe changes in U.S. capabilities, there are a few reasons why an adversary may not detect them. First, an adversary may not monitor the kinds of information needed to detect the change. Second, the United States might reveal or demonstrate a capability in a way or at a time when adversary detection capabilities are limited or insufficient. Third, the adversary might detect the activity or capability but not recognize that it constitutes a notable change from the past. Therefore, planners would need to consider which changes in U.S. activities and capabilities U.S. adversaries monitor and what their intelligence capabilities can detect. Publicizing changes, as previously noted, is a way to increase the possibility of detection, but adversaries still would need to have the ability to observe demonstrations of new capabilities.

Adversary Sources and Methods for Predicting How the United States Would Fight

The next question a planner would need to ask is whether these changes are likely to affect adversary predictions about how the United States will fight.³ U.S. adversaries may not rely on the same sources of information or analyze the information in the same way. Ideally, U.S. planners would have detailed information about how Russia and China make predictions about U.S. COAs. This is, however, difficult because U.S. adversaries try to obscure their intelligence and military planning sources and methods. Moreover, the adversary's analysts and leaders have biases and employ cognitive shortcuts that affect what information they accept and how they interpret it. Even detailed assessments of individual leaders may not identify all of the psychological and cognitive factors that affect their thinking. Together, these impediments suggest that it is impossible to know with certainty whether a particular set of capability or activity changes will increase U.S. operational unpredictability. Still, understanding the sources and methods an adversary uses to predict how the United States will fight may help planners employ and assess the overall likelihood of success of this approach.

What Information on U.S. Capabilities the Adversary Finds Credible

Adversaries may differ in the weight they place on information about U.S. capabilities (Table 4.1). Some U.S. adversaries may worry about the possibility that the United States will exaggerate its capabilities in order to gain leverage in negotiations.⁴ A state concerned about U.S. bluffing may not update its assessments based on U.S. announcements or small-scale capability dem-

³ For discussions of the quantitative and qualitative factors that affect capability assessments, see Barry R. Posen, "Measuring the European Conventional Balance: Coping with Complexity in Threat Assessment," *International Security*, Vol. 9, No. 3, Winter 1984/1985; Mearsheimer, 1985, pp. 26–27, 65; Daryl G. Press, "Lessons from Ground Combat in the Gulf: The Impact of Training and Technology," *International Security*, Vol. 22, No. 2, Fall 1997.

⁴ The literature on interstate signaling theorizes that states have incentives to bluff in this way; James D. Fearon, "Signaling Foreign Policy Interests: Tying Hands Versus Sinking Costs," *Journal of Conflict Resolution*, Vol. 41, No. 1, February 1, 1997; James D. Fearon, "Rationalist Explanations for War," *International Organization*, Vol. 49, No. 3, 1995; Robert Powell, "War as a Commitment Problem," *International Organization*, Vol. 60, No. 1, 2006.

Table 4.1
U.S. Activities That May Affect Adversary Assessments of U.S. Capabilities

U.S. Steady-State Activity	Adversary Worries More About U.S. Bluffing	Adversary Worries More About Being Caught Unprepared for Conflict
U.S. use of a capability in a conflict with a third party	✓	✓
Demonstration of U.S. capability in a large-scale, realistic exercise or deployment	✓	✓
Single, small-scale exercise or change in U.S. posture or deployment patterns	X	✓
Announcement of a new U.S. system	X	✓
Information gained through intelligence channels the adversary does not believe the United States is aware of or can manipulate	✓	✓

NOTE: A check mark indicates that this activity is more likely to affect adversary assessments. An X indicates that this activity, on its own, is unlikely to have a significant effect on adversary assessments.

onstrations. Instead, the adversary would look for stronger evidence, such as large-scale, realistic, and repeated exercises or significant changes to U.S. posture, before accepting that the United States has developed new capabilities that can be employed under combat conditions. Information about U.S. capabilities obtained by observing past U.S. combat operations may be seen as particularly credible, since it can reveal both the strengths and weaknesses of U.S. capabilities under combat conditions and show a range of ways that forces and systems have been combined to meet U.S. objectives.⁵ An adversary may also see information on U.S. forces or systems as more credible if discovered or confirmed through intelligence sources that it believes the United States is unaware of or unable to manipulate.⁶

However, other states may believe that the United States has a tendency to conceal, rather than exaggerate, its capabilities. The United States could, for example, hide capabilities to prevent the adversary from developing effective countermeasures.⁷ An adversary may also worry that the United States has offensive intentions and therefore incentives to hide capabilities to lull its adversary into a false sense of security. Together, these possibilities suggest that an adversary with elevated threat perceptions may worry more about underestimating than about overestimating U.S. capabilities.⁸

⁵ This information may not always be directly applicable, since wartime COAs depend on the specific geography, U.S. goals, and other factors. For a general argument that combat reveals the actual extent of military capabilities, see Geoffrey Blainey, *The Causes of War*, New York: Free Press, 1973.

⁶ Robert Jervis, *The Logic of Images in International Relations*, New York: Columbia University Press, 1989a.

⁷ Brendan Rittenhouse Green and Austin Long, "Conceal or Reveal? Managing Clandestine Military Capabilities in Peacetime Competition," *International Security*, Vol. 44, No. 3, Winter 2019/2020.

⁸ Miranda Priebe, *Fear and Frustration: Rising State Perceptions of Threats and Opportunities*, Cambridge, Mass.: Massachusetts Institute of Technology, 2015. Heightened threat perceptions could also affect how an adversary interprets new information. If the adversary has a strong preexisting belief that the United States is highly capable, then the adversary may be more likely to accept confirmatory evidence. On the general human tendency to focus on information that fits preexisting beliefs, see Robert Jervis, *Perception and Misperception in International Politics*, Princeton, N.J.: Princeton University Press, 1976.

In reality, most states will likely be affected by a mix of these considerations. There may also be other factors, such as culture and bureaucratic processes, that affect the type of information that a state tends to weigh most heavily as it makes predictions about how another state will fight. Determining the type of information that the adversary relies on to assess U.S. capabilities is therefore an important factor in determining which U.S. signals are more likely to enhance adversary perceptions of U.S. operational unpredictability.

Adversary's Methods for Predicting How the United States Will Fight

States consider a range of quantitative and qualitative factors to determine another country's capabilities and predict how it might fight.⁹ A perfectly rational state with unlimited resources might observe all U.S. capabilities and then factor in constraints of geography, cost, and other factors to generate a full range of plausible U.S. operational COAs.¹⁰ Such a state would assume that in wartime the United States will prefer COAs that are likely to be the most operationally effective. The adversary is likely to dismiss new COAs that appear worse than existing U.S. options.¹¹ If the United States demonstrates capabilities that could enable a much more effective COA, the adversary may believe that it replaces, rather than provides an alternative to, existing options. In that case, where only this new highly effective U.S. COA appears plausible, the United States may have convinced the adversary of U.S. capability superiority but not necessarily increased the adversary's perceptions of U.S. operational unpredictability.

In practice, there are a number of reasons why an adversary may discount certain U.S. options or fail to think of the full range of ways that the United States could combine these capabilities to create COAs. For example, an adversary may believe that U.S. capabilities are substantial and enable a large number of COAs in theory. However, an adversary may only see one or two of them as likely in practice because of beliefs about U.S. preferences for certain ways of fighting. An adversary may simply fail to consider the full range of potential operational options because of a tactical focus or infrequent updates in its predictions of how the United States would fight.

A key condition for this approach to work is that the adversary's process for predicting how the United States will fight incorporates new information about changes in steady-state U.S. activities and capabilities and leaves open the possibility that the United States would develop more than one way of achieving an operational objective. The historical case presented in Appendix A shows that this condition is not always met. U.S. adversaries may assume that the United States focuses on a single way of fighting at a time. Therefore, they may see changes

⁹ A. Tversky and D. Kahneman, "Availability: A Heuristic for Judging Frequency and Probability," *Cognitive Psychology*, Vol. 5, 1973; A. Tversky and D. Kahneman, "Judgment Under Uncertainty: Heuristics and Biases," *Science* 185, 1974; Robert Jervis, "Representativeness in Foreign Policy Judgments," *Political Psychology*, 1986; Rose McDermott, *Political Psychology in International Relations*, Ann Arbor, Mich.: University of Michigan Press, 2004.

¹⁰ This approach focuses on adversary uncertainty about which COAs the United States will employ. We recognize that adversaries may not plan and think about COAs the way U.S. planners do. U.S. adversaries may not try or be able to identify highly detailed and distinct U.S. COAs. Even if adversaries do not assess potential U.S. actions in terms of distinct COAs per se, we assume that adversary planners do still attempt to assess how the United States will fight at the operational level to accomplish its objectives, and that they can become more or less certain about how the United States would do so. Therefore, when we talk about alternative COAs, we loosely mean substantively different ways the United States could accomplish a given operational objective.

¹¹ Even if an adversary does not immediately accept that a new capability enables an additional COA, the adversary may continue to monitor it. A seemingly weak COA could get better as technology, training, or other factors improve. Therefore, the effectiveness of an initial demonstration may only indicate it is not viable in the near term.

in U.S. activities and capabilities as providing a new and better way of fighting that replaces previously known approaches.

How This Approach Could Help to Deter Attacks on U.S. Allies

When deciding whether or not to initiate an attack, potential adversaries consider the potential costs of preparing for and carrying out an attack as well as the likelihood of success. If the United States succeeds in increasing operational unpredictability, then the adversary's military will likely reassess its war plans and identify ways to counter plausible U.S. COAs. If the adversary's decisionmakers assess that the costs of attacking the United States or its allies are higher or the chance of success is lower, then deterrence is enhanced.

Whether this occurs depends on two conditions. First, in order for the costs of preparing for multiple U.S. COAs to be higher, they have to require substantively different adversary countermeasures. This may not always be the case. Imagine, for example, that one U.S. COA for defending air bases involves hardening and the other employs on-base dispersal. The adversary could respond to both COAs by investing in more missiles. As a result, the cost of preparing for alternative U.S. COAs for air base defense would be the same.

In other cases, adversary counters to alternative U.S. COAs may be quite different. In the above example of COAs for air base survivability, the United States could develop a third COA that employs long-range fires to attack Chinese aircraft and missile launchers before they have an opportunity to attack U.S. air bases. To prepare for this U.S. COA, China might harden and increase the resilience of its airfields and missile sites, increase the depth of its defenses, or conduct dispersed air base operations of its own. This U.S. COA would therefore create different costs for PLA military planners than on-base dispersal or hardening.

If additional U.S. COAs require substantially different preparations to counter, then the adversary could pay the higher preparation costs to regain the same level of confidence that its plans for attack will succeed. Alternatively, the adversary could bet on one U.S. COA over the other options but may assess that the likelihood of a successful attack is lower. Operational unpredictability therefore has the potential to increase deterrence by increasing adversary assessments of the resources it requires to be certain of victory or decreasing its assessment of the likelihood of success.

A second condition for this approach to operate is that the adversary's military conducts operational analysis on the costs of an attack as well as the chances of success and the adversary's political leaders consider such analysis when making decisions about the use of force. So, for example, if the adversary's military updates its assessment of the operational requirements for a successful attack, but political leaders never see it or ignore it, then this approach would not have an effect on decisions about the use of force.¹²

¹² For an example of a leader who did not receive or consider negative operational assessments, see Kevin Woods, James Lacey, and Williamson Murray, "Saddam's Delusions: The View from the Inside," *Foreign Affairs*, Vol. 85, No. 3, May–June 2006. For a general discussion of differences between policymakers and intelligence assessments of adversaries, see Keren Yarhi-Milo, *Knowing the Adversary: Leaders, Intelligence, and Assessment of Intentions in International Relations*, Princeton, N.J.: Princeton University Press, 2014.

Costs and Risks

Developing and publicizing capabilities that enable more U.S. wartime COAs create some additional costs and risks. The extent of these downsides depends on the specific capabilities the United States develops.

Publicizing U.S. Capabilities Could Lead to Adversary Countermeasures

A U.S. capability can only affect an adversary's decisionmaking if the adversary knows the capability exists. To make multiple U.S. COAs credible, the United States may need to reveal more information than the adversary could easily discover through its own intelligence collection. Demonstrating and revealing capabilities in this way could create a trade-off: It could give the adversary more information or time to generate countermeasures, potentially reducing the effectiveness of the new U.S. capabilities in the event of conflict.¹³

Developing Multiple COAs Could Undermine Military Effectiveness

Developing multiple COAs could spread resources too thin, forcing the joint force to become a “jack of all trades, master of none.” Put another way, developing multiple COAs could reduce investment in the most effective U.S. COA. Whether this will occur in practice will depend on the nature of the different U.S. COAs. In trying to be more operationally unpredictable, the United States could develop multiple COAs that rely on similar forces, systems, and training. For example, the United States could develop different COAs that each requires the same set of forces and capabilities but that can be executed using multiple different geographic locations as bases or staging areas. In this case, each COA would require some limited additional resources from the United States, in the form of additional access agreements or exercises, but the bulk of U.S. resources invested in developing capabilities would be applicable to multiple COAs.

However, if the United States develops multiple COAs that each requires fundamentally different forces, systems, or operational concepts, then (assuming no corresponding increase in U.S. military spending) each COA would receive a smaller share of limited military resources. For example, one COA could rely for its success on long-range strike capabilities, while another could rely on resilience and hardening. This could indeed result in multiple different, plausible COAs, enhancing operational unpredictability, but each COA may also be less effective than if the United States had put most or all of its resources toward what it believed to be its most effective option. If the adversary believed that the United States had thereby weakened what could have become the United States' most effective COA, and the greater preparations required to prepare for multiple U.S. COAs were not unduly costly for the adversary, then the adversary could downgrade its assessment of U.S. military effectiveness. Under these conditions, generating and sustaining more U.S. options could actually undermine deterrence.

Demonstrating and Revealing New Capabilities Could Threaten the Adversary

U.S. activities and capabilities intended to increase perceptions of U.S. operational unpredictability may unintentionally aggravate adversary concerns about U.S. offensive intentions.

¹³ This trade-off is not unique to increasing U.S. operational unpredictability but applies to any attempt to reveal capabilities to deter U.S. adversaries. For general discussions about the trade-offs between revealing and concealing capabilities, see Green and Long, 2019/2020; Kevin N. Lewis, *Getting More Deterrence out of Deliberate Capability Revelation*, Santa Monica, Calif.: RAND Corporation, N-2873-AF, 1989.

Many military capabilities can be used both to defend as an ally and to take offensive action against the adversary. Therefore, new capability development may also lead the adversary to believe the United States has a growing capability to launch an attack.¹⁴ If the adversary tends to infer U.S. intent largely from its capabilities, then these capabilities may also increase the adversary's threat perceptions.¹⁵

For example, acquisition of military systems that have the range or other specifications to threaten key adversary interests, such as the security of their homeland or regime, may be more threatening than others. Therefore, the tendency to infer U.S. offensive intentions may be greater for capabilities that are in locations or that enable attacks on key adversary interests.

An insecure adversary may look for ways to improve its defenses such as by acquiring additional arms, putting forces on higher levels of alert, and engaging in military behavior to signal resolve.¹⁶ In more extreme cases, the adversary could take steps to improve its defensive position through territorial expansion, seizing critical resources, or other uses of force.¹⁷ For example, an adversary may seize a strategically important piece of a neighbor's territory in order to deny it to future invading U.S. and allied forces, complicating their ability to execute their own attack.

The case studies presented in the appendixes provide real-world examples of how attempts to increase operational unpredictability in the past increased adversary threat perceptions in this way.

Could This Approach Help to Deter Russia from Attacking a U.S. Ally?

To assess how revealing or demonstrating new U.S. capabilities might affect Russian perceptions of U.S. operational unpredictability and the costs and benefits of an attack on a U.S. ally, we ask whether each of the logical conditions required for this approach is in place. We also discuss the capabilities most likely to threaten Russia and therefore increase the costs and risks of this approach.

Russia's Ability to Detect Changes in U.S. Activities and Capabilities

For Russia to see U.S. demonstrations or revelations as credible indications of how the United States would fight, Russia must recognize that the capability exists or detect changes in the characteristics of U.S. activities. There are two means by which this can occur. First, the United States could reveal or provide information on U.S. capabilities publicly. Second, Russia could detect less visible changes in U.S. capabilities or activities through other intelligence channels. Information gained through their own intelligence capabilities may, in some cases,

¹⁴ For examples of how some capabilities can be used for offense and defense, see Mearsheimer, 1985, pp. 25–27. For a discussion of why states are sensitive to the capabilities of other states, see Robert Jervis, "Cooperation Under the Security Dilemma," *World Politics*, Vol. 30, No. 2, 1978; Kenneth N. Waltz, *Theory of International Politics*, Reading, Mass.: Addison-Wesley, 1979.

¹⁵ For an argument that all states make assessments this way, see John J. Mearsheimer, *The Tragedy of Great Power Politics*, New York: Norton, 2001.

¹⁶ Glaser, 1992; Glaser, 1997; Jervis, 1976; Todd S. Sechser, "Goliath's Curse: Coercive Threats and Asymmetric Power," *International Organization*, Vol. 64, No. 4, 2010.

¹⁷ Glaser, 1992.

be more credible to Russian leaders.¹⁸ The likelihood that this condition will be met depends on the specific change in capabilities or activities.

In general, Russian space-based reconnaissance capabilities may be able to detect some changes in U.S. activities and capabilities. The U.S. Defense Intelligence Agency (DIA) assesses that Russian space-based military, civil, and commercial ISR systems “currently support ongoing military operations in Syria but can also monitor U.S. and NATO forces operating globally.”¹⁹

Russia’s Main Intelligence Directorate (at the time known by, and now still commonly referred to, by the acronym GRU, but now formally known as the GU) has been implicated in cyber-based intelligence collection far beyond Russia’s borders. For example, the U.S. has accused the GRU of conducting spear phishing operations to collect information to enable its 2016 U.S. presidential election interference efforts.²⁰ Russia might apply similar techniques to glean information about U.S. military capabilities and activities.

Russia’s capability for other forms of intelligence collection may be greater near its periphery. For example, in the former Soviet states that were once home to extensive espionage networks, Russian human intelligence assets are likely more prevalent and perhaps more capable.²¹ As such, Russian intelligence may have more access to observe and collect on U.S. troops deployed overseas, particularly in former Soviet states. It is unclear based on the available evidence whether Russian intelligence networks in former Eastern Bloc states are also more robust than in states that were unaffiliated with the Soviet Union.

Russia could also gain information about U.S. activities and capabilities by intercepting communications of U.S. military and diplomatic personnel overseas, though this capability may also depend on geography.²² The Russian firms that produce eavesdropping equipment for former Soviet states’ intelligence services have been accused of building backdoors into the interception equipment to allow for Russian access. If true, this would indicate that Russia may have significant capability to intercept communications in states using such equipment, including Ukraine, Belarus, Kazakhstan, Uzbekistan, and Kyrgyzstan.²³ According to the former chief of the Ukrainian security service, the Russian security services “have their own division to target military personnel, especially of the United States.”²⁴ Prior to Russia’s incursion in Ukraine, the GRU intercepted and listened to the communications of Ukrainian forces

¹⁸ For a general discussion of credibility of intelligence sources that are not seen as easily manipulated, see Jervis, 1989a.

¹⁹ Defense Intelligence Agency, 2019, p. 27. Under the Open Skies Treaty, Russia also conducts reconnaissance flights over U.S. military installations and other sensitive locations and has recently upgraded its reconnaissance aircraft for these missions. These flights would end if the United States withdraws from the treaty, a possibility President Donald Trump has raised (Kingston Reif and Shannon Bugos, “U.S. Questioning Open Skies Treaty,” *Arms Control Today*, April 2020; Aaron Mehta, “U.S. Reserves Course, Certifies Russian Open Skies Aircraft,” *Defense News*, September 20, 2018; Joseph Trevithick, “Russia’s New Surveillance Jet to Make First U.S. Visit to Photograph Military Bases,” *The Drive*, April 22, 2019).

²⁰ “United States of America v. Borisovich Netyksho, et al.,” United States District Court for the District of Columbia, Filed July 13, 2018.

²¹ Mark Galeotti, “Putin’s Secret Weapon,” *Foreign Policy*, July 7, 2014b.

²² Nolan Peterson, “U.S. Fighter Pilots on the Front Lines of Russia’s Spy Games,” *The Daily Signal*, March 15, 2018. There is debate about whether Russia intercepted and leaked the 2014 phone call between former Assistant Secretary of State Victoria Nuland and former U.S. Ambassador to Ukraine Geoffrey Pyatt, both of whom were in Ukraine at the time; Mark Galeotti, “The Spies Who Love Putin,” *The Atlantic*, January 17, 2017. Soldatov and Borogan, 2015, p. 288.

²³ Soldatov and Borogan, 2015, pp. 289–290, 347.

²⁴ Peterson, 2018.

in Crimea.²⁵ The organization also deployed malware to Ukrainian troops' phones, giving the GRU access to the soldiers' geographic locations and other important data.²⁶ This kind of effort might be more difficult to conduct against U.S. troops but, if successful, could provide Russia more information on U.S. military activities and capabilities.

An expert on Russian security services, Mark Galeotti, has assessed that although Russian intelligence agencies are highly capable of collecting tactical-level intelligence, they may be less adept at analyzing intelligence, collecting strategic-level intelligence, or incorporating strategic-level intelligence into policymaking. Moreover, intelligence that is not palatable to decisionmakers is not always presented. According to Galeotti, organizations have also been punished for producing intelligence that does not fit Russian President Vladimir Putin's pre-existing beliefs.²⁷ As he notes,

In both Crimea and the Donbas, the Russians often displayed extremely good intelligence on a tactical level, with accurate assessments of Ukrainian troop positions, the willingness of individual officers to fight, and when government forces were preparing for an attack. . . . On the other hand, there seems to have been a startling dearth of effective political and strategic intelligence, before and during the campaign. Either the intelligence agencies did not realise that the West would be more forceful than after the 2008 Georgian war, or they did not convey their concerns to the leadership, or they were not listened to.²⁸

This suggests that, while Russian intelligence might detect changes to U.S. activities and capabilities, the security services may incorrectly interpret U.S. intent or may choose not to convey this intelligence to senior leaders for reasons of self-interest or political motivations, or decisionmakers could decide to disregard this information.

Even if it is unclear what information Russian leaders receive through intelligence channels, there is significant evidence that Russian policymakers do monitor public information about U.S. capabilities and activities. Russia is attentive to the revelation of U.S. capabilities even before they are demonstrated in peacetime exercises or employed in wartime. For example, in the early stages of the development of U.S. conventional hypersonic missiles as part of the Prompt Global Strike (PGS) program, Putin commented on the potential for such systems to affect strategic stability.²⁹ Russian leaders have also made statements and conducted their own military activities in response to large-scale U.S. and NATO exercises.³⁰

²⁵ Galeotti, 2014b.

²⁶ Michael Weiss, "The GRU: Putin's No-Longer-So-Secret Weapon," *The Daily Beast*, December 31, 2016.

²⁷ Galeotti, 2016, p. 14. Mark Galeotti, "Spooks in the Kremlin," *Foreign Policy*, April 27, 2019.

²⁸ Galeotti, 2016, p. 14.

²⁹ Vladimir Putin, "Annual Address to the Federal Assembly," Moscow, Russia: The Kremlin, May 10, 2006. Similarly, in the Cold War era, the Soviets committed significant resources to collecting information on activities relating to the strategic defense initiative, even though no systems had been demonstrated in peacetime activities or used in wartime (David E. Hoffman, "Missile Defense Didn't Win the Cold War," *Foreign Policy*, September 22, 2009. David Holloway, "The Strategic Defense Initiative and the Soviet Union," *Daedalus*, Vol. 114, No. 3, Summer, 1985, pp. 265–266).

³⁰ We know that Russia tends to respond publicly to larger-scale activities, but it is not clear whether this means it ignores smaller-scale activities. For instance, in 2018 the U.S. Marine Corps moved equipment, including M1A1 Abrams tanks, from Norway to Finland, where 30 marines participated in a live-fire exercise. Russian decisionmakers do not appear to have commented on this smaller-scale exercise. By contrast, senior Russian leadership, including Putin and Shoygu, commented on NATO's much larger 2018 Trident Juncture exercise, which involved approximately 55,000 personnel, 65 ves-

Additionally, Russian military writings and state-controlled popular press discuss U.S. strategy and doctrinal documents and operational concepts, suggesting that changes to these are also closely monitored. At a strategic level, journalists at state-controlled outlets have written about the 2018 U.S. Nuclear Posture Review (described as the “U.S. nuclear doctrine”).³¹ And U.S. initiatives on multidomain operations have been mentioned in Russian military journal articles and state-controlled popular press.³² Valery Gerasimov, Chief of the General Staff, included a reference to what he labeled *mnogosfernoe srazhenie*, or multi-sphere battle, in a 2019 speech as one example among several that he argued demonstrate aggressive U.S. intentions.³³

In sum, Russia can likely detect most changes in U.S. activities and capabilities, especially if the United States wants Russia to have that information. That said, it is unclear whether new information about U.S. capabilities would make its way to senior decisionmakers.

Russia’s Sources and Methods for Predicting How the United States Will Fight

Assuming that Russia can detect changes in U.S. activities and capabilities, the next question is whether Russia sees that information as credible and how it uses this information to make predictions about how the United States may fight. We find that Russia appears to weigh U.S. behavior in recent combat operations heavily in its assessments of how the United States might fight in the future. Russia monitors U.S. steady-state activities and announcements as well, but it is not clear how this information affects Russian predictions about possible U.S. wartime COAs.

What Information on U.S. Capabilities Russia Finds Credible

As described above, states differ in whether they worry more about the United States overstating or understating its capabilities. Other studies have documented that Russia has elevated threat perceptions about the United States. In particular, Russian leaders worry that the United States would support the overthrow of the regime or launch a decapitating strike on the regime.³⁴ These elevated threat perceptions combined with Russian weakness means that Russia is more likely to be the type of state that worries about underestimating U.S. capabili-

sels, 150 aircraft, and 10,000 vehicles. Additionally, Russia responded by conducting rocket tests in the Norwegian Sea, not far from the NATO exercise. Shawn Snow, “The Corps Moved Tanks from Secret Caves in Norway to Finland. Here’s Why,” *Marine Corps Times*, May 22, 2018. The Associated Press, “Russia Threatens Response to Huge NATO Exercise, Says Its New Weapons Will Be Unrivaled Anywhere,” *Military Times*, October 25, 2018. Christopher Woody, “Russia Aims Its Missile Drills Shoulder-to-Shoulder with NATO’s Biggest War Games in Years,” *Business Insider*, October 31, 2018.

³¹ “The Russian Far East and Russian Security Policy in the Asia-Pacific Region,” in Helge Blakkisrud and Elana Wilson Rowe, eds., *Russia’s Turn to the East: Domestic Policymaking and Regional Cooperation*, Cham, Switzerland: Springer International Publishing, 2018; “Russia Embarks on Military Buildup in the Far East,” *RealClearDefense*, February 8, 2018.

³² Michael D. Swaine, *Chinese Views on South Korea’s Deployment of THAAD*, Washington, D.C.: Carnegie Endowment for International Peace, February 2, 2017. For an example of this concept mentioned in Russian military writings, see Sergei Modestov, “Razboj Po Doverennosti [Breaking by Trust],” *VPK Voenno-promyshlennyi kur’er*, No. 7, 2019.

³³ Valery Gerasimov, “Vektory razvitiya voennoj strategii [Military Strategy Development Vectors],” *Krasnaja Zvezda*, April 3, 2019.

³⁴ See, for example, Radin and Reach, 2017, pp. 8–9; Frederick et al., 2017, p. 30; Bettina Renz, *Russia’s Military Revival*, Cambridge, UK: Cambridge University Press, 2018, pp. 103–106. Russian Federation Office of the President, “Meeting on Defence Industry Development,” Sochi, Russia: Russian Federation, May 13, 2016. Jeffrey Lewis and Aaron Stein, “Paranoia and Defense Planning: Why Language Matters When Talking About Nuclear Weapons,” *War on the Rocks*, October 10, 2018. For examples of this concern mentioned in Russian military writings, see O. I. Antsupov and A.S. Zhikharev,

ties and to have a lower bar for accepting information about U.S. capabilities. This means that Russia may revisit its assessments of U.S. capabilities, even in response to announcements or smaller demonstrations of U.S. capabilities.

Evidence that Russia tends to overstate the number of weapons in the U.S. arsenal and the capability of U.S. systems is consistent with this assessment. For instance, Russian analysts have stated that U.S. missile defense and PGS capabilities could be used for a surprise decapitating strike on Russian leadership, even though many U.S. analysts doubt the United States has sufficient capability to do so.³⁵

Russia's Method for Predicting How the United States Would Fight

There is little doubt that Russia closely observes U.S. operations in other states to predict how the United States would fight in a conflict with Russia.³⁶ Despite their theorizing before the war, the Soviets were deeply affected by what they observed during the Gulf War. As scholar Richard Pipes notes, Moscow watched closely as the United States unveiled long-range precision strike, stealth, and improved intelligence capabilities during the first Gulf War.³⁷ Articles in Soviet and Russian military journals analyzed U.S. capabilities and the implications for Russian military capabilities, doctrine, and concepts.³⁸

The same can be said for the Kosovo War. A Russian scholar noted, "The Kosovo war caused Russia to reconsider the basic tenets of its security structure. The new versions of the *National Security Concept* and *Military Doctrine* largely reflected Moscow's military reaction to the Balkan war."³⁹ The United States' and NATO's use of long-range precision strikes resulted in a "new emphasis on building up and modernizing Russia's conventional air defense, air force, and naval assets (in particular S-300 and S-400 surface to air missiles, a new air superiority fighter, Multi-role Front-line Fighter, and new Yahont-type naval missiles, as well as a new precision-guided, long-range, conventional Air-to-Ship Missile to be based on heavy bombers)."⁴⁰ Russian military writings have continued to draw similar lessons from U.S. operations in Iraq, Libya, and Syria.⁴¹

"Basic Conceptual Approaches to the U.S. and Russian Strategic ABM Systems," *Voennaya Mysl* [Military Thought], Vol. 24, No. 2, 2015. Office of the President, 2016.

³⁵ O. S. Kupach, "Analyzing the US Conventional Prompt Global Strike Program," *Voennaya Mysl* [Military Thought], No. 4, Vol. 27, 2018, pp. 27–31; Khryapin, et al., 2015.

³⁶ A. V. Kartapalov, "Lessons of Military Conflicts and Prospects for the Development of Means and Methods of Conducting Them, Direct and Indirect Actions in Contemporary International Conflicts," *Vestnik Akademii Voenykh Nauk*, No. 2, 2015, referenced in Timothy L. Thomas, *Russia Military Strategy: Impacting 21st Century Reform and Geopolitics*, Fort Leavenworth, Kan.: Foreign Military Studies Office, 2015.

³⁷ Richard Pipes, "Is Russia Still an Enemy?" *Foreign Affairs*, Vol. 76, No. 5, September–October, 1997.

³⁸ For an overview of this literature in English, see Mary C. FitzGerald, "The Soviet Military and the New Air War in the Persian Gulf," *Airpower Journal*, Vol. 5, No. 4, Winter, 1991. FitzGerald, "If War Forces Change in Soviet Defense Doctrine," 1991. Stuart Kaufman, "Lessons from the 1991 Gulf War and Russian military doctrine," *Journal of Slavic Military Studies*, Vol. 6, No. 3, pp. 383–384.

³⁹ Alexei G. Arbatov, *The Transformation of Russian Military Doctrine: Lessons Learned from Kosovo and Chechnya*, Garmisch-Partenkirchen, Germany: George C. Marshall European Center for Security Studies, The Marshall Series Papers, No. 2, July 2000, p. 15.

⁴⁰ Arbatov, 2000, p. 19.

⁴¹ Renz, 2018, pp. 34–35; Fiona Hill and Clifford G. Gaddy, *Mr. Putin: Operative in the Kremlin*, Washington, D.C.: Brookings Institution Press, 2013, p. 363. Mark Galeotti, "The 'Gerasimov Doctrine' and Russian Non-Linear War," in *Moscow's Shadows*, July 6, 2014a; Valery Gerasimov, "Cennost' nauki v predvidenii," *VPK*, February 26, 2013.

It is less clear how U.S. steady-state activities affect Russian perceptions. During the Cold War, Soviet military thinkers drew conclusions about U.S. and NATO warfighting plans and how these forces would operate in the event of a conflict based on large-scale exercises.⁴² In the 1980s, emerging U.S. technologies and operational concepts led Soviet analysts to theorize about a revolution in military affairs that reportedly influenced Russian military planning.⁴³ The Soviets also used correlation-of-forces calculations to evaluate the relative strength of Soviet and U.S. forces, as well as to understand U.S. intentions and military concepts. Analysts have found evidence that such calculations are still being used and refined.⁴⁴ It is therefore possible that the Russian military incorporates information about U.S. steady-state activities into these models today. However, it is not clear exactly how these models are used or whether they account for the possibility of multiple, alternative U.S. operational COAs.

How Operational Analysis Affects Russian Decisions About the Use of Force

If we assume that Russian intelligence and military organizations assess that the United States has multiple options for how to fight and that these options raise the costs and risks of a Russian attack, will Russia be less likely to attack a U.S. ally? Ultimately, decisions about the use of force rest with Russia's top political leaders, especially Putin. While existing analysis discusses aspects of Russian decisionmaking, including the importance of Putin's informal networks and advisors, it remains unclear what kind of information informs decisions about the use of force.⁴⁵ Therefore, it is difficult to know whether increasing U.S. operational unpredictability would ultimately help to deter Russia.

⁴² FitzGerald, 1987, p. 8.

⁴³ This group had noted the development of the then-new U.S. AirLand Battle concept in the early 1980s, studied new capabilities associated with the concept, and theorized that the role of nuclear weapons was waning, and with that, future conflicts would likely involve automated command and control and communications systems as well as more capable precision conventional weapons. Mary C. FitzGerald, "Marshal Ogarkov and the New Revolution in Soviet Military Affairs," *Defense Analysis*, Vol. 3, No. 1, 1987, pp. 3–19. Nikolai V. Ogarkov, "A Reliable Defense to Peace," *Krasnaya Zvezda*, September 23, 1983, p. 2, cited in, FitzGerald, 1987, p. 14. Michael J. Sterling, *Soviet Reactions to NATO's Emerging Technologies for Deep Attack*, Santa Monica, Calif.: RAND Corporation, N-2294-AF, 1985.

⁴⁴ S. G. Chekinov and S. A. Bogdanov, "Military Futureology: Its Origin, Development, Role, and Place Within Military Science," *Voennaya Mysl [Military Thought]*, No. 8, 2014, p. 26, referenced in Thomas, 2015, p. 58; Thomas, 2015, p. 48; Sergey Alekseevich Bogdanov and Lev Zakharov, "On the Development of Unified Approaches to the Evaluation of Combat Potential of Arms," *Voennaya Mysl [Military Thought]*, No. 8, 1992; Aleksandr Ivanovich Buravlev, Sambu Rabdanovich Tsyrendorzhiev, and Vladimir Sergeevich Brezgin, "Fundamentals of the Methodological Approach to the Evaluation of the Combat Potential of Military Weapons and Equipment and Combat Formations," *Arms and Economics Journal*, Vol. 3, No. 7, 2009; V. Sokolovskiy and M. Cheredinichenko, "Military Strategy and Its Problems," *Voennaya Mysl [Military Thought]*, Vol 5, Part II, 1968, cited in Thomas, 2015, p. 81.

⁴⁵ For more detailed discussions of what is known and hypothesized about Russian decisionmaking, see Jeanne L. Wilson, "Russia's Relationship with China: The Role of Domestic and Ideational Factors," *International Politics*, April 26, 2018; Andrei Soldatov and Michael Rochlitz, "The *Siloviki* in Russian Politics," in Daniel Treisman, ed., *The New Autocracy: Information, Politics, and Policy in Putin's Russia*, Washington, D.C.: Brookings Institution, 2018; Dina Gusovsky, "Kremlin Shakeup Raises Questions About Putin's Motives," *CNBC.com*, August 12, 2016; Kimberly Marten, "Informal Political Networks and Putin's Foreign Policy: The Examples of Iran and Syria," *Problems of Post-Communism*, Vol. 62, No. 2, 2015; Alexander Gabuev, "Russia's Policy Towards China: Key Players and the Decision-Making Process," in *Asian Forum*, Moscow, Russia: Carnegie Moscow Center, March 5, 2015; Galeotti, 2019; Tor Bukkvoll, "Why Putin Went to War: Ideology, Interests and Decision-Making in the Russian Use of Force in Crimea and Donbas," *Contemporary Politics*, Vol. 22, No. 3, 2016; Carolina Vendil Pallin, "The Russian Power Ministries: Tool and Insurance of Power," *Journal of Slavic Military Studies*, Vol. 20, No. 1, 2007; Brian D. Taylor, *State Building in Putin's Russia: Policing and Coercion After Communism*, New York: Cambridge University Press, 2011.

Costs and Risks

Revealing and demonstrating new capabilities may also have some downsides, as discussed generally above. In this section, we focus in particular on the types of capabilities that may be most likely to threaten Russia, making cooperation more difficult and, in the extreme, undermining deterrence.

We find that Russia is most likely to be threatened if U.S. attempts to increase perceptions of U.S. operational unpredictability involve increasing the number or capability of missile defense or long-range precision strike systems. Senior Russian officials and Russian military thinkers have repeatedly voiced concerns over missile defense systems (particularly those deployed in Europe) and precision non-nuclear systems, such as PGS or hypersonic weapons.⁴⁶ Recent Russian rhetoric and behavior indicate that the Kremlin remains unconvinced by U.S. and ally assurances that U.S. missile defense systems are designed to intercept Iranian and North Korean missiles, and instead argue that Russia is a target of the systems.⁴⁷ Russia fears that these systems could hold Russia's nuclear response capability at risk and provide the United States with a way to launch a disarming first strike.⁴⁸ While some have questioned the sincerity of Russian fears over missile defense and PGS, recent Russian behavior suggests that Russian stated concerns are genuine.⁴⁹ Russia has recently unveiled a suite of new hypersonic, nuclear-capable missiles that it claims can penetrate U.S. missile-defense shields.⁵⁰

Russian views on missile defense suggest that, at least in some cases, certain U.S. capabilities that the United States intends to be defensive in nature could instead be interpreted by Russia as offensive. Russia's incursions into Ukraine and Georgia indicate that, when Russia's core interests are threatened, its decisionmakers are willing to engage in security-motivated aggression. This suggests that the United States should consider the possibility that attempts to

⁴⁶ Russian concerns about U.S. missile defense sites in Europe threatening Russia have existed for over a decade. For an early statement by Putin and Sergey Lavrov expressing these concerns, see Thomas Shanker and Steven Lee Myers, "Putin Criticizes U.S. Officials on Missile Defense," *New York Times*, October 13, 2007. It is important to clarify what is meant by conventional PGS. DoD's conventional PGS mission has undergone several stages of evolution since its origins in the early 2000s. It has referred to different capabilities over the course of its evolution, though they have all shared certain characteristics, notably a focus on long-range precision conventional weapons. Recently, this mission has focused on the development and deployment of hypersonic capabilities (James M. Acton, *Conventional Prompt Global Strike and Russia's Nuclear Forces*, Washington, D.C.: Carnegie Endowment for International Peace, October 4, 2013).

⁴⁷ David Axe, "Russia Won't Like This: THAAD Missile Defense System Headed to Europe," *The National Interest*, April 14, 2019. For Russian officials' statements about Russia as a target for U.S. ballistic missile defense (BMD) sites, see Keir Giles and Andrew Monaghan, *European Missile Defense and Russia*, U.S. Army War College, Strategic Studies Institute, July 2014, pp. 11–16.

⁴⁸ Tom O'Connor, "Russian Officials Say U.S. Global Missile Defense Could Lead to Nuclear War in Europe," *Newsweek*, April 27, 2017; Lewis and Stein, 2018. According to Putin, U.S. ballistic missile defense is "primarily for countering strategic arms that follow ballistic trajectories," which he says are the cornerstone of Russia's nuclear deterrent (Dave Majumdar, "Russia's New Doomsday Weapons Can Beat U.S. Missile Defenses," *War Is Boring*, March 2, 2018; Frederick et al., 2017, p. 41; Denis Pinchuck and Andrew Osborn, "Putin Says U.S. Missile Systems in Alaska, South Korea Challenge Russia," Reuters.com, June 1, 2017; Antsupov and Zhikharev, 2015; Acton, 2013; Lewis and Stein, 2018).

⁴⁹ See, for example, Jens Stoltenberg, "Defending Our Nations from Ballistic Missile Threats," North Atlantic Treaty Organization, May 12, 2018.

⁵⁰ For example, the hypersonic boost-glide missile that has allegedly been tested and will enter the field in 2019, the Avangard, can allegedly avoid interception by existing U.S. missile defense capabilities; Majumdar, 2018; Mark Episkopos, "Why America Should Fear Russia's New Avangard Hypersonic Weapon: 'We Don't Have Any Defense,'" *The National Interest*, December 26, 2018.

be operationally unpredictable could, in the extreme, inadvertently make other forms of Russian aggression more likely.

Summary of Likely Effects on Russia's Perceptions and Behavior

Russian behavior, rhetoric, and military writings suggest that Russian decisionmakers look closely at U.S. military operations as they assess how the United States may fight in the future. Russian statements suggest that they also monitor information about and demonstrations of U.S. capabilities. It is therefore possible that Russia updates its assessments of how the United States is likely to fight based on steady-state revelations and demonstrations and that these demonstrations and revelations create operational unpredictability. However, given the paucity of information on Russian operational assessment and decisionmaking, we cannot be sure they would do so.

Planners may be able to gain greater confidence if they can gather additional information on Russia's approach to predicting how the United States may fight and whether operational analysis information tends to inform senior leader decisionmaking. If there is evidence that the Russian military and intelligence organizations consider the possibility of more than one U.S. COA in their assessments, then the United States may have more confidence that attempts to create operational unpredictability may be effective. If senior leaders are known to carefully consider the outcomes of such operational analysis, then it is more likely that this approach to enhancing deterrence would be effective.

Could This Approach Help to Deter China from Attacking a U.S. Ally or Partner?

In this section, we consider the potential effects of revealing and demonstrating U.S. capabilities on Chinese perceptions of U.S. operational unpredictability and U.S. ability to deter China. Our findings for China are similar to those for Russia.

China's Ability to Detect Changes in U.S. Capabilities and Activities

As detailed in Chapter Three, China's intelligence capabilities are significant, allowing China to detect many changes in U.S. activities and capabilities. Chinese intelligence capabilities are likely stronger in China's immediate neighborhood than farther abroad. However, China can also detect some changes globally using cyber capabilities and space-based military, civil, and commercial ISR systems. On net, given the priority that China places on collecting information on the U.S. military and its substantial intelligence capabilities, China is likely to detect key changes in U.S. capabilities and activities, particularly U.S. military activities in the Indo-Pacific.

China's Method of Predicting How the United States Would Fight

Although China has preexisting beliefs about how the United States prefers to fight, Chinese analysts believe that the United States continues to modernize its military capabilities and update its military doctrine and operational concepts.⁵¹ China appears to collect information

⁵¹ Chinese analysts view the United States as generally preferring to use weapons with longer-range strike options (to best preserve U.S. forces and prevent casualties) and capabilities that help the United States quickly achieve dominance in air,

from multiple sources to assess U.S. capabilities and concepts, such as U.S. combat operations, steady-state activities, and discussions in the United States about operational concepts.⁵² Whether a specific change in U.S. military activities or a portfolio of changes will cause China to update its assessment on how the United States will fight is likely to depend on a number of factors.

First, will new U.S. capabilities and concepts support the full range of components needed to enable a credible new COA?⁵³ We expect that Chinese analysts will view a new COA as credible if the new U.S. capabilities and concepts fundamentally change how U.S. military operational systems function or reduce their vulnerabilities. For example, China believes that the current U.S. operational system relies on vulnerable command-and-control (C2) nodes. If the United States were to develop C2 nodes that were more difficult to target, China would likely consider this an important change in how the United States may fight.

Second, do the new capabilities and concepts reflect a technological innovation? In 2017, President Xi Jinping emphasized that technology is core to modern warfighting and that strengthening the PLA will require adopting advanced, cutting-edge technology. PLA analysts have noted that those who have the most advanced technology will be able to seize the initiative in a conflict.⁵⁴ Given China's emphasis on technology as a critical determinant to winning future conflicts, we expect that China could view U.S. development of a new single capability as increasing operational uncertainty about how the United States may fight.

Third, does the United States seem committed to implementing the new COA? China is likely to consider COA implementation more credible when it is accompanied by a senior leader endorsement of the COA and realistic and visible experimentation and exercising of the COA, and if the COA addresses a known U.S. weakness. For example, Chinese experts appeared to take Pacific Air Forces' Agile Combat Employment (ACE) concept seriously because it was

ground, sea, cyber, space, and the electromagnetic spectrum. Chinese analysts also see the United States as seeking to keep the duration of conflict relatively short and reliant on support from allies and partners to execute conflicts distant from the U.S. mainland. As a result of these assessments of the U.S. way of war, China has invested in significant anti-access/area denial capabilities to counter U.S. preferred ways of fighting. See Peng Guangqian and Yao Youzhi, *The Science of Military Strategy*, Beijing, China: Military Science Publishing House, 2005.

⁵² Xinhua News, "U.S. Military Increasing the Exercise of New Operation Concepts in the Asia-Pacific [美军加紧在亚太地区演练新战法]," Xinhua News, 2018b.

⁵³ Huang Bin, *Research into the Kosovo War*, Beijing, China: Liberation Army Publishing House, 2000. To defeat an adversary such as the United States, PLA planners specifically seek to strike four types of targets to attempt to paralyze the enemy's operational system: (1) degrade or disrupt the flow of information within the adversary's operational system, including targeting key data links and vital information network sets; (2) degrade or disrupt essential elements of the adversary's operational system, which likely includes "command and control, reconnaissance intelligence repower, information confrontation, maneuver, protection, and support"; (3) degrade or disrupt the operational architecture of the adversary's operational system, which likely includes the operational system's information acquisition and information transmission network, C2 network, and repower strike network; and (4) disrupt the time sequence and/or tempo of the enemy's operational architecture. See Jeffrey Engstrom, *Systems Confrontation and System Destruction Warfare: How the Chinese People's Liberation Army Seeks to Wage Modern Warfare*, Santa Monica, Calif.: RAND Corporation, RR-1708-OSD, 2018, pp. 13–19.

⁵⁴ PLA analysts have identified a number of key new technologies that they believe have already advanced warfighting and have the potential to further change future conflicts. These include networked capabilities, large-scale data driven analytics, artificial intelligence, 3-D printing, computational biology, laser technology, hypersonic technology, nanotechnology, rail gun, supercavitation, powered exoskeletons, and unmanned technology. *PLA Daily*, "Technology Is the Core Fighting Force in Modern Warfare [科技是现代战争的核心战斗力]," 2017b; *PLA Daily*, "Cutting Edge Military Technology Will Remold Nature of Future Warfare [战略前沿技术将重塑未来战争形态]," *PLA Daily*, October 27, 2017a.

endorsed by high-level U.S. leadership,⁵⁵ was the focus of a series of observable exercises,⁵⁶ and sought to address the critical U.S. vulnerability that U.S. air bases along the second island chain surrounding China are no longer safe from Chinese missile strikes.⁵⁷

Overall, China is unlikely to view every new U.S. capability or activity as contributing to a new U.S. way of fighting China in a potential conflict. A broad portfolio of activities and capability demonstrations, including senior leadership endorsement of these activities and demonstrations, could contribute to China's assessment of whether key pieces of a COA are coming together to make a credible warfighting option. Engaging in activities and/or releasing information about a single, new capability could have some effect on China's expectations about how the United States will fight if the new capability is related to cutting-edge capabilities that China has identified as important, represents a significant technology advancement, or creates uncertainty as to how the United States may execute existing or new COAs.

How Operational Analysis Affects Chinese Decisions About the Use of Force

It is difficult to assess, using publicly available sources, whether and how Chinese operational analysis about U.S. COAs and the costs of countering them feed into Chinese leadership's decisions to use force. That said, weakness in Chinese military forces or capabilities may not be a decisive factor preventing China from using force, as the Chinese Communist Party's (CCP's) history of waging guerilla warfare against much stronger enemies attests.⁵⁸ What China lacks in military strength, it has sought to compensate for through use of military tactics such as surprise or deception or use of diplomacy to aid military efforts.⁵⁹ When using force against stronger adversaries or adversaries supported by strong military allies, China has adopted a range of risk-management measures—such as calling its military forces “border guards” or “volunteer forces,” limiting the depth of military advancement into enemy territory, declaring unilateral ceasefires, and building in breaks and pauses in a conflict—that circumscribe how the PLA operates and help manage military escalation.⁶⁰ As a result, U.S. actions to develop and reveal new capabilities could encourage China to embrace military options short of war to pressure its surrounding neighbors. China could assess that these gray-zone tactics may not meet the threshold for the United States to intervene militarily.

⁵⁵ ACE was endorsed by then–Chief of Staff of the U.S. Air Force General Mark Welsh and Pacific Air Forces Commander Gen Charles Brown.

⁵⁶ Xinhua News, “U.S. Air Force Researching ‘Small, Fast Combat Method’ [美空军研究‘小快战法’],” December 11, 2018a.

⁵⁷ David Axe, “In Order to Compete with the PLA, the U.S. Air Force Created a ‘New Combat Method’—Guerilla Warfare [为了解放军竞争 美国空军创造了“新战法”——游击战],” The Science of Leadership Forum [领导科学论坛], December 29, 2018.

⁵⁸ This can be seen in Chinese campaigns against the Kuomintang and then the Japanese during World War II, and during the Korean War. Prior to sending Chinese forces into the Korean War, Chinese leaders were clear-eyed that China would face the most militarily powerful country in the world and the only country with nuclear weapons. Though the PLA had more troops, they were deployed throughout the country and using far inferior weapons compared with the United States. See Hao Yufan and Zhai Zhihai, “China’s Decision to Enter the Korean War: History Revisited,” *China Quarterly*, No. 121, March 1990.

⁵⁹ Both surprise and deception were factors that China embraced during the Korean War. See Hao Yufan and Zhai Zhihai, 1990, pp. 94–115.

⁶⁰ Allen S. Whiting, “China’s Use of Force, 1950–96, and Taiwan,” *International Security*, Vol. 26, No. 2, Fall 2001.

Costs and Risks

As noted previously, there is a risk to military effectiveness from publicizing new capabilities and spreading out U.S. resources across multiple COAs. In this section, we discuss the second potential cost: Revealing and demonstrating new capabilities that cause China to update its assessment on how the United States will fight could heighten Chinese threat perceptions.

First, China is most likely to be threatened by U.S. activities and capabilities that affect what China calls its “core interests”:⁶¹

1. Maintain China’s basic political system and security. U.S. military activities or capabilities that appear aimed at disrupting or undermining CCP legitimacy and internal control would be viewed as particularly sensitive. This includes, for example, capabilities to disrupt or undermine Chinese critical infrastructure or conduct information operations within China.⁶²
2. Protect Chinese sovereignty and territorial integrity. U.S. military activities or capabilities that undermine China’s strategic deterrent—including missile defense, conventional PGS, and hypersonic weapons—will be perceived as key threats. Under this core interest, China also includes defending its claims to disputed land or maritime territories.⁶³ China is likely to view U.S. military support for Taiwan, including military engagement, training, and arms sales, as highly provocative.
3. Sustain Chinese economic and social development. China is likely to view U.S. military activities or capabilities that could disrupt or choke off trade or the supply of critical resources and material to China as particularly threatening. This could include greater U.S. military access and basing at key geographic chokepoints (both close to and far from China) or new U.S. military capabilities to implement blockades, interdiction, or quarantines.

Second, Chinese views on missile defense suggest that, at least in some cases, certain U.S. capabilities may threaten China. For example, China saw offensive intent behind the U.S. announcement in July 2016 that it would deploy the Terminal High Altitude Area Defense (THAAD) system to South Korea,⁶⁴ because the system’s radar had a mode that might enable the United States to observe Chinese intercontinental missile and stealth aircraft activity.

⁶¹ Michael D. Swaine, *China’s Assertive Behavior—Part One: On “Core Interests,”* Washington, D.C.: Carnegie Endowment for International Peace, November 15, 2010.

⁶² Related to China’s desire to control information flow, China’s 2015 defense white paper notes that “cyberspace has become a new pillar of economic and social development, and a new domain of national security” (State Council Information Office of the People’s Republic of China, *China’s Military Strategy*, Beijing, China, May, 2015).

⁶³ To date, China has not explicitly identified the Senkaku/Diaoyu Islands and the South China Sea as core interests, but these two regions fall under the broader core Chinese interest to defend its maritime claims. See Toshi Yoshihara and James R. Holmes, “Can China Defend a ‘Core Interest’ in the South China Sea?” *Washington Quarterly*, Vol. 34, No. 2, Spring, 2011.

⁶⁴ The first THAAD launchers in the Republic of Korea became operational in May 2017. U.S. deployment of THAAD to South Korea came after its deployment to Guam and was the second deployment outside of continental United States. See Ethan Meick and Nargiza Salidjanova, *China’s Response to U.S.-South Korean Missile Defense System Deployment and Its Implications: U.S.-China Economic and Security Review Commission Staff Research Report*, July 26, 2017, p. 3.

China feared that this would undermine its strategic capabilities and nuclear deterrent.⁶⁵ Chinese leaders were concerned with THAAD and what it indicated about U.S. intentions despite the public and private reassurances the United States and Republic of Korea offered China.⁶⁶

In spite of the potential for some types of capabilities to trigger Chinese threat perceptions, China is not likely to use military force as the first option to enhance its security or gain key resources. China is cautious of overspending on defense at the cost of economic development.⁶⁷ Historically, Chinese leaders have looked for ways to gain advantage through nonmilitary means and have, at times, preferred to shelve the problem for resolution at a later time (when the overall circumstances or situation may be even more favorable for China).⁶⁸

Summary of Likely Effects on China's Perceptions and Behavior

Chinese behavior, rhetoric, and writings suggest that Chinese military analysts pay close attention to U.S. operations, exercises, doctrine, and senior leader statements to track developments in U.S. capabilities. New capabilities that ameliorate known U.S. vulnerabilities are most likely to affect Chinese perceptions of how the United States will fight. It is not clear how operational analysis affects senior leaders' decisions about the use of force. Therefore, it is much more difficult to predict whether changes in Chinese perceptions of how the United States will fight would have a large impact on China's likelihood to use military force against a U.S. ally. Changes in U.S. capabilities intended to increase U.S. operational unpredictability may unintentionally threaten China if they appear to affect China's core interests.

⁶⁵ Meick and Salidjanova, 2017, pp. 5–6; Sina News, “U.S.-ROK Discuss THAAD Deployment, Can Monitor Chinese Ballistic Missiles and Stealth Fighters [美韩讨论部署萨德 能监控中国弹道导弹与隐形战机],” February 15, 2016; Swaine, 2017a. Institute for Security and Development Policy, THAAD on the Korean Peninsula, October 2017, p. 6; Meick and Salidjanova, 2017, p. 3. People's Republic of China Ministry of Foreign Affairs, “Wang Yi Talks About US's Plan to Deploy THAAD Missile Defense System in ROK,” February 13, 2016.

⁶⁶ Chinese experts posited that THAAD would form part of the U.S. global anti-missile defense system network and could be integrated with other AN/TPY-2 radars, U.S. Patriot PAC-3, and Aegis ballistic missile defense systems already deployed to the Indo-Pacific region (Sina News, 2016; Swaine, 2017a, p. 6; Xi Yazhou, “Xi Yazhou: How the PLA Should Counter THAAD [席亚洲: 解放军如何对付萨德],” April 1, 2017). The United States also repeatedly offered to provide China with technical briefings on THAAD, and China refused the offers. For example, see statements by then National Security Advisor Susan Rice and Vice Admiral James D. Syring, director of the Missile Defense Agency: Scott A. Snyder, “China's Limited Retaliation Options Against the THAAD Deployment in South Korea,” in *Asia Unbound*, Council on Foreign Relations, August 8, 2016; Associated Press, “U.S. Seeks to Ease Chinese Anger over Missile Defense Plans,” August 11, 2016; *South China Morning Post*, “US Offers to Brief China on over Deployment of THAAD Missile System in South Korea,” March 30, 2016.

⁶⁷ As China's GDP growth slowed in recent years, the Chinese Ministry of National Defense has been careful to depict defense spending as only a small portion of overall government expenditure and to find ways to increase defense spending without harming growth. See Ministry of National Defense of the People's Republic of China, “Chinese Military Expenditures Reflects Government Policy Direction [中国军费支出折射的政策取向],” March 20, 2019; “Why Did U.S. Economy Not Collapse Like the Soviet Union from Major Military Expenditures? Four Factors to Understand [为何美国没有被巨额军费拖垮而苏联垮了? 有四个因素需要了解],” March 29, 2019; *Great Wall Securities, Based on History of Military Expenditures in Ten Key Countries, Understanding the 'Secret' to Increasing Military Spending* [从十大强国军费历史, 寻找军费增长“密码”], Shenzhen, China: Great Wall Securities, December 20, 2018.

⁶⁸ M. Taylor Fravel, *Strong Borders, Secure Nation: Cooperation and Conflict in China's Territorial Disputes*, Princeton, N.J.: Princeton University Press, 2008.

Conclusion

The United States could reveal and demonstrate capabilities and activities that enable a new COA for defending an ally. Assuming that each U.S. COA requires different countermeasures, then the costs of an adversary attack may increase, or its likelihood of success may decrease. In either case, U.S. ability to deter the adversary would be stronger.

There is not sufficient information available in the public domain to assess exactly how changes in U.S. activities and capabilities would affect Russian and Chinese perceptions. However, the available evidence suggests that it is plausible that the United States could apply this approach to enhance its ability to deter both Russia and China. Both countries have substantial intelligence capabilities to detect changes in U.S. activities and capabilities, and both countries monitor U.S. activities, doctrine, concepts, and military investments closely. This means each would likely learn of new U.S. capabilities and react with their own investments and activities.

Russia appears to worry more about underestimating U.S. capabilities than China does. If this is true, then Russia may have a lower bar for seeing new U.S. capabilities and associated U.S. COAs as credible. Conversely, China's thinking about military operations suggests it is more likely to ask if the United States has all of the key capabilities in place to execute a new COA.

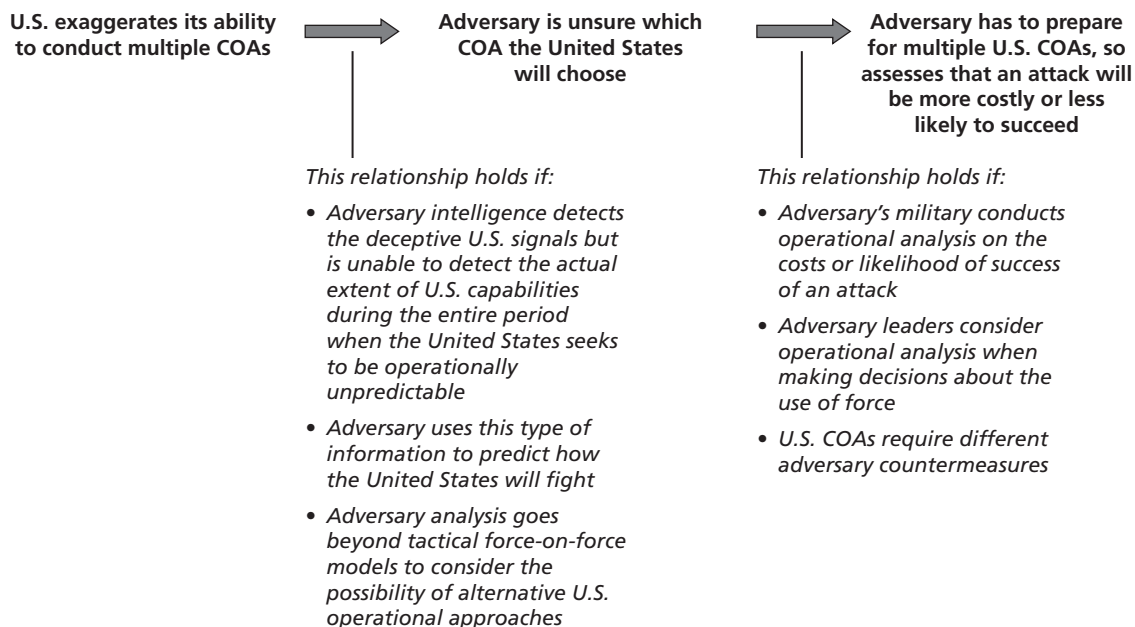
Revealing and demonstrating new capabilities may, however, come with risks. The United States may reduce its military effectiveness if it divides resources among too many alternative COAs or provokes the adversary to develop countermeasures. The United States could also inadvertently signal offensive intentions, especially if these activities involve capabilities that Russia and China perceive as threatening their second-strike capabilities or internal stability. Russia's and China's view of missile-defense systems shows that both countries worry about their ability to distinguish offensive from defensive U.S. capabilities and have inferred U.S. offensive intentions from changes in U.S. capabilities and activities in the past.

Approach 3: Bluff About U.S. Ability to Conduct Multiple COAs

This chapter develops a variation on the approach discussed in the previous chapter. The logic of the two approaches is almost identical (Figure 5.1); the key difference is in the first step. For this approach, the United States bluffs about its ability to conduct multiple COAs rather than actually developing the capabilities to employ all of the COAs in wartime. Planners hoping to use this approach would need to believe that the deception will not be uncovered, usually over an extended steady-state period.

In this chapter, therefore, we focus on the viability of this assumption. The limited publicly available evidence on Chinese and Russian intelligence capabilities suggests that U.S. deception efforts would likely have to be quite sophisticated—and therefore costly—to avoid detection. Russia’s apparent tendency to overstate U.S. capabilities may make it more vulnerable to deception than China.

Figure 5.1
Hypothesized Effects of Bluffing About U.S. Capability to Fight in Multiple Ways



Changes to U.S. Capabilities and Activities

The United States has a limited, but noteworthy, history of employing *wartime* deception. Incorporating British practices and examples, during the Second World War the United States engaged in a comprehensive effort to exaggerate the size of U.S. forces in England prior to the June 1944 invasion of France. Allied forces also took steps to deceive the Germans about where along the French coast the invasion would take place. These efforts were so effective that Nazi leaders overestimated the size of available U.S. forces by 50 percent and held substantial parts of their own forces in reserve for more than a month in anticipation of a second “real” landing elsewhere in France, allowing the Allies to consolidate their positions in Normandy.¹ In the post-1945 era, however, U.S. efforts at military deception appear to have become much more limited.² This reduction likely reflects several factors, including confidence in adversary perceptions of the superiority of actual U.S. capabilities and changes in adversary ISR capabilities that increase the difficulty of many deception efforts.

Under steady-state conditions, the United States could use a variety of deception tools to increase adversary uncertainty regarding which capabilities it might employ in the event of a conflict. These tools could either aim to specifically convince an adversary that the United States has a capability that it does not or simply to increase adversary uncertainty regarding which U.S. capabilities (some true, some illusory) are real.³ Tools could include messaging (e.g., announcing that a capability is closer to deployment than it is in reality), intelligence operations (e.g., planting false information about a capability for an adversary to uncover), and decoys (e.g., creating new, dummy equipment that the adversary perceives to be operational).⁴

If the adversary detects these changes, then it will need to assess whether it believes what it has seen. Deception can be more successful if it is designed to take advantage of the adversary’s biases and assumptions about the U.S. way of war.⁵ Adversary assessments of U.S. deception efforts are also likely to depend on other factors, such as the quality of the deception effort itself and the adversary’s preexisting level of concern about U.S. bluffing, discussed previously. Adversary assessments of U.S. deception efforts may not be binary—that is, they may not assess a deception effort as being either real or fake. Instead, an adversary may suspect a U.S. capability to be false but remain somewhat uncertain. If so, it may still have some uncertainty about how the United States may fight, partially fulfilling the U.S. goals of enhancing operational unpredictability.

A necessary condition for deception to sustain heightened adversary perceptions of U.S. operational unpredictability is that the adversary does not have sufficient intelligence capa-

¹ Thaddeus Holt, *The Deceivers: Allied Military Deception in the Second World War*, New York: Simon and Schuster, 2010, pp. 574–591.

² Hy Rothstein and Barton Whaley, *The Art and Science of Military Deception*: Artech House, 2013, pp. xix–xx. Near the end of the Cold War, efforts to revitalize the use of deception in warfare again revealed limited capabilities (Paul A. Haveles, “Deception Operations in REFORGER 88,” in Hy Rothstein and Barton Whaley, eds., *Art and Science of Military Deception*, Artech House, 2013, pp. 467–474).

³ Donald C. Daniel and Katherine L. Herbig, “Propositions on Military Deception,” in Donald C. Daniel and Katherine L. Herbig, ed., *Strategic Military Deception*, Oxford, UK: Pergamon Press, 1981, pp. 5–7.

⁴ Barton Whaley, *Stratagem: Deception and Surprise in Warfare*, Artech House, 2007, pp. 7–12.

⁵ John Gooch and Amos Purlmutter, *Military Deception and Strategic Surprise*: Frank Cass & Co. Ltd, 1982, pp. 1–2; Richards J. Heuer, *Cognitive Factors in Deception and Counterdeception*: Pergamon Press, 1981, p. 31.

bilities to detect the deception over the period when the United States wants to manipulate adversary perceptions. Given a lengthy period of time, an adversary may be able to devote more intelligence collection and analysis to the problem and therefore better able to assess potential U.S. deception efforts, reducing the likelihood that it will continue to believe in false or exaggerated capabilities. Further, in an environment with no direct conflict, it may be easier for the adversary to focus scarce ISR resources on detecting the deception, and to do so against an overall lower tempo of U.S. operational activities.

There are two factors that may make U.S. efforts to increase adversary perceptions of U.S. operational unpredictability through deception appealing. First, convincing an adversary that the United States possesses a capability may be more cost-effective through deception than by actually building or developing that capability.⁶ This is not to say that deception efforts are costless. Indeed, past successful deception efforts involved substantial investments of personnel, time, and resources.⁷ However, compared with the enormous cost of producing new weapon systems or generating new capabilities, deception efforts—if successful—would likely remain highly cost-effective. Second, while the focus of these efforts would be on creating a deception regarding U.S. capabilities in peacetime, some of the same procedures, activities, and habits the United States would use for these efforts (e.g., operations security) would likely be valuable for deception in wartime as well.

Potential Effects on U.S. Operational Unpredictability and Deterrence

Successful deception about U.S. capabilities may increase operational unpredictability and help to deter U.S. adversaries in ways that are similar to U.S. efforts to demonstrate a real, new capability, discussed in Chapter Four (Approach 2). However, because in this case these capabilities are exaggerated or false, they also create different trade-offs than actually generating new capabilities. Below, we summarize the risks that may accompany the use of deception to increase operational unpredictability.

Costs and Risks

The first set of risks associated with bluffing about U.S. capabilities are those that would accompany an eventual failure of a deception effort. When deception efforts are discovered, adversaries may become reluctant to update their assumptions about U.S. capabilities in the future.⁸ Having revealed a willingness and predilection to deceive the adversary about its capabilities, the United States might have to make larger capability investments, undertake larger-scale exercises, or make more persistent demonstrations in the future to change adversary expectations about how the United States would fight in the event of conflict. An adver-

⁶ Barton Whaley, “The One Percent Solution: Costs and Benefits of Military Deception,” in Hy Rothstein and Barton Whaley, eds., *The Art and Science of Military Deception*, Artech House, 2013, p. 499.

⁷ For example, the successful deception efforts preceding D-Day in 1944 involved more than 4,000 personnel engaged in a wide variety of simulation activities (Whaley, 2013, p. 504).

⁸ Anne E. Sartori, “The Might of the Pen: A Reputational Theory of Communication in International Disputes,” *International Organization*, Vol. 56, No. 1, 2002.

sary may also treat its assessments of other current U.S. capabilities more skeptically, causing it to actually begin to underestimate U.S. capabilities, creating the opposite perception from the one the United States originally intended. The scale of this type of updating of adversary assessments may depend on the scale of the deception uncovered, the degree of threat the adversary perceives from the United States more generally, and the adversary's confidence in whatever intelligence capabilities it utilized to uncover the deception.

A second set of risks may accompany the success of a deception effort, however. As with revealing and demonstrating new capabilities (Approach 2), the adversary may be threatened by what it thinks are new U.S. capabilities. Moreover, having perceived a new U.S. capability, the adversary may take steps to counter it. If the U.S. capability itself was illusory, and the adversary succeeds in creating a counter to it, this may leave the United States a full generation behind in this area, which may in turn have problematic operational implications. The selection of exaggerated or false capabilities to be used in deception operations should therefore be selected with care and attention to these dynamics.⁹

Finally, a sustained deception effort during peacetime would also require deceiving the U.S. public, a significant cost in a democracy. The United States may also have to deceive allies about U.S. capabilities to reduce the risk of adversary detection, potentially undermining trust in the relationship if the deception is later discovered.

Could This Approach Help to Deter Russia from Attacking a U.S. Ally?

As discussed above, Russia has a tendency to overstate U.S. capabilities, which could make it more susceptible to U.S. attempts to exaggerate its capabilities. Although Russia often accuses the United States of being deceitful about its strategic intentions, there is no evidence that the Russians suspect substantial U.S. bluffing about its military capabilities.¹⁰ However, there are reasons why such deception efforts could still be difficult in practice, especially over extended periods of time.

As noted above, Russian intelligence is quite capable, particularly in Russia's periphery. Moreover, deception campaigns, referred to as *maskirovka* in the Russian military context, have had a prominent role in Russian military planning and operations. For example, Russian forces employed *maskirovka* in their annexation of Crimea and incursion into eastern Ukraine.¹¹ Russia has recently procured inflatable versions of some of its equipment for this purpose. This suggests that Russian analysts and decisionmakers may be highly familiar with military deception techniques and therefore may be adept at detecting them.

The availability of information on U.S. capabilities is also increasing. Unlike Allied deception efforts during the Second World War, in which information could be more easily managed and curated, much of the world's population today has access to technologies that allow individuals to capture and share information with vast audiences. Maintaining secrecy in such an environment, which is required for successful deception campaigns, has become increasingly challenging.

⁹ As we discuss below, deception efforts may also have risks and costs for domestic and alliance politics.

¹⁰ For Putin's claim that the West has lied to Russia on several occasions, see President of Russia, "Address by President of the Russian Federation," March 18, 2014.

¹¹ Andrew E. Kramer, "A New Weapon in Russia's Arsenal, and It's Inflatable," *New York Times*, October 12, 2016.

Russian analysts and decisionmakers may be more inclined to believe fallacious information about U.S. capabilities if the information fits their preexisting beliefs about how the U.S. prefers to fight. As discussed above, Russia believes that the United States usually establishes air superiority, uses ISR to identify targets, employs surgical strikes, and uses satellite-enabled C2 and communications systems in combat, if possible. With that in mind, deception campaigns that aim to convince Russia the U.S. is fielding a new capability that enable operations that fall within this general approach may be more readily accepted than those that do not.

Could This Approach Help to Deter China from Attacking a U.S. Ally or Partner?

The United States could also attempt to increase Chinese perceptions of U.S. operational unpredictability through deception rather than actual changes in activities or capabilities. Whether these steps could be effective depends on whether China has sufficient intelligence capabilities to uncover the deception. As discussed above, China is able to obtain significant information about the United States and U.S. capabilities through direct and indirect collection methods, including through U.S. allies and partners. China is therefore likely to verify the information it received directly from observing the United States, or in this case from U.S. messaging or deception efforts, with information it collects from U.S. allies and partners. Along with information collected from U.S. government sources, Chinese intelligence may also assess what U.S. think tanks, defense industry, academia, and the scientific community are publishing or producing on the topic to assess how far along the United States is in developing the capability and on what technological basis or foundation the United States may be developing the new capabilities.

This has two implications. First, the United States would likely need to make costly investments to deceive China over time. It would be most difficult to convince China of a largely invented capability, and exaggerating the operational readiness of a technology that is actually being developed may be more effective. Second, to prevent detection, the United States may have to withhold information from or extend the deception to U.S. allies and partners and most of the U.S. defense community. This means that deception could come at substantial political costs at home and with allies if the deception was later revealed.

Conclusion

While deception efforts against China and Russia would likely need to be sophisticated, it is plausible that the United States could use deception to affect Russian and Chinese perceptions of U.S. operational unpredictability, particularly if the feigned capability falls within these countries' preexisting conceptions about how the United States prefers to fight or plans to fight in the future. Deceiving China may be more difficult than deceiving Russia, since China does not appear to be as quick to accept changes in U.S. capabilities as Russia. That said, the same uncertainties surrounding senior-leader decisionmaking in these countries discussed for Approach 2 apply here. Even if the deception is effective in changing intelligence and military assessments, these assessments may not affect senior-leader decisionmaking about the use of force. Just as with Approach 2, planners can better assess the effects of this approach if they

have access to additional information about Russian and Chinese intelligence, military planning, and decisionmaking processes.

Deception over an extended period in the steady state may eventually be uncovered. If so, this could cause U.S. adversaries to reduce their assessment of U.S. capabilities in the future and create mistrust among U.S. allies and the public. Given uncertainties about the efficacy of this approach and the risks associated with deception in peacetime, planners should carefully consider whether pursuing it advances U.S. interests.

Approach 4: Repeatedly Reveal Covert Capabilities

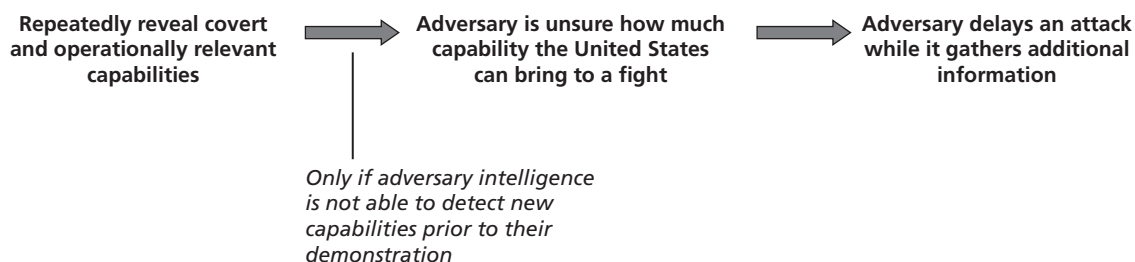
The United States could attempt to keep the adversary off-balance by repeatedly surprising the adversary with new capabilities. This may prevent the adversary from feeling confident in its assessment of U.S. power, causing it to delay an attack to gain new information. However, if the adversary is able to detect capabilities as they emerge, either because they are developed publicly or because they are uncovered by adversary intelligence, the adversary will gain greater confidence in its assessments of U.S. capability. Therefore, this approach is only feasible if the United States is able to meet two conditions, discussed below: First, the United States has the ability to secretly generate a consistent stream of new capabilities; and second, the adversary does not have sufficient intelligence capabilities to detect new capabilities prior to their demonstration (Figure 6.1).

We find that it would likely be difficult to use this approach to deter Russia and China over an extended period of time. The broad outlines of many emerging capabilities are currently public. Even if the United States were to shift toward more covert development, both Russia and China could use space, cyber, and other capabilities to gather information about these programs. Attempting to keep Russia and China wrong-footed with a steady stream of new capabilities may not be viable without significant shifts in the way the United States develops military capabilities and the ability to counter Russian and Chinese espionage.

Changes to U.S. Capabilities and Activities

For this approach, the United States would need to make more of its capability development programs covert and potentially increase the rate at which it develops new capabilities. Today, the United States develops some capabilities (e.g., offensive cyber) covertly. However, in many cases, an emerging capability is publicly discussed, even if some details (e.g., information about

Figure 6.1
Hypothesized Effects of Repeatedly Revealing Covert Capabilities



F-22 stealth capabilities) are secret. Today, U.S. doctrine and concepts tend to be widely available to prepare the force to employ them and also to help the joint force or service make other related changes (e.g., training adaptations to account for new concepts).

If an adversary monitors public information and collects intelligence on the capabilities the United States is developing, then the adversary will likely consider how these emerging capabilities, once operable, would affect U.S. power. Of course, the adversary may have to update these assessments to some degree once the capabilities are demonstrated. However, the adversary should have some general sense of when new capabilities will be deployed and how they affect the advisability of an attack. Therefore, to surprise an adversary with new capabilities and create uncertainty about U.S. power, the United States would need to develop capabilities largely or entirely in secret.

For these capabilities to substantially affect adversary calculations, they would need to be operationally relevant. As discussed above, this means that the capabilities that the United States develops in secret need to be about to have a meaningful effect on the U.S. ability to defend an ally from an attack by the adversary. Which capabilities meet this criterion depend on the specific scenario.

To sustain adversary uncertainty about U.S. capabilities over time, the United States would likely need to reveal covert programs repeatedly, not just a single time. In some ways, the United States is well positioned to generate a regular stream of new capabilities that would be relevant in a conflict with Russia or China. The United States has a robust domestic defense industry, scientific community, and technology sector, as well as a large defense budget relative to its competitors.¹

Yet, constraints endemic to the system could affect the United States' ability to continuously field the type of new capabilities that could have a meaningful effect on the course of a conflict with Russia. First, the year-to-year uncertainty of the defense budgeting process makes planning and paying for new capabilities and maintaining existing capabilities difficult.² Additionally, notoriously labyrinthine DoD acquisitions and procurement processes can hamper the speed at which new capabilities are generated. For instance, in 2018 remarks, Secretary Mattis cited bureaucratic issues as key impediments to DoD efforts to field new equipment.³ A 2018 White House report identified several additional issues, including supply chain vulnerabilities, shortages in skilled laborers due to security clearance delays, and "industries near domestic extinction."⁴ Additionally, organizational interests could also inhibit the United States' ability to rapidly and continuously produce new capabilities.⁵

¹ Jeff Stein and Aaron Gregg, "U.S. Military Spending Set to Increase for Fifth Consecutive Year, Nearing Levels During Height of Iraq War," *Washington Post*, April 18, 2019.

² In 2018, then-Secretary of Defense Mattis asserted that unpredictable budgets adversely affect military readiness, though some question the legitimacy of this claim (James N. Mattis, "Remarks by Secretary Mattis on the National Defense Strategy," U.S. Department of Defense, January 19, 2018). For a refutation of the readiness crisis, see Gordon Adams, "The Military's 'Readiness' Scam Worked Again," *Foreign Policy*, February 15, 2018. Others note that it depends on how *readiness* is defined; see Russell Rumbaugh, *Defining Readiness: Background and Issues for Congress*, Washington, D.C.: Congressional Research Service, June 14, 2017.

³ Mattis, 2018.

⁴ Aaron Gregg and Christian Davenport, "White House Report Points to Severe Shortcomings in U.S. Military Supply Chain," *Washington Post*, October 4, 2018.

⁵ For an example, see Sharon K. Weiner, "Organizational Interests Versus Battlefield Needs: The U.S. Military and Mine-Resistant Ambush Protected Vehicles in Iraq," *Polity*, Vol. 42, No. 4, October 2010.

The United States has undertaken efforts to address these concerns. Congress established an advisory group, the Section 809 Panel, to “speed up the process to deliver what the warfighter needs.”⁶ Some of the panel’s 89 recommendations were incorporated into the 2019 National Defense Authorization Act. The 2020 Pentagon budget request was the first with a specific section devoted to investments in efforts designed to simplify procurement processes.⁷ In some cases, DoD has been able to surmount these challenges to expedite the fielding of a new capability, though this has often required the involvement of senior policymakers, which would likely be infeasible on a persistent basis.⁸ That said, the United States has undertaken similar reform efforts in the past, and many of the same challenges persist.

In sum, the United States could potentially make the changes needed to take this approach to operational unpredictability, but it appears that it would likely be difficult to do so, given the requirements to consistently develop new, operationally relevant capabilities and to reshape, or at least circumvent, the traditionally more transparent U.S. approach to capability development.

Potential Effects on U.S. Operational Unpredictability

If the United States develops capabilities covertly and then reveals them once fully developed, it will have at least set the conditions for surprise. However, if adversary intelligence is able to detect the development of new capabilities in spite of U.S. efforts to obscure them, then the adversary will not actually be surprised. If the adversary feels confident that its intelligence organizations can detect new U.S. capabilities while they are under development, then the adversary may feel more confident in its assessment of U.S. capabilities. However, if its intelligence organizations are caught off-guard by a new, operational capability, the adversary may become concerned that the United States has other capabilities it has not yet revealed. This could make the adversary uncertain about how the United States would fight and how much capability it could bring to bear.

How This Approach Could Help to Deter Attacks on U.S. Allies

In the face of uncertainty about the extent of U.S. capabilities, the adversary may take time to gather more intelligence on the specific capability the United States demonstrated and U.S. capabilities generally, reassess the likely costs of an attack and chances of success, and update its war plans.⁹ During these periods of uncertainty, the adversary may be less likely to attack. In other words, operational unpredictability may help to deter U.S. adversaries in the short term by preventing adversaries from feeling confident in their cost-benefit calculations about

⁶ Joe Gould, “Reform Panel Warns Congress to Overhaul Pentagon Acquisitions, or Lose Technological Edge,” *Defense News*, January 15, 2019.

⁷ Aaron Mehta, “For First Time, Pentagon Budget Will Contain Reform Investments,” *Defense News*, February 7, 2019.

⁸ Weiner, 2010.

⁹ On state responses to uncertainty generally, see Brian C. Rathbun, “Uncertain About Uncertainty: Understanding the Multiple Meanings of a Crucial Concept in International Relations Theory,” *International Studies Quarterly*, Vol. 51, No. 3, 2007.

an attack. To keep the adversary unsettled about its assessments over time, the United States would need to continue to reveal covert capabilities that can potentially have a significant effect on the conflict.

Costs and Risks

Making more U.S. capabilities covert in order to enable this approach could make U.S. adversaries assume the worst about U.S. intentions. Adversaries may detect that a program is underway even if they cannot gain sufficient details to understand its operational relevance. Adversaries may assume that these capabilities are being developed covertly in order to obscure offensive U.S. capabilities and intentions.

Could This Approach Help to Deter Russian or Chinese Attacks on U.S. Allies or Partners?

As noted above, there are significant hurdles to developing operationally relevant capabilities covertly. Even if the United States were to do so, Russia and China could, and likely would, attempt to employ intelligence capabilities to uncover substantial new U.S. programs. We do not have enough information about Chinese and Russian intelligence capabilities to assess the extent to which these countries could uncover information about capabilities that the United States aims to develop secretly. The answer likely depends on the type of U.S. capability being developed and whether the requirements of doing so match up with strengths or weaknesses of Russian intelligence collection. For example, to uncover information about a U.S. capability that relies on a new hardware system, Russia and China may need to intrude on classified networks or have human intelligence on defense industry activities. In general, the larger the scale of a capability development project, in terms of numbers of people and amounts of resources, the higher the likelihood that U.S. adversaries will be able to detect it. Smaller efforts, involving smaller numbers of people or fewer resources, could potentially be more easily hidden, though we would also expect them, all else equal, to be less operationally impactful.

U.S. intelligence officials say that U.S. adversaries have already gained technical details about the F-22 and F-35 through cyber espionage.¹⁰ And, as noted previously, both countries have significant intelligence capabilities that they could apply toward collecting on covert U.S. programs. That does not mean that either country can get access to all of the details about all U.S. covert capabilities. However, it does suggest that it may be difficult for the United States to prevent them from detecting the broad outlines of significant capability changes that could be operationally relevant in the event the United States has to deny an attack on an ally.

¹⁰ Daniel R. Coats, *Statement for the Record Worldwide Threat Assessment of the US Intelligence Community*, hearing before the Senate Select Committee on Intelligence, May 11, 2017.

Conclusion

Our analysis suggests that this approach is unlikely to work against Russia and China. To consistently surprise these countries, the United States would have to covertly generate a regular stream of new capabilities, which may be challenging from procurement, development, fiscal, and institutional perspectives. The United States certainly does try to keep some capability development secret, or at least the technical details that may enable adversaries to develop countermeasures. However, many other aspects of capability development are discussed openly, such as in defense budgets and doctrine documents. Given these realities, as well as Russia and China's intelligence capabilities, it seems unlikely that the United States could consistently surprise these countries with operationally relevant capabilities and thereby help to deter U.S. adversaries through this approach.

Findings and Recommendations

The United States continues to look for ways to deter attacks against U.S. allies and partners by keeping high the costs and risks of adversaries using military force. This report has explored the possibility that increasing operational unpredictability, as called for in the National Defense Strategy, could serve this purpose. Defining realistic approaches to increase operational unpredictability is challenging, and affecting Russia or Chinese perceptions and behavior is difficult. There will also be potential costs and risks to using this approach. To help the joint force and the Army navigate these challenges and trade-offs, we offer the following findings and recommendations.

Findings

Increasing Russian and Chinese Perceptions of U.S. Operational Unpredictability May Be Possible If Tailored to Russian and Chinese Decisionmaking Processes

Changing Russian and Chinese perceptions of U.S. operational unpredictability will require both a deep understanding of how Russia and China observe and process information about U.S. activities and an ability to design credible demonstrations of operational unpredictability that target adversary analytic and decisionmaking processes. Planners need to consider the nature of the change in U.S. activities or capabilities, adversary methods of predicting how the United States may fight, adversary intelligence capabilities, and other factors to determine whether a proposed activity or set of activities is likely to produce the desired effects. This may be difficult, as publicly available information about Chinese and Russian intelligence capabilities and military decisionmaking processes is limited.

Increasing Operational Unpredictability May Require Costly Changes to U.S. Capabilities and Activities

Increasing an adversary's perception of U.S. operational unpredictability requires convincing it that the United States has multiple credible COAs that it can employ to accomplish its strategic objectives. Developing and demonstrating the capabilities to execute multiple alternative COAs for a single military objective could be costly, except in cases where those COAs require very similar preparations. To bolster the credibility of various COAs and sustain adversary perceptions of U.S. operational unpredictability, we expect that the United States would need to maintain relevant capabilities and continue to demonstrate them over time. Small changes to U.S. exercises, deployment patterns, capabilities, and other activities in the steady state are unlikely to significantly change the calculations of militarily capable states such as China and

Russia. While more likely to succeed, larger-scale capability changes, demonstrations, and irregularities in U.S. deployment patterns are likely to be more costly. The United States could potentially mitigate some of the costs of larger-scale activities by employing deception to exaggerate U.S. capabilities. While deception efforts may be less expensive than developing fully operational alternative COAs, exaggerating U.S. capabilities may require sophisticated and costly operations to fool intelligence assessments by Russia and China over extended periods of time.

Developing Alternative U.S. COAs That Require Different Adversary Counters May Help the United States Deter Adversaries from Attacking U.S. Allies

We expect that developing and demonstrating alternative COAs would be the most effective way to increase China's and Russia's perceptions of U.S. operational unpredictability. This can be accomplished by developing new operational plans, using forces in different ways, or developing new technologies. Appendix B provides an example where this approach increased U.S. operational unpredictability in the past. In theory, if alternative U.S. COAs were to require substantially different adversary countermeasures, then the adversary may assess that the costs of preparing for conflict would be higher or the likelihood of adversary success may be lower. Facing higher costs or a lower chance of success, the adversary may be less likely to pursue aggression.

Other approaches do not appear as promising. For instance, attempting to keep the adversary wrong-footed with a steady stream of new capabilities may be difficult given the relative transparency of and bureaucracy surrounding the U.S. capability development processes, and Russia's and China's intelligence capabilities. Irregular deployment patterns could make it more difficult to predict the ideal time for an attack far in advance, but China's and Russia's intelligence capabilities limit the extent of uncertainty regarding major U.S. posture changes and troop movements that can be produced.

Increasing Perceptions of U.S. Operational Unpredictability May Divert Resources Away from Maintaining Readiness for Preferred U.S. COAs

To the extent that developing alternative U.S. COAs require different preparations, scarce resources would be spread out across multiple COAs. This could make the joint force less effective at executing any single COA. Put another way, if substantial efforts are required to increase adversary perceptions of U.S. operational unpredictability, and the alternative COAs employed do not have substantial military benefits, then diverting time and attention to them may also undermine overall warfighting effectiveness.

If actions to increase perceptions of U.S. operational unpredictability involve more deployments and other steady-state activities to shape adversary perceptions, then these activities could also affect readiness more generally. These activities may affect readiness by, for example, putting wear and tear on equipment and diverting resources away from required training. That said, some of these activities on their own could improve readiness by giving units an opportunity to conduct realistic exercises. The extent of these trade-offs will depend on the specific activities the United States is considering and the differences between alternative COAs.

U.S. Actions to Enhance Perceptions of U.S. Operational Unpredictability May Increase Russia's and China's Assessments of U.S. Offensive Intent

Some of the capabilities that the United States may develop or demonstrate to enhance perceptions of U.S. operational unpredictability could be used offensively, not just to defend U.S. allies or partners from an attack. For example, as we discuss in Appendix B, U.S. attempts to demonstrate new naval courses of action in exercise Ocean Venture, which the United States could have used in either a defensive or offensive context, increased Soviet concerns about a surprise U.S. attack. We also found evidence that suggests that this approach could apply to Russia and China today.

Russia and China both perceive avowedly defensive U.S. systems, such as missile defense, as having offensive purposes. As this illustrates, capabilities and activities relevant to new U.S. defensive COAs may be misinterpreted as offensive COAs, particularly if they exhibit characteristics that threaten Russian or Chinese core interests. Most concerning, Russia has shown a willingness to use force when its threat perceptions are heightened or when its credibility is acutely challenged. As a result, attempts to create operational unpredictability, if they appear to threaten Russia's core interests, such as regime security, could make Russian aggression more likely, rather than enhancing deterrence as intended.

These findings support the NDS's directive that attempts to be operationally unpredictable should not be allowed to affect perceptions of U.S. strategic predictability. Activities that relate to locations or capabilities that are of particular sensitivity to potential U.S. adversaries, such as PGS or missile defense, may create the greatest risk of increasing threat perceptions.

Activities and Capabilities That May Contribute to Operational Unpredictability Do Not Necessarily Have to Be Unpredictable or Hidden

To increase an adversary's perception that the United States is operationally unpredictable, the United States will need to demonstrate that it is willing and able to undertake a range of COAs. Publicized investments in new capabilities, security cooperation, exercises, and deployments that enable a new COA could make U.S. alternative ways of fighting more credible to the adversary. Public messaging, especially by senior leaders, may even shape adversaries' interpretations of U.S. activities. Chinese military planners, for example, may be more likely to take a potential COA seriously if there is clear and public political or military leadership support for the COA or concept surrounding the COA.

It Will Be Difficult to Assess the Effects of Initiatives to Increase Perceptions of U.S. Operational Unpredictability

Efforts to enhance adversary perceptions of U.S. operational unpredictability may not have immediate or easily observable effects on adversary behavior. Likewise, it may be quite difficult to attribute any changes in adversary attitudes or behavior that are observed to any specific U.S. activity rather than to broader geopolitical events, changes in the adversary's domestic context, or other factors. In the best case, the United States may observe the adversary making military preparations that are clearly linked to a new COA that the United States sought to make credible. However, the evidence of effects is more likely to be found in the adversary's military assessments or deliberations between its policymakers, which are not publicly available. U.S. intelligence may be able to gain access to some of these documents or deliberations. However, as the Cold War case studies show, it can be difficult to access high-level decision-making documents even years after the fact. It is therefore likely to be quite difficult to assess

whether efforts to enhance operational unpredictability are having their desired effects, the opposite effects, or no effects at all.

Recommendations

Compare the Use of Operational Unpredictability Against Alternative Approaches to Enhancing Deterrence

Increasing perceptions of U.S. operational unpredictability is only one potential approach to enhancing deterrence. For example, rather than investing in the development of multiple COAs or irregular deployment patterns, the United States could put scarce resources toward improving existing COAs or developing replacements that could be more effective. Generating operational unpredictability should not be seen as an end to itself but as one of many tools to consider when attempting to deter U.S. adversaries.

Develop a Clear Logic Linking Activities Intended to Increase Perceptions of U.S. Operational Unpredictability to Desired Outcomes

We identified many factors that may affect the relationships among U.S. activities, perceptions of U.S. operational unpredictability, and deterrence. The complexity of these relationships shows that planners will need to consider which approach they are trying to employ and to evaluate whether the necessary conditions are in place for the approach to be effective in increasing the likelihood that their efforts to deter U.S. adversaries will succeed. Failing to articulate the proposed approach may cause the United States to apply the concept of operational unpredictability to situations where it would be ineffective or even counterproductive. Carefully evaluating this logic is also important since, as noted above, it may not be possible to assess the effects of attempts to increase adversary perceptions of U.S. operational unpredictability.

Review Existing Intelligence and Consider Increased Collection on Russia's and China's Operational Assessment and Decisionmaking Processes

As noted above, our conclusions about the effects of U.S. initiatives on operational unpredictability are limited by the lack of publicly available information on Russia's and China's operational assessment and decisionmaking processes. Reviewing existing intelligence or making these topics a priority for intelligence collection (if they are not already) may help planners gain a better sense of how these states may respond to U.S. attempts to increase perceptions of U.S. operational unpredictability. Most helpful would be intelligence on how the Russian and Chinese militaries assess U.S. warfighting options and the possible costs and risks of conflict, as well as whether senior political leaders consider such assessments.

Expand Army Contributions to Enhancing U.S. Operational Unpredictability by Working with Other Services on Interoperability and Other Enablers of New Joint COAs

U.S. COAs for responding to a potential attack on a U.S. ally or partner from Russia or China are likely to involve joint, rather than single-service, operations. Moreover, given the large strategic mobility requirements needed for Army expeditionary operations, increasing the range of credible U.S. COAs is likely to include COAs in which the Army is called on to support other services. An example of this is the Air Force's ACE concept, which is designed to enable air

operations from a larger number of distributed austere operating locations and will depend on Army support to provide logistics, engineering, security, air and missile defense, and CBRN (chemical, biological, radiological, and nuclear) capabilities at distributed air bases. By supporting an Air Force-led joint concept, the Army could make a new COA more credible to the adversary and potentially increase their perceptions of U.S. operational unpredictability.

Continue Initiatives on Army and DoD Flexibility and Agility, Which May Also Support Operational Unpredictability

DoD and the Army have prioritized capability and concept development, such as multidomain operations, that increase the flexibility and agility of U.S. forces. These initiatives can enable operational unpredictability by reducing the time between when the United States has to commit to a specific COA and the execution of that COA. For example, efforts that may contribute to both (1) increased operational flexibility and agility and (2) increased operational unpredictability might include investing in greater capacity in key enablers and expeditionary capabilities and developing greater modularity of U.S. forces and capabilities. Increased flexibility and agility in Army, joint, and DoD processes in areas such as concept development, training, acquisition, budgeting, and mobilization processes can support more effective capabilities generation to increase the United States' range of COAs.

Test of Approach 2: Autumn Forge 1975

In this appendix and the next, we examine cases where the United States sought to be more operationally unpredictable. In both of the cases that we were able to identify, the United States adopted similar policies to Approach 2 by revealing and demonstrating capabilities that enabled new COAs.

To identify these cases, we reviewed the military history of the Cold War to find examples in which the United States changed its steady-state activities with the intention of increasing Soviet uncertainty about how the United States would fight. Although U.S. policymakers used different terms at the time, we found that the United States sought to increase Soviet perceptions of U.S. operational unpredictability, as we define it in this report, as it designed the Autumn Forge (1975) and Ocean Venture (1981) exercises.

We focused on the Cold War because it is a recent period of great-power competition, similar to the context the United States faces today. There are of course differences between U.S.-Soviet relations in this period and contemporary relations among the United States, Russia, and China. We were unable to test all of the hypothesized relationships discussed in the report or to do so in a large number of cases, so additional empirical analysis would be valuable if the joint force continues to develop concepts for operational unpredictability. Furthermore, some parts of the analysis did not yield definitive conclusions; even several decades later, it is difficult to access sufficient information to make assessments regarding whether these approaches worked as intended. Still, the cases provide an initial test of the relationships outlined in Approach 2.

This appendix investigates whether the Autumn Forge exercises in 1975 increased Soviet perceptions of U.S. and NATO operational unpredictability. Autumn Forge, an annual NATO exercise series that began in 1975 and continued through the following decade, was motivated by the desire to develop a greater range of options for NATO to counter the Soviet Union in Europe and demonstrate the interoperability of NATO forces. Autumn Forge 75 differed from previous exercises in three primary ways: the sheer size of the participating force, the deployment of U.S. troops to the northern front of Germany, and the inclusion of U.S. marines.

Key Takeaways

- The 1975 Autumn Forge exercise was intended, in part, to increase Soviet perceptions of U.S. and NATO operational unpredictability.
- The limited evidence available on Soviet decisionmaking during this period suggests that the Soviets may have seen NATO as more capable, but not more operationally unpredictable, post-exercise.
- Over time, the Autumn Forge series of exercises appears to have increased Soviet fears about the possibility of a surprise NATO attack.
- We were unable to assess the exercise's effect on deterrence due to limited information on Soviet decisionmaking.

Based on an analysis of available evidence, we find that the 1975 exercise led the Soviets to reassess how the United States and NATO would fight in future conflicts, and we conclude that NATO capabilities had improved. There is no evidence in Soviet military journals or the archival sources we examined that the exercise enhanced Soviet perceptions of U.S. operational unpredictability. However, we cannot exclude the possibility that such evidence could be found in more detailed military assessments that we were unable to access.

This case illustrates one reason why it is difficult to increase adversary uncertainty about how the United States will fight: Adversaries may see newly demonstrated COAs as a replacement for, rather than an alternative to, existing COAs. If the adversary believes the United States has one new, improved option, then it will not see the United States as operationally unpredictable.

Sources

This analysis of Soviet perceptions of Autumn Forge draws on sources obtained from the Library of Congress, Lithuanian Special Archives, Bundesarchiv, and NATO Archives. Due to access and classification constraints, this analysis does not incorporate Soviet sources from archives in Russia. We did, however, consider articles published in Soviet military journals, reports written by KGB operatives in the Soviet Union, and reports written by East German intelligence analysts. The analysis also incorporates insights from NATO officials, including memoranda and official communications regarding the Soviet military and Soviet assessments of the West.

The two primary Soviet military journals consulted for this case study were *Voennaya Mysl*, or *Military Thought*, and *Zarubezhnoe Voennoe Obozrenie*, or *Foreign Military Review*.¹ In this period, the authorship of both journals consisted primarily of high-level military officials, although *Military Thought* was also known to publish articles written by prominent lecturers from top military universities in the Soviet Union.² Although these articles provide significant insights into Soviet perceptions of U.S. and NATO activities, they also reflect the official, public position of the Soviet military establishment. As a result, it is likely that some statements regarding U.S. intentions were intended for propaganda or other purposes, and do not reflect the genuine beliefs of their authors. Below, we explain how we accounted for this possibility.

To understand Soviet perceptions of Autumn Forge, this analysis also incorporates East German intelligence reports pertaining to the exercise series. Because key parts of Autumn Forge took place in northern Germany, East German intelligence reports represent some of the earliest reactions to the exercise series. The impressions of East German intelligence analysts offer insight into Soviet perceptions because they would have been communicated to Soviet decisionmakers, thereby shaping Soviet thought regarding the implications of Autumn Forge.

Unfortunately, we were unable to review detailed operational assessments or gain access to documents that give insight into the reactions of senior Soviet political leaders. Therefore, the evidence we were able to examine is limited to general military and intelligence discussions

¹ Prior to 1973, issues of *Foreign Military Review* were only circulated within the Soviet military. After 1973, however, the Soviet Ministry of Defense decided to make the journal more broadly accessible, although it was still only available by subscription.

² *Military Thought* was known for publishing the works of graduates of the elite Frunze Military Academy in Moscow.

about NATO operations. Still, the sources we examined are useful in ascertaining the broad contours of official discourse regarding U.S. activities and intentions in the Soviet Union in this period.

The Exercise

The origins of Autumn Forge can be traced to December 1974, when General Alexander Haig was appointed to the position of Supreme Allied Commander Europe (SACEUR). Haig's appointment has been characterized as "usher[ing] in the most far-ranging transformation of NATO" in decades.³ Prompted by the "steady build-up of Warsaw Pact forces opposite NATO" and "growing alarm in Washington and in Europe about the poor state of the Alliance's conventional forces and the risk that the Soviet Union might become militarily predominant," Haig authorized a series of flexibility studies. By examining ways to respond to small-scale Soviet military threats in Europe with conventional, rather than nuclear, weapons, these studies were intended to cultivate an increased range of options for how NATO could fight in future conflicts.⁴ The studies identified 865 potential ways to improve NATO force flexibility.⁵ One of these studies focused exclusively on conventional options for fighting in the NATO Central Region.⁶ This study led to the creation of Autumn Forge, which "link[ed] previously autonomous multinational and NATO exercises [that were] conducted every autumn into a single exercise series."⁷ These linked deployment, command post, and field training exercises included naval, air, and ground activities across the European theater.⁸ The goal of the first of the series of Autumn Forge 75 exercises, scheduled to begin in early September and run through early November 1975, was, according to NATO officials, to "improve the capability of NATO forces to react quickly, to improve [Allied Command Europe (ACE)] standardization and interoperability, and to find ways . . . to increase the flexibility in employment of ACE forces." In sum, these changes were intended to demonstrate that NATO had at its disposal more options for a non-nuclear conflict in Central Europe.⁹ Autumn Forge was also intended to show alliance cohesion and interoperability. It was later characterized as the "strongest single example of NATO's determination and ability to meet any contingency by a unified application of force."¹⁰

³ Diego A. Ruiz Palmer, "The NATO-Warsaw Pact Competition in the 1970s and 1980s: A Revolution in Military Affairs in the Making or the End of a Strategic Age?" *Cold War History*, Vol. 14, No. 4, September 3, 2014, p. 553.

⁴ Kimberly Marten Zisk, "Soviet Reactions to Flexible Response," *Engaging the Enemy: Organization Theory and Soviet Military Innovation, 1955–1991*, Princeton, N.J.: Princeton University Press, 1993a, p. 47.

⁵ Zisk, 1993b, p. 135.

⁶ Palmer, 2014, pp. 553–554. The flexibility studies were part of a broader effort during this period to improve the conventional defense capabilities of NATO. See Zisk, 1993b, p. 135.

⁷ Palmer, 2014, pp. 553–554.

⁸ J. C. Gardner, *Memorandum to Members of the NATO Military Committee*, North Atlantic Treaty Organization, NATO Archives, IMSM-242-75, May 2, 1975, p. 7.

⁹ *NATO Military Committee Message to Supreme Allied Commander Europe*, NATO Military Committee, NATO Archives, IMSCOM-68-75, 1975, p. 2.

¹⁰ *SACEUR'S Combat Effectiveness Report for Allied Command Europe*, November 29, 1978.

Autumn Forge 75 differed from past U.S. and NATO military exercises in three ways:

1. the **size** of the exercises
2. a **shift in location** for deploying units' field training exercises
3. the **type of forces used** during the exercises.

An amalgamation of many different exercises, Autumn Forge 75 was “one of the largest-ever series of NATO exercises.”¹¹ In addition, deployed U.S. ground forces conducted field training exercises in the Northern Army Group (NORTHAG) area, which included northern Germany, concurrently with exercises in the Central Army Group (CENTAG) area, where U.S. ground forces were predominantly based.¹² This decision “reflect[ed] the growing concern” that the “northern flank, with sizeable Soviet forces facing it from bases in East Germany, need[ed] to be bolstered both militarily and psychologically, particularly with American troops.”¹³ Autumn Forge 75 was also a departure from previous exercises in that it represented the first deployment of U.S. marines in northern Germany since the end of World War I.¹⁴ Fifteen hundred U.S. marines were deployed to the region for the exercise, reflecting a “reorient[ation]” of the Marine Corps “toward a European battlefield” after the Vietnam War.¹⁵ The following year, during Autumn Forge 76, similar maneuvers were carried out.¹⁶ At least until the 1980s, the basic format of Autumn Forge remained relatively stable, although the “number, location, and characteristics of individual exercises” changed over time.¹⁷ Since there is not an authoritative source documenting the evolution of Autumn Forge after 1975, and since official Soviet reactions to Autumn Forge were delayed by several years, we did not conduct an in-depth examination of year-to-year changes in Soviet perceptions.¹⁸

Effect on Adversary Perceptions

In this section, we consider how demonstrating a wider range of capabilities through peacetime activities affected Soviet perceptions of U.S. operational unpredictability, the United States' and NATO's ability to deter the Soviet Union, and Soviet perceptions of U.S. offensive intentions.

Based on an examination of general operational assessments found in Soviet military journals and archival sources, we find that Autumn Forge likely did not substantially increase Soviet perceptions of U.S. operational unpredictability. However, because we could not access

¹¹ “Autumn Forge 75,” *FLIGHT International*, October 30, 1975.

¹² Drew Middleton, “U.S. Experts Believe Soviet Union Is Stressing Blitzkrieg Training Against NATO,” *New York Times*, September 30, 1975.

¹³ Middleton, 1975.

¹⁴ Middleton, 1975.

¹⁵ Michael Getler, “Marines to Serve in Germany,” *Washington Post*, September 12, 1975.

¹⁶ “Huge NATO Maneuvers Set,” *New York Times*, 1976.

¹⁷ Diego A. Ruiz Palmer, “Military Exercises and Strategic Intent Through the Prism of NATO's Autumn Forge Exercise Series, 1975–1989,” *Military Exercises: Political Messaging and Strategic Impact*, 2013, p. 80.

¹⁸ Through the 1980s, Autumn Forge was a regular feature of the U.S. and NATO exercise schedule. However, this case study does not address subsequent changes in the characteristics of Autumn Forge during the 1980s.

detailed operational assessments, we cannot exclude the possibility that Autumn Forge increased operational unpredictability to some extent. Therefore, we were not able to fully assess whether Autumn Forge helped to deter the Soviet Union or increased U.S. operational unpredictability. However, we did separately observe that, by the end of the 1970s, the Autumn Forge exercises had caused Soviet military officials to become gradually more concerned about the offensive intentions of the United States and NATO, suggesting that perceptions of U.S. strategic predictability may have been undermined.

Soviet Perceptions of U.S. Operational Unpredictability

We hypothesized that demonstrating a wider range of conventional capabilities through peacetime activities could increase Soviet perceptions of U.S. operational unpredictability under certain conditions. These exercises demonstrated that the United States was not only willing to deploy its troops to northern Germany, but also had improved readiness and reinforcement capabilities. The exercises also demonstrated U.S. preparations for conventional, not just nuclear, hostilities. In this section, we consider whether these changes led to increased Soviet perceptions of U.S. operational unpredictability. In doing so, we focus on the following questions:

- Did the Soviet Union detect Autumn Forge 75 and how it differed from past exercises?
- Did the Soviet Union use observations from these exercises to make predictions about how the United States would fight?
- Ultimately, did the exercise series increase Soviet uncertainty about how the United States would fight (increase perception of U.S. operational unpredictability)?

Adversary Detection of Changes from Previous Exercises

The Soviet military did not immediately comment on the characteristics that differentiated Autumn Forge 75 from previous exercises. In December 1975, an article in one Soviet military journal simply noted that the new exercise series had recently concluded: “In the period from September to November 1975, a series of multinational exercises were held under the common name ‘Autumn Forge.’”¹⁹ By the following year, East German intelligence reports highlighted the specific characteristics of the Autumn Forge series. Reforger,²⁰ one of the exercises that made up the broader Autumn Forge series, had “qualitatively new features” compared with previous exercises, including the “increasingly complex training of NATO forces in Europe, as well as new procedures for the introduction of reinforcements from the U.S.”²¹ Noting the “evolved strategic character” of Autumn Forge, East German intelligence reports emphasized that compared with its predecessors, Reforger was becoming larger and more complex.²² These reports noted that Autumn Forge had benefited from the “addition of mechanized and armored troops and forces of the [U.S.] Marine Corps.”²³

¹⁹ P. V. Pavlov, “Military Training Exercises of NATO,” *Voennaya Mysl [Military Thought]*, December 1975, p. 81.

²⁰ The Return of Forces to Germany (REFORGER) exercises, begun in 1969, included a large-scale deployment exercise followed by a field training exercise, typically in CENTAG in years prior.

²¹ Ministry of National Defence of the German Democratic Republic, *Information on the Facilities, Course, and Important Results of Reforger-76 of the U.S. Armed Forces*, Bundesarchiv, GVS-Nr. A 482 607 Bl. 2, undated, p. 6.

²² Ministry of National Defence of the German Democratic Republic, undated, p. 6.

²³ Ministry of National Defence of the German Democratic Republic, undated, p. 6.

It was not until several years later, however, that official public sources in the Soviet Union first acknowledged the significance of Autumn Forge. In 1978, an article in one Soviet military journal described the strategic importance of Autumn Forge, highlighting in particular the expanded geographic scope of the Reforger exercises.²⁴ The following year, a Soviet military official characterized Autumn Forge as “unprecedented and surpass[ing] all previous, similar exercises.”²⁵ It is possible—even likely—that Soviet military and political leaders detected these changes earlier but did not discuss them publicly for several years.²⁶ Either way, it is clear that the Soviet Union detected the changes in the characteristics of Autumn Forge, although the exact timing is not certain.

Effect on Adversary Assessments of How the United States Would Fight

The characteristics that differentiated Autumn Forge 75 and its successors from previous exercises altered adversary assessments of how the United States would fight in a future conflict in Central Europe. In 1976, East German intelligence reports concluded that the new exercise series demonstrated that the United States had “improve[d] its ability for rapid reinforcement” and had a “high degree” of combat readiness “under conditions close to war.”²⁷ Writing on the implications of Autumn Forge, commentators in Soviet military journals underscored that the series had revealed recent improvements in the capabilities and interoperability of NATO conventional forces. Autumn Forge demonstrated that the United States sought to “increase . . . the combat strength of [its] troops,” including reservists, as well as improve their “readiness and training.”²⁸

The Soviet Union also viewed Autumn Forge as part of a broader U.S. and NATO strategy aimed at preparing local populations in Central Europe for future conflict with the Soviet Union. It was suggested that the United States and NATO used large-scale exercises such as Autumn Forge to “intimidate[e] local populations with the threat of the Eastern bloc,” damage the reputation of the Soviet Union, reduce local opposition to increased defense budgets, and ensure compliance with wartime edicts in the event of future conflict.²⁹

In the years following Autumn Forge, the Soviet Union assessed that the United States was a more formidable opponent in Central Europe because of its newly proven rapid reinforcement capabilities, the improved readiness and training of U.S. troops, improved NATO interoperability, and the demonstrated willingness to deploy U.S. troops to northern Germany.³⁰

²⁴ I. Vybornov, “NATO Exercise: Autumn Forge-77,” *Zarubezhnoe Voennoe Obozrenie* [Foreign Military Review], 1978, p. 22.

²⁵ V.A. Alexandrov, “NATO Maneuvers ‘Autumn Forge-78,’” *Voennaya Mysl* [Military Thought], January 1979, p. 54.

²⁶ Especially given the new reporting requirements for large-scale military exercises under the 1975 Helsinki Final Act (Commission on Security and Cooperation in Europe, “The Security Dimension,” undated).

²⁷ Ministry of National Defence of the German Democratic Republic, undated, pp. 26, 28.

²⁸ Vybornov, 1978, p. 22.

²⁹ Alexandrov, 1979, p. 54.

³⁰ For evidence of this changed assessment, see in particular Vybornov, 1978; Alexandrov, 1979. East German sources stated this more explicitly. For example, see Ministry of National Defence of the German Democratic Republic, undated, p. 6.

Effect on Adversary Perceptions of U.S. Operational Unpredictability

Although the exercises affected Soviet assessments of U.S. capabilities and how NATO would fight, they do not appear to have increased uncertainty within the Soviet military establishment regarding the overall way in which the United States would fight in Central Europe.³¹ Although Soviet sources do not explicitly address perceptions of operational unpredictability, the lack of discussion of multiple NATO options and emphasis on improved NATO capabilities suggest that Soviet military officials viewed Autumn Forge as demonstrating a new and better way for NATO to fight in Central Europe rather than an additional option.³² It is also possible that Soviet military planners updated more detailed operational assessments regarding how the United States would likely seek to achieve specific operational military objectives in the event of a conflict. However, we did not identify sources that provided information at this level of analysis. Therefore, we cannot exclude that Autumn Forge created some level of operational unpredictability. However, it appears that the primary effect of Autumn Forge was to increase Soviet assessments of NATO capabilities, not NATO unpredictability.

Effect on U.S. Ability to Deter the Soviet Union

As we remain uncertain as to whether Autumn Forge did in fact enhance operational unpredictability, we also remain uncertain whether it enhanced deterrence by following the logic outlined under Approach 2. However, the exercise series may still have had some effect on deterrence by demonstrating a new, potentially more effective COA as a replacement for previous U.S. and NATO approaches to defending against a Soviet attack. In this section, we briefly consider the evidence supporting this more traditional approach to deterring a U.S. adversary. A preliminary review of the available evidence suggests that Autumn Forge may have positively affected deterrence by increasing Soviet perceptions of U.S. and NATO capabilities, but the evidence is mixed.

The evidence suggests that Soviet military officials clearly understood Autumn Forge as a “preplanned military demonstration” of the “deterrence strategy” of the United States and NATO.³³ One of the major goals of the exercises, they believed, was to show the Soviet Union the “increased power and unity of the NATO member states.”³⁴ Autumn Forge aimed to deter Soviet aggression by “demonstrat[ing] to the Soviet Union and the other socialist countries the increased military power of the [Western] bloc,” as well as the “unity and monolithic nature’ of the NATO states [and] their readiness to oppose the socialist bloc at any moment.”³⁵ East

³¹ Other shifts in U.S. foreign policy in this period, such as U.S. Secretary of Defense James Schlesinger’s statement in January 1974 on the “limited” use of nuclear weapons, may have created uncertainty within the Soviet military establishment regarding how the U.S. would fight, but Autumn Forge itself does not seem to have had this effect. For a discussion of Soviet perceptions of the evolution of U.S. foreign policy in this period, see William F. Scott and Harriet Fast Scott, “Soviet Perceptions of US Military Strategies and Forces,” in Graham D. Vernon, ed., *Soviet Perceptions of War and Peace*, Washington, D.C.: National Defense University Press, 1981, p. 106.

³² This is the case even though Autumn Forge emphasized U.S. conventional capabilities, rather than just nuclear capabilities, as integral in a future conflict.

³³ Alexandrov, 1979, p. 54.

³⁴ Alexandrov, 1979, p. 54.

³⁵ Vybornov, 1978, p. 22.

German intelligence reports concurred with this view, although they additionally characterized Autumn Forge as a form of “pressure and blackmail.”³⁶

As noted above, the Soviets assessed that NATO capabilities had increased and that NATO had improved options for fighting in Europe. To the extent that the Soviets believed these capabilities would make certain types of Soviet attacks on Europe more costly or less likely to succeed, general deterrence would tend to be stronger.

However, the exercise may have revealed other weaknesses that may have partly counterbalanced these improvements in adversary assessments. East German intelligence reports, in particular, emphasized the shortcomings demonstrated during Autumn Forge. These reports suggested that Autumn Forge had revealed that there was “room for improvement” in the military forces of the West, noting difficulties in guaranteeing cooperation between forces from different NATO member states.³⁷ Autumn Forge also revealed broader fractures in the Western alliance, including opposition by some West German parties to the very idea of conducting such potentially provocative, large-scale exercises.³⁸ Whether these perceptions of NATO shortcomings outweighed the evidence of increased NATO capabilities in the minds of Soviet military planners, and how these perceived shortcomings compared with Soviet perceptions of NATO shortcomings before Autumn Forge, remains unclear. Although we cannot say definitively what the net effect of the exercises on deterrence was, it is plausible that demonstrating greater capabilities did, on net, enhance Soviet perceptions of the costs it would face in the event that it tried to attack NATO, thereby enhancing general deterrence. That said, the benefits of enhanced deterrence for U.S. interests depend on whether the Soviets had or might have developed an intention to attack Europe in this period.

Adversary Threat Perceptions

The existing international relations literature suggests that both changes in the location of U.S. activities and the introduction of new capabilities can affect an adversary’s perception of the threat it faces from the United States, including the risk that the United States may in fact be planning to attack it. As discussed above, these heightened threat perceptions—if they become particularly acute—can increase the risk that an adversary may undertake a precipitous attack of its own. We now know, of course, that the Soviet Union did not attack the United States or NATO in response to heightened threat perceptions or any other reasons. However, it is still important to assess the first part of this logic: whether the Soviet Union perceived U.S. activities in Autumn Forge as increasing the likelihood that the United States might be preparing for an attack of its own on the Soviet Union or the Warsaw Pact. Such perceptions are potentially dangerous, and even if they did not result in conflict during the Cold War, they remain an important dynamic for policymakers today to monitor as they consider approaches to increasing unpredictability. Information from this case study can still inform whether the United States was increasing its risk in this area as a result of Autumn Forge or not.

Autumn Forge certainly had the potential to increase adversary threat perceptions because it demonstrated new readiness and reinforcement capabilities that could be used both offen-

³⁶ Ministry of National Defence of the German Democratic Republic, undated, p. 26.

³⁷ Ministry of National Defence of the German Democratic Republic, undated, p. 28.

³⁸ A. C. Davies, *Memorandum to Members of the NATO Military Committee*, North Atlantic Treaty Organization, NATO Archives, IMSM-511-78, October 12, 1978.

sively and defensively. As the evidence below demonstrates, we find it likely that Autumn Forge did increase Soviet perceptions of the threat of a U.S. attack.

Baseline Adversary Threat Perceptions

In the early 1970s, while the Soviet Union “routinely criticized” U.S. and NATO exercises and characterized these activities as “indications of Western hostile intentions,” the Soviet Union and the other member states of the Warsaw Pact did not consider U.S. and NATO exercises in Central Europe to be unduly alarming.³⁹ In 1974, in fact, East Germany intelligence reports concluded that the “Reforger exercises [were] relatively stable.”⁴⁰ By the middle of the decade, however, détente had “progressively unraveled” in a “process of mutual disillusionment.”⁴¹ The Soviet Union realized that the United States was “unwilling to accept as consistent with détente those specific Soviet military advantages in the central and regional matchups which the Soviets regarded as both natural and essential to their interests.”⁴² Soviet leaders also became aware that the United States did not view détente as sanctioning the global expansion of Soviet influence.⁴³ As a result, relations between the United States and the Soviet Union had deteriorated in the period before Autumn Forge 75. Still, there is no evidence that the Soviets were worried about a sudden military confrontation in this period.

Adversary Threat Perceptions After the Exercise

After 1975, the characteristics that differentiated Autumn Forge from previous exercises led the Soviet Union to gradually become more concerned about U.S. and NATO offensive intentions in Central Europe. In assessing Soviet perceptions of Autumn Forge, it is important to remember that there would have been significant incentives to express anti-American sentiment in official publications and statements in this period. In spite of this bias, however, the sources discussed below still reveal meaningful changes in Soviet impressions of Western offensive intentions.

Interestingly, Soviet military journals do not reveal any immediate expressions of concern regarding the perceived implications of Autumn Forge 75. As noted above, it took several years for Soviet military officials to voice their concerns regarding the strategic significance of the new exercise series. In 1978, commentary in Soviet military journals highlighted that NATO was “taking practical steps” to “further build up the armed forces of the [Western] bloc and increase [its] combat and striking power, especially in the strategically crucial area of Central Europe.”⁴⁴ The following year, it was noted that the “aggressive imperialist circles” were “continu[ing] to escalate military tension” in Europe.⁴⁵ Autumn Forge had demonstrated that the United States and NATO sought to “secure military superiority over the Warsaw Pact

³⁹ Benjamin B. Fischer, *A Cold War Conundrum: The 1983 Soviet War Scare*, CIA Center for the Study of Intelligence, September 1997, p. 11.

⁴⁰ Ministry of National Defence of the German Democratic Republic, *Information on the Facilities, Course, and Important Results of Reforger 6 of the U.S. Armed Forces*, Bundesarchiv GVS-Nr. A 177 560 Bl. 2, December 1974, p. 4.

⁴¹ Harry Gelman, *The Rise and Fall of Détente: Causes and Consequences*, RAND/UCLA Center for the Study of International Soviet Behavior, January 1985, p. 6.

⁴² Gelman, 1985, p. 6.

⁴³ Gelman, 1985, pp. 6–7.

⁴⁴ Vybornov, 1978, pp. 20–21.

⁴⁵ Alexandrov, 1979, p. 58.

countries” and “return [Europe] to the brink of war.”⁴⁶ This view was not confined to public statements from the Soviet military establishment. In February 1979, the KGB also characterized the “policy of the NATO alliance” as “tend[ing] toward a more active course of aggravating the global situation [and] intensifying the arms race.”⁴⁷ It is difficult to assess why Soviet reactions to Autumn Forge were delayed, but it may be that as relations between the United States and the Soviet Union worsened, the exercise series became more concerning.

One of the primary ways in which the heightened Soviet fear of U.S. and NATO offensive intentions manifested was in increased speculation about the possibility of a surprise Western attack on the Soviet Union and the Warsaw Pact member states. Soviet military officials perceived large-scale exercises such as Autumn Forge as a means for the United States and NATO to launch a surprise attack on the Soviet Union and other members of the Warsaw Pact. In 1981, for example, Soviet Army General Anatoly Gribkov characterized Autumn Forge as a “cloak for the hidden build-up of offensive groups in Europe and a surprise attack on [the] countries of the Warsaw Treaty.”⁴⁸ Within the Soviet military establishment, the legacy of Operation Barbarossa and World War II had long served to magnify fears of a surprise attack, but Autumn Forge amplified these tendencies.⁴⁹ These fears would become even more acute in the following decade, as the next case study will show.

Conclusion

Autumn Forge 75 represented a departure from previous U.S. and NATO exercises in Central Europe. The larger size of the participating force, new activities in the NORTHAG area, and the inclusion of U.S. marines in the exercises provided the opportunity to demonstrate the improved capabilities of U.S. and NATO forces. As discussed in this appendix, the exercise series led the Soviet Union to reassess how the United States would fight in a future conflict in Central Europe. This reassessment does not appear to have led the Soviets to assess that the new capabilities represented an additional U.S. way of fighting in Europe, but rather an evolution or replacement for the United States’ existing approach. While the general operational discourse among the Soviets does not indicate increased assessments of U.S. or NATO operational unpredictability, more detailed operational assessments could contain such evidence. Unfortunately, the evidence we identified does not shed light on this issue.

It is worth noting, however, that the difficulty of assessing changes in adversary perceptions more than 40 years after the fact involving an adversary that no longer exists highlights a key challenge in U.S. efforts to enhance operational unpredictability: It is likely to be extremely difficult to tell whether these efforts have succeeded. Absent intelligence assets with

⁴⁶ Alexandrov, 1979, p. 58.

⁴⁷ Y. Y. Petkyavichus, *Memorandum, Y.Y. Petkyavichus to the Chairman of the Committee for State Security of the Lithuanian Soviet Socialist Republic*, Lithuanian Special Archives F. K-1, Ap. 492, B. 223, February 1979b.

⁴⁸ Beatrice Heuser and Harold Simpson, “The Missing Political Dimension of MILITARY exercises,” *RUSI Journal*, Vol. 162, No. 3, 2017, p. 24.

⁴⁹ For a discussion of the impact of Operation Barbarossa on Soviet military thought, see Fischer, 1997, p. 28. A review of articles published in Soviet military journals between 1969 and 1991 suggests that commentary on the possibility of a surprise attack was infrequent prior to the late 1970s. As Appendix B will discuss, there was an uptick in this type of commentary after 1981.

direct access to adversary assessments and decisionmaking, policymakers may need to rely on the sorts of logical inference detailed elsewhere in this report in order to take their “best guess” as to the likely effects of their efforts to enhance operational unpredictability, unless adversary reactions are more dramatic or easily perceived than they were in response to Autumn Forge. Interestingly, the next case study, on Operation Ocean Venture, may represent such a case.

Test of Approach 2: Ocean Venture 81

This appendix uses a second case study to evaluate Approach 2: revealing and demonstrating capabilities that enable new courses of action. It considers whether changes in the characteristics of U.S. naval exercises in the early 1980s created operational unpredictability. In particular, this appendix examines the impact of Ocean Venture 81 on Soviet perceptions of U.S. operational unpredictability. Ocean Venture 81, a U.S. naval exercise that was conducted with semi-formal NATO participation, was conceived of as a means of deterring Soviet aggression and naval expansion. The planners of Ocean Venture 81 argued that if the West hoped “to be effective in deterring the Soviets from aggression” by its naval forces around the world, it needed to demonstrate the “full range of military options” at its disposal to “[increase] Soviet uncertainty as to NATO’s response.”¹ Unlike the Autumn Forge exercise series examined in the preceding appendix, therefore, this exercise was explicitly designed to create operational unpredictability, even if that term was not used at the time, and thereby help to deter the Soviet Union, making it an especially important case study to consider.

Based on an analysis of Soviet perceptions of Ocean Venture 81, we find that the exercise did increase Soviet perceptions of U.S. operational unpredictability. It is plausible that the exercise also enhanced deterrence, but there is no direct evidence that it affected Soviet calculations. Because the Soviets did not have any active aggressive plans against the West, the benefits of any such increase to general deterrence are difficult to measure.² In addition, however,

Key Takeaways

- The 1981 Ocean Venture exercise increased Soviet uncertainty about how the United States would fight, as exercise planners had intended.
- It is plausible that the exercise helped the United States deter the Soviet Union from attacking a U.S. ally, but we do not have any direct evidence that it did so, due to limited sources on Soviet perceptions and decisionmaking.
- The exercise appears to have substantially increased Soviet fears of a surprise U.S. attack and may have led to increased intelligence collection on NATO naval capabilities and activities.

¹ *Draft Letter, Secretary of the Vice Chief to the Naval Staff to Admiral W.L. McDonald, SACLANT*, National Archives of the United Kingdom (TNA), DEFE 25/545, June 1984. Although we focus on the parts of Ocean Venture 81 that occurred in the Nordic region, the United States and NATO sought to deter Soviet aggression more broadly, particularly given the expanding reach of the Soviet Navy in this period.

² The assessment that the Soviet Union did not have active aggressive plans at this time is based on evidence that domestic economic concerns and political battle fatigue had weakened any Soviet appetite for confrontation with the United States. In the early 1980s, the Soviet media noted “increased class tensions” stemming from the war in Afghanistan; the conflict had “trigger[ed] isolated popular demonstrations against the government” and led to “increased popular cynicism” regarding the Soviet regime (Central Intelligence Agency, *The Soviet Invasion of Afghanistan: Five Years After*, Directorate of Intelligence, April 1985, p. 15). Domestic economic concerns during this period are addressed in John P. Hardt, “Highlights:

we also find evidence that by demonstrating that U.S. and NATO forces had a wider range of capabilities at their disposal than in the past, and, due in part to the specific nature of those capabilities, the exercise led Soviet officials to increase their assessments of the risk of a surprise attack by the United States or NATO.

Sources

This analysis of adversary perceptions of Ocean Venture 81 draws on sources obtained from the Library of Congress, the Lithuanian Special Archives, the NATO Archives, and the National Archives of the United Kingdom. As in the previous case study, this analysis does not incorporate Soviet sources from archives in Russia because of access and classification constraints. It does, like the previous case study, rely on a variety of types of sources, including articles published in Soviet military journals, reports written by KGB operatives in the Soviet Union, and insights from NATO and British officials, including memoranda and official communications regarding the Soviet military and Soviet assessments of the West.

The three primary Soviet military journals consulted for the case study were *Morskoi Sbornik*, or *Naval Digest*, *Voennaya Mysl*, or *Military Thought*, and *Zarubezhnoe Voennoe Obozrenie*, or *Foreign Military Review*. In this period, the authorship of *Naval Digest* included high-level officials in the Soviet Navy, although junior naval officers sometimes contributed to the journal as well. It also featured articles written by civilian naval specialists. *Naval Digest* was known for publishing articles that were “completely devoted to attacking Western aggressive intentions and actions,” a trend that increased after President Ronald Reagan was elected.³ For further information regarding these journals and their limitations, see the description of sources included in Appendix A.

The Exercise

The origins of the exercise that would become Ocean Venture 81 can be dated to December 1979, when NATO officials first discussed the possibility of holding a “large scale exercise . . . in the Atlantic Ocean area” in the late summer and early fall of 1981.⁴ It was proposed that the exercise, initially referred to as LARGEX 81, would include activities outside the territory of NATO member states.⁵ Although many NATO member states supported the concept of the exercise, the proposal to conduct out-of-area exercises led some NATO members to worry that the “close association of NATO with an activity ranging beyond its boundaries” would be dangerously provocative to the Soviets.⁶ The following month, in January 1980, the

Problems and Prospects,” *Soviet Economy in the 1980s: Problems and Prospects*, Part I, submitted to the Joint Economic Committee of the Congress of the United States, 1982.

³ Jon Joseph Azzarello, *Content Analysis of Morskoy Sbornik: 1978–1982*, Monterey, California: Naval Postgraduate School, 1983, p. 75.

⁴ Lieutenant Commander E. V. F. Savill, *Brief on Exercise Ocean Venture 81*, TNA FCO 46/2846, July 17, 1981.

⁵ Savill, 1981.

⁶ C. D. Verey, *Loose Minute*, TNA DEFE 71/952, October 30, 1980. In certain NATO member states, there was significant domestic opposition to participating in activities, including out-of-area activities, that might be especially provoca-

Commander in Chief of the U.S. Atlantic Command proposed a workaround designed to allay these concerns. The United States would formally sponsor the exercise, by then renamed Ocean Venture, thereby “avoiding too close an association with NATO qua NATO.”⁷ In spite of this shift, there would remain a “degree of semi-formal NATO participation” in the exercise, “including the participation of [the Standing Naval Force Atlantic] and the adoption of NATO identities by senior commanders in those phases confined to NATO participants.”⁸ The British delegation to NATO argued that because the Soviet Union was preoccupied by the war in Afghanistan and was therefore less likely to mount a large-scale response to the more provocative elements of the exercise, there would “never be a better time to do it.”⁹

Ocean Venture 81 differed from past U.S. and NATO naval exercises in three ways:

1. the **size** of the exercise
2. the **location** of the exercise
3. the **use of deception and emissions control** during the exercise.

Held between August 1 and September 19, 1981, Ocean Venture 81 was the “largest maritime exercise since World War II.”¹⁰ The exercise involved “120,000 men and women, 250 ships, and 1000 aircraft” from either 14 or 15 nations.¹¹ John Lehman, the U.S. Secretary of the Navy at the time, later wrote that it was the “largest such exercise in anyone’s memory.”¹²

Ocean Venture 81 was also different from past exercises because of its location. Before 1981, the United States and NATO did not conduct naval exercises above the Greenland-Iceland-United Kingdom (GIUK) gap, established as an “imaginary line drawn from Greenland to Iceland to the UK,” above which “offensive naval exercises were not to be undertaken” (Figure B.1).¹³ This policy was informed by a desire to avoid provocative actions toward the Soviet Union, which would likely have been sensitive about large-scale naval exercises near its northern borders, as we discuss in more detail below. This approach changed with the election of President Reagan, who had campaigned on a platform of reestablishing U.S. maritime supremacy.¹⁴ Influenced by the global expansion of the Soviet Navy, the new U.S. Maritime

tive to the Soviet Union. Norway declined to participate in Ocean Venture 81 for this reason, citing “long standing policy on operations outside the NATO area.” *Telegram, British Embassy Oslo to Foreign and Commonwealth Office*, TNA, FCO 46/2846, July 30, 1981.

⁷ Verey, 1980. However, there was American opposition to this proposal, including arguments that the United States should not “risk opposition from Scandinavian nations and . . . take on the complications of NATO involvement” by sponsoring the exercise (United Kingdom Military Representative to NATO to Chief of the Defence Staff, Ministry of Defence, *A Major Maritime Exercise and the Global Threat*, TNA, DEFE 71/952, March 11, 1980).

⁸ Verey, 1980.

⁹ United Kingdom Military Representative to NATO to Chief of the Defence Staff, Ministry of Defence, 1980.

¹⁰ Lieutenant Commander E. V. F. Savill, *Loose Minute*, November 6, 1980, TNA DEFE 71/952. Elsewhere Ocean Venture 81 was characterized as the “largest maritime live exercise in recent years” (Savill, 1981).

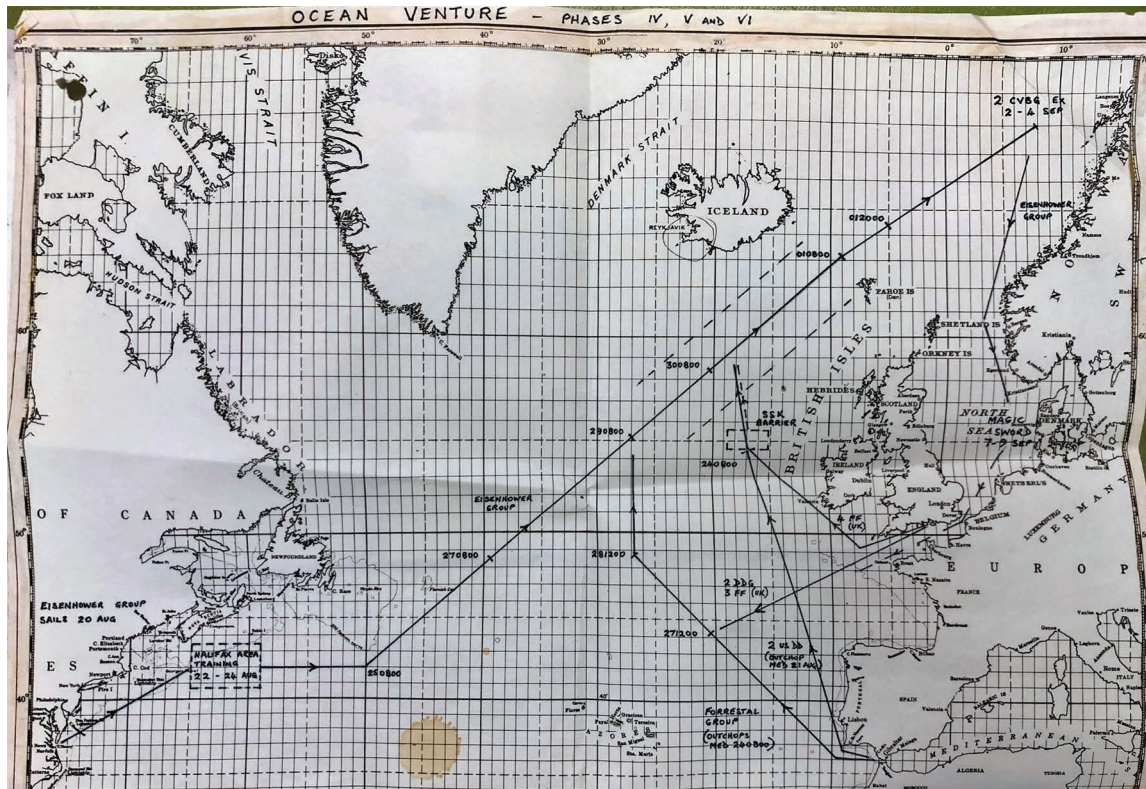
¹¹ Savill, 1981. British archival records suggest that 14 nations participated, while in his recollections of the event, Lehman states that 15 nations participated. See John F. Lehman, *Oceans Ventured: Winning the Cold War at Sea*, first edition, W. W. Norton & Company, 2018, p. 77.

¹² Lehman, 2018, p. 77.

¹³ Lehman, 2018, pp. 43–44.

¹⁴ Lehman, 2018, p. 65.

Figure B.1
Map from Ocean Venture 81 Showing the GIUK Gap



SOURCE: Map of Ocean Venture Phases IV, V, and VI, DEFE 71/952, National Archives of the United Kingdom.

Strategy offered a “blueprint for fighting a global conventional war against the Soviet Union” that emphasized offensive sea control.¹⁵ The Reagan administration argued that the United States and NATO could “no longer afford to rely on [this] ‘static’ naval barrier thrown across the [GIUK] gap.”¹⁶ By demonstrating the newfound willingness of U.S. and NATO naval forces to cross the GIUK gap, Ocean Venture 81 represented a significant departure from the past.

Finally, during Ocean Venture 81, the United States and NATO demonstrated that they were newly capable of using emissions control (EMCON) and deception to move naval forces undetected across the GIUK gap. Between August 20 and September 1, 1981, during one of the most extraordinary phases of the exercise, U.S. and NATO naval forces transited to the Norwegian Sea while evading detection by the Soviet Northern Fleet.¹⁷ A small number of combatants, equipped with cover and deception technology that “essentially simulat[ed] the radar, voice, and sonar emissions of an entire battle force”¹⁸ were sent off on a “southeasterly

¹⁵ John J. Mearsheimer, “A Strategic Misstep: The Maritime Strategy and Deterrence in Europe,” *International Security*, Vol. 11, No. 2, Fall 1986, pp. 3, 17.

¹⁶ Jan S. Bremer, “The Maritime Strategy: One Ally’s View,” *Naval War College Review*, Vol. 41, No. 3, Summer 1988, p. 46. See also Lehman, 2018, p. 74.

¹⁷ Savill, 1981.

¹⁸ Lehman, 2018, pp. 78–79.

track consistent with previous exercises. At the same time, the main force went into “total EMCON” and headed north.¹⁹ The main force “used active and passive deception measures, as well as evasive maneuvers,” to avoid detection by the Soviet Union.²⁰ The Soviet Northern Fleet “fell for [this] decoy,” having “failed to detect an armada of eighty-three ships until it was within striking range of the Soviet Union itself.”²¹ Ocean Venture 81 was exceptional not just because of the size of the exercise, therefore, but also because it effectively leveraged electronic warfare to a greater degree than in the past to enable the NATO Striking Fleet to cross the GIUK gap for the first time in decades.²²

Effect on Soviet Perceptions and Policies

In this section, we consider whether demonstrating a wider range of capabilities through peacetime activities increased Soviet perceptions of U.S. operational unpredictability, helped the U.S. deter the Soviet Union, increased Soviet perceptions of U.S. offensive intentions, or led the Soviet military to invest in countermeasures. As a result of this analysis, we come to the following conclusions. First, we find that Ocean Venture 81 did increase Soviet perceptions of U.S. operational unpredictability. Second, we find that although this unpredictability likely did not help to deter any near-term Soviet attack, as it is unlikely one was being contemplated, it is plausible that it helped to strengthen general deterrence. Finally, we find that the exercise significantly increased Soviet perceptions of U.S. offensive intentions.

Soviet Perceptions of U.S. Operational Unpredictability

In Chapter Four, we hypothesized that demonstrating a wider range of capabilities through peacetime activities would increase adversary perceptions of U.S. operational unpredictability under certain conditions. As noted above, Ocean Venture 81 demonstrated capabilities, such as the use of EMCON, that enabled new ways of employing naval power at the operational level. As a large and public demonstration of new capabilities, moreover, the Soviet Union should have been aware that the exercise was taking place. In this section, we focus on the following questions:

- Did the Soviet Union know the exercise was taking place and understand how it was different from past exercises?
- Did the Soviet Union use observations from the exercise to make predictions about how the United States would likely fight in a potential future conflict?
- Ultimately, did the exercise increase Soviet perceptions of U.S. operational unpredictability?

¹⁹ Lehman, 2018, pp. 78–79.

²⁰ Benjamin B. Fischer, “The Soviet-American War Scare of the 1980s,” *International Journal of Intelligence and Counter-intelligence*, Vol. 19, No. 3, 2006, p. 484.

²¹ Lehman, 2018, pp. xvii, 78–79.

²² T. Huitfeldt, *Memorandum to Members of the NATO Military Committee*, North Atlantic Treaty Organization, NATO Archives, IMSM-JAJ-287-82, June 8, 1982; T. Huitfeldt, *Memorandum to Members of the NATO Military Committee*, North Atlantic Treaty Organization, NATO, IMSM-CBX-598-81, November 30, 1981.

Soviet Detection of Changes from Previous Exercises

From the beginning of Ocean Venture 81, the Soviet Union conducted extensive surveillance of the exercise. This allowed the Soviet Union to immediately observe how Ocean Venture 81 differed from previous naval exercises. One of the most notable ways in which the exercise differed from previous efforts was the demonstration of the ability to move large naval forces without detection. In spite of Soviet surveillance of the exercise, the combination of U.S. and NATO EMCON and deception succeeded in deceiving the Soviet Navy about the location of U.S. and NATO naval forces. Once the Soviet Union realized that the NATO Striking Fleet had appeared off the coast of Murmansk, the Soviet response was considerable. As Lehman later recalled, this realization produced the “most extensive reaction from Soviet naval forces in memory,” including the immediate deployment of “[m]any Tu-95 Bear and Tu-16 Badger surveillance and strike aircraft, over twenty Soviet surface warships, a large number of Soviet submarines, and many auxiliary general intelligence spy ships.”²³ The British Royal Air Force reported the “unusual sight” of two Bear-C aircraft “over the Norwegian Sea displaying unusual markings and special features not previously seen in the area,” suggesting that the aircraft had been deployed “from the east of the Soviet Union” to conduct surveillance of the exercise.²⁴

Soviet commentary after Ocean Venture 81 indicated that Soviet leaders had taken note of the increased size of the exercise. In the months after the exercise, *Military Thought* published several articles observing that NATO was conducting larger-scale exercises than it had in the past. In November 1981, for example, one of these articles characterized the “main trend” of recent Western military exercises as their “increasing number and scope.”²⁵ In February 1982, another article noted that the “scope and scale of [NATO] exercises [were] increasing,” specifically referencing Ocean Venture as evidence of this trend.²⁶

Effect on Soviet Assessments of How the United States Would Fight

Ocean Venture 81 led the Soviet Union to conclude that the United States would fight differently in a future conflict. As detailed below, the Soviets believed that the United States and NATO now had an additional option for how to attack the Soviet Union: a surprise naval attack.²⁷ They also suggested that, generally, the element of surprise would play a significant role in any future Western attack on the Soviet Union and Warsaw Pact member states.²⁸

²³ Lehman, 2018, p. 85.

²⁴ R. J. Harding, *Annex to Biannual Report on Warsaw Pact and RAF Activity in the UK Air Defence Region*, TNA, AIR 8/3210, March 4, 1982. During August and September 1981, the Royal Air Force had intercepted 46 penetrations by Soviet aircraft. Twenty-six, or over half, of these penetrations were associated with Ocean Venture 81, demonstrating the extent of Soviet surveillance of the exercise.

²⁵ V. G. Kulikov, “Some Problems in the Preparation and Conduct of Joint Operations,” *Voennaya Mysl [Military Thought]*, November 1981, pp. 1–2. Kulikov served as the first deputy defense minister of the Soviet Union.

²⁶ L. V. Leonidov, “Several Questions on the Preparation for and Conduct of Exercises by the Joint Armed Forces of NATO,” *Voennaya Mysl [Military Thought]*, February 1982, p. 65.

²⁷ For Soviet commentary on the increased risk of a surprise attack, see S. N. Ivlev, “Operational and Combat Training of NATO Forces in 1981,” *Voennaya Mysl [Military Thought]*, June 1982; A. Horkov, *On the Question of a Threatening Era*, Sbornik KGB SSSR, Lithuanian Special Archives, F. K-46, Ap. 2, B. 23, 1986.

²⁸ For Soviet commentary on the role of surprise in future conflict with the West, see B. N. Makeev, “Some Features of Naval Warfare in Modern Conditions,” *Voennaya Mysl [Military Thought]*, July 1983.

Effect on Soviet Perceptions of U.S. Operational Unpredictability

Based on the sources used in this analysis, it is clear that Ocean Venture 81 created Soviet uncertainty about how the United States would fight during a contingency. Ocean Venture 81 demonstrated new U.S. and NATO capabilities for EMCON and led the Soviet Union to believe the United States would use surprise generally in future conflicts and would be more willing to engage in activities in the Nordic region. Unlike Autumn Forge, Ocean Venture 81 demonstrated a new capability for surprise and a willingness to cross the GIUK gap, which led the Soviet Union to believe that the United States had broader options for how to fight in the future.²⁹ In other words, Ocean Venture 81 increased Soviet perceptions of U.S. operational unpredictability because it raised the possibility of an attack from another direction and domain.

Effect on Deterrence

As noted above, the planners of Ocean Venture 81 intended for the exercise to have a deterrent effect on the Soviet Union. There are two ways to think about the potential effect of the exercise on deterrence. If the Soviets were actively considering aggression against the United States or one of its partners, then the greater unpredictability demonstrated by the exercise could potentially have affected their assessments of the costs or likelihood of success of such aggression and their resulting assessments of the advisability of such an attack as outlined for Approach 2.

Alternatively, if the Soviets had no aggressive aims at the time, the greater operational unpredictability shown by the exercise could still increase Soviet assessments of the costs or likelihood of success of an attack on the United States and NATO. This higher assessment of costs might, in turn, dissuade the Soviets from considering an attack in the future.

This case study offers some limited evidence on these questions. With regard to the possibility that Ocean Venture helped to deter a planned Soviet attack on NATO, it does not appear that the Soviets had active plans for aggression in this period. This may have been due to a range of factors. The Soviet economy was experiencing a downward trend in economic performance, a problem “compounded by poor agricultural performance, resulting from an adverse weather cycle, and a global recession restricting Soviet foreign trade earnings.”³⁰ In addition, by late summer 1981, the Soviet Union had been fighting a proxy war against Afghan resistance forces for nearly two years.³¹ These factors would have weakened any Soviet appetite for confrontation with the United States or NATO, even had Ocean Venture 81 not occurred.

We have no direct evidence that increased operational unpredictability helped the United States deter the Soviet Union. However, it is plausible that it did so. Soviet military planners appear to have taken immediate notice of the size, location, and deceptive capabilities demonstrated in the exercise, and to have reacted in such a manner that we may assume they considered these capabilities to represent a military threat. Soviets could have reasonably assessed that the capabilities shown in Ocean Venture would represent a viable counterattack option

²⁹ I. Belov, “The Scandinavian Countries in the Plans of the U.S. and NATO,” *Zarubezhnoe Voennoe Obozrenie* [Foreign Military Review], January 1982, p. 8.

³⁰ Hardt, 1982.

³¹ For a contemporaneous analysis of Soviet prospects in the Afghan conflict, see Shirin Tahir-Kheli, “Soviet Fortunes on the Southern Tier: Afghanistan, Iran, and Pakistan,” *Naval War College Review*, Vol. 34, No. 6, November–December 1981, pp. 10–11.

for the United States in the event of Soviet aggression in Central Europe or elsewhere. Assuming that the preparations for this possibility were distinct from alternative U.S. COAs for a counterattack, then the Soviet cost of preparing for an attack would be higher. As a result, we would expect these capabilities to have enhanced deterrence. However, we do not have the available evidence to assess whether the Soviets made such calculations. Moreover, the value of this change for U.S. interests is unclear without knowing whether the Soviets would have developed such aggressive intentions.

Beyond helping to deter the risk of a Soviet attack on NATO, Ocean Venture may also have helped to deter the Soviets from pursuing a more dominant political role in the region. Prior to Ocean Venture 81, the United States and NATO assessed that the Soviet Union assigned great importance to exercising greater political control in the Nordic region. In 1980, just one year before the exercise, the NATO Military Committee characterized the Soviet Union as adhering to a policy of “increas[ing] Soviet influence” in the “Nordic area” through a “gradual re-orientation of the area towards neutrality and/or some degree of dependence on the USSR.”³² The British Chief of the Defence Staff similarly described Soviet “initiatives aimed at splitting the Nordic nations from the [NATO] Alliance.”³³ Lack of access to Soviet primary sources on this subject, however, makes it difficult to determine whether NATO and the UK correctly assessed Soviet baseline ambitions and whether the exercise impacted Soviet beliefs regarding NATO’s will or ability to resist Soviet political expansion in the Nordic region.³⁴

Soviet Threat Perceptions

As we discussed in Chapter Four, revealing and demonstrating new capabilities can, in some cases, increase adversary threat perceptions. The logic we outlined suggests that Ocean Venture 81 would have increased Soviet concerns over a potential U.S. attack on the Soviet Union because it took place in a new location that represented a core Soviet interest and because the EMCON and deception capabilities that the United States demonstrated during the exercise could be used for offensive purposes in a future conflict. We find that Ocean Venture 81 likely did increase Soviet perceptions of such a threat. That said, as noted above, there is not sufficient evidence to assess whether this increase in threat perceptions led the Soviets consider security motivated expansion.

Baseline Soviet Threat Perceptions

Soviet officials had long characterized the United States and NATO as aggressive imperialists. In the years leading up to Ocean Venture 81, commentary from official Soviet sources, both military and nonmilitary, continued to suggest that the United States and NATO were pursu-

³² North Atlantic Treaty Organization, *Message from NATO Military Committee*, NATO Archives, IMSCOM-UAG-40-80, March 31, 1980.

³³ Chief of the Defence Staff, *United Kingdom Strategy Within NATO*, NATO Archives, DEFE 25/545, June 1984.

³⁴ The only evidence we found linking the exercise to Soviet ambitions was a single article by a military official written nearly a decade later. The author argued that the exercise prompted the Soviets to rethink how the United States and NATO might respond to Soviet military action in the Third World. In an article published later in the decade, Soviet commentators argued that the exercise had demonstrated that the United States and NATO planned to respond to such an attack “through a retaliatory strike by NATO in the North.” It is unclear whether this article captures the calculations of Soviet political leaders in the early 1980s. There is no evidence to suggest that the United States or NATO conceived of Ocean Venture 81 in this way (D. Lukin, *To Restructure Thinking, Restructure Work*, Sbornik KGB SSSR, Lithuanian Special Archives, F. K-46, Ap. 2, B. 25, 1986).

ing “aggressive policies” that were a “threat to peace.”³⁵ In February 1979, for example, a KGB agent in Vilnius characterized the “policy of the NATO alliance” as “tend[ing] toward a more active course of aggravating the global situation [and] intensifying the arms race.”³⁶ In March 1981, just months before Ocean Venture 81, Soviet military officials likewise characterized the “dangerous course of the United States” as “furthering the arms race, creating conflict, leading to confrontation, and increasing the risk of nuclear war in the Atlantic.”³⁷

While the Soviet Union was broadly concerned about U.S. offensive intentions around the world, it was particularly worried about U.S. ambitions in the Nordic region. The Soviet Union assigned great importance to ensuring its dominance in the region. Even before Ocean Venture, in fact, NATO had assessed that the Nordic region was an area of strategic importance to the Soviet Union. During World War II, “all German surface raiders and U-boats exiting the Baltic had to pass through the Norwegian Sea and the GIUK gap” to “gain access to the open Atlantic.”³⁸ Therefore, the Allies had “occupied and established bases in Iceland, the Faroes, and Greenland” to control the gap.³⁹ This wartime experience convinced NATO member states and the Soviet Union alike that the Norwegian Sea and the GIUK gap represented “the most strategically important northern route,” a belief that persisted in the postwar period.⁴⁰

The importance of establishing control of the GIUK gap was even more important for the Soviet Union, though, because of the strategic significance of the Kola Peninsula at the northwestern edge of the Soviet Union, which was the only “ice-free [Soviet] port with ready access to the world’s oceans,” the location of the largest Soviet naval base, and the “home [of] two thirds of [the Soviet] strategic submarine force.”⁴¹ The strategic strike submarine force of the Soviet Northern Fleet, for example, was wholly “dependent on the Icelandic passages.”⁴² NATO assessments emphasized that the Soviet Union assigned “overriding importance . . . to maintain[ing] exit routes from the Kola area.”⁴³ While the advent of *Delta*-class SSBNs (nuclear-powered, ballistic missile-carrying submarines) enabled the Soviet Union to reach targets in North America without needing to pass through the GIUK gap, the importance of securing control of the GIUK gap remained because of the strategic significance of the Kola

³⁵ G. Lukyanov and M. Sovolev, “The Atlantic and NATO,” *Morskoi Sbornik [Naval Digest]*, March 1981, p. 81.

³⁶ Y. Y. Petkyavichus, *Memorandum to the Chairman of the Committee for State Security of the Lithuanian Soviet Socialist Republic*, Lithuanian Special Archives, F. K-1, Ap. 492, B. 223, February 1979a.

³⁷ Lukyanov and Sovolev, 1981, p. 82.

³⁸ A. C. Davies, *Memorandum to Members of the NATO Military Committee*, NATO Archives, IMSWM-CBJ-96-79, June 8, 1979, p. 2.

³⁹ Davies, 1979, p. 2.

⁴⁰ Davies, 1979, p. 8.

⁴¹ Davies, 1979, p. 8. By 1971, the Kola Peninsula was home to the “majority of the Soviet strategic submarines” and “contain[ed] an important complex of installations for air power.” North Atlantic Treaty Organization, *Memorandum, Norway to the Atlantic Policy Advisory Group*, NATO Archives, APAG(71)5, March 1971, p. 2.

⁴² G. Schmuckle, *Memorandum to the Secretary General of NATO*, North Atlantic Treaty Organization, NATO Archives, MCM-19-76, March 4, 1976, p. 4.

⁴³ North Atlantic Treaty Organization, *Corrigendum to Working Paper*, NATO Archives, DRC-WP(81)1, March 11, 1981, p. 1.

Peninsula. The Soviet Union was therefore motivated to “secure a wider maritime defensive zone in the Norwegian Sea.”⁴⁴

The Soviet Union’s interest in the region went beyond maintaining control of transit routes near the Kola Peninsula. NATO assessments underscored the broader strategic significance of the Nordic region for the Soviet Union, which was motivated not only by the proximity of the Nordic countries to the Kola Peninsula, but also by the fact that “many of the key elements on which the Soviet Union’s strategy of a global superpower [were] based” were located “from the North Cape to the Baltic.”⁴⁵ Making this strategy work required the Soviet Union to prevent “any developments which might strengthen the cohesiveness of the Nordic area” and informed efforts “to weaken the Nordic area’s links with the Western powers.”⁴⁶ In the late 1970s, the Soviet Union was especially wary of the participation of Norwegian and Danish troops in NATO-led military exercises, which was seen as a harbinger of increasing Western influence in the Nordic region.⁴⁷

The Soviet Union perceived any increase in U.S. and NATO activities in the Nordic region to be particularly threatening. Because Ocean Venture 81 took place in an area known to be a core Soviet interest, there was a heightened risk that the exercise would increase Soviet perceptions of U.S. offensive intentions. The strategic significance of the Nordic region meant that the Soviet Union was prone to be especially sensitive to any attempted expansion of Western influence in the area.

Soviet Threat Perceptions After the Exercise

Although the Soviet Union had feared greater Western influence in the Nordic region prior to Ocean Venture 81, the exercise led the Soviet Union to become more deeply concerned about the offensive intentions of the United States and NATO. In January 1982, discourse in Soviet military journals characterized Ocean Venture 81 as a blatant “rehearsal of war against the Soviet Union,” and “clearly provocative and anti-Soviet in nature.”⁴⁸ Soviet military officials believed that the United States and NATO viewed the Norwegian Sea as a “major area for the deployment of their strike fleet and nuclear submarine forces, which [were] intended to be used to attack the western and central regions of the Soviet Union.”⁴⁹

This concern manifested in particular through an intensified preoccupation with the likelihood that the United States was planning a surprise attack on the Soviet Union. As noted in the previous case study, in the late 1970s, the Soviet Union was already apprehensive about the possibility of a surprise attack. Following Ocean Venture 81, however, this anxiety became more acute. In June 1982, commentary in Soviet military journals characterized the exercise

⁴⁴ Jacob Børresen, “Alliance Naval Strategies and Norway in the Final Years of the Cold War,” *Naval War College Review*, Vol. 64, No. 2, Spring 2011, pp. 98–99.

⁴⁵ North Atlantic Treaty Organization, *Corrigendum to Working Paper*, 1981.

⁴⁶ C. A. K. Cullimore, *Norway: Bilateral Discussions Between Herr Van Well and Mr. Vibe*, TNA, FCO 33/3065, May 3, 1976.

⁴⁷ Cullimore, 1976.

⁴⁸ A. Orlov, “Naval Forces in NATO Exercises in the Atlantic,” *Zarubezhnoe Voennoe Obozrenie* [Foreign Military Review], January 1982, p. 75. Similarly, Bobkov wrote that NATO was engaging in “rehearsals of . . . waging war against the Soviet Union” (N. K. Bobkov, “The Reactionary Nature of NATO Military-Strategic Concepts,” *Voennaya Mysl* [Military Thought], October 1982, p. 4).

⁴⁹ Belov, 1982, p. 8.

as demonstrating that the United States was “focused on preparing [its] troops for a surprise attack on the USSR and other socialist countries and for active offensive operations.”⁵⁰ The exercise had shown the “increased importance of the element of surprise in [U.S. and NATO] naval operations.”⁵¹ This view was not confined to Soviet military circles. According to the KGB, Ocean Venture 81 had demonstrated that NATO “already [had] a huge coalition of armed forces capable of delivering a powerful surprise attack” on the Soviet Union.⁵²

The exercise led Soviet officials to increase their assessments of U.S. offensive intentions in the Nordic region specifically. In January 1982, a Soviet military official argued that Ocean Venture 81 had confirmed that the United States sought to “[establish] control over Scandinavia.”⁵³ The KGB concurred with this assessment of U.S. intentions in the region, noting that the exercise, by targeting the “Murmansk region,” had revealed that the United States wished to expand its influence in nearby Norway.⁵⁴

That Ocean Venture 81 caused the Soviet Union to become more concerned about U.S. offensive intentions is also reflected in rhetoric in Soviet military journals after the exercise that more broadly denounced the Reagan administration. In March 1982, for example, a Soviet military official cited Ocean Venture 81 as evidence that “since coming to power,” the Reagan administration had “sharply aggravated the international situation [and] undermined détente.”⁵⁵ The KGB later noted that the exercise had revealed that Reagan was “blinded by anti-communism” and committed to “pursu[ing] a tough policy toward the USSR and other socialist countries [and] trying to break the existing military-strategic balance.”⁵⁶ The exercise, the KGB argued, had created a “real threat to universal peace and seriously increased the danger of war.”⁵⁷

As noted elsewhere in this appendix and in Appendix A, authors of articles in Soviet military and intelligence journals had incentives to make statements that magnified the threat posed by the United States and NATO. Because some of the statements in these journals may be exaggerated for political reasons, actual Soviet threat perceptions may have been lower than these statements indicate. While it is difficult to assess the absolute value of Soviet fears using these sources, there was undoubtedly a relative increase in Soviet statements about offensive U.S. intentions in the period after Ocean Venture 81. This relative change could indicate a genuine increase in Soviet threat perceptions, even if the actual extent of the change is difficult to measure.

⁵⁰ Ivlev, 1982, p. 8.

⁵¹ Makeev, 1983, p. 4.

⁵² Horkov, 1986. These fears may have also been exacerbated by the U.S. Army’s introduction of new concepts and capabilities, including AirLand Battle and the Abrams tank. For a discussion of AirLand Battle, see John L. Romjue, *From Active Defense to AirLand Battle: The Development of Army Doctrine, 1973–1982*, TRADOC historical monograph series, Fort Monroe, Va.: Historical Office, U.S. Army Training and Doctrine Command, 1984.

⁵³ Belov, 1982, p. 7.

⁵⁴ Lukin, 1986.

⁵⁵ I. F. Korochansky, “The Violation of the Military-Strategic Balance—The Goal of U.S. Military Preparations,” *Voen-naya Mysl [Military Thought]*, March 1982, p. 1.

⁵⁶ V. M. Chebrikov, *On the Results of the April Plenum of the Central Committee of the Communist Party of the Soviet Union and the Tasks of the KGB Arising from Its Decisions*, Sbornik KGB SSSR, Lithuanian Special Archives, F. K-46, Ap. 2, B. 14, 1985.

⁵⁷ Chebrikov, 1985.

Although this analysis does not take into account statements from Soviet political leaders on the subject of U.S. offensive intentions, there is evidence of changes in Soviet policy that were consistent with political leaders having elevated threat perceptions. Following Ocean Venture 81, the KGB devoted greater resources to the surveillance of NATO member state naval forces. The KGB also tried to cultivate additional assets with access to sources of naval intelligence.⁵⁸ In addition, Operation RYAN, a joint KGB-GRU effort aimed at improving intelligence collection and “provid[ing] early warning of U.S. war preparations,” began in the months after the exercise.⁵⁹

It is less clear how, if at all, the exercise affected other aspects of Soviet defense policy. For example, an expansion of the Soviet Navy had been underway before Ocean Venture 81, and it is unclear whether Ocean Venture had any effect on these preexisting plans.⁶⁰ Several months after the exercise, NATO officials observed an increase in Soviet naval activity in the Indian Ocean and the South China Sea, although they did not observe the deployment of additional Soviet naval forces to the Norwegian Sea.⁶¹ This could suggest that Soviet threat perceptions were only marginally increased as a result of the exercise.

Other scholars have argued, however, that the Soviet response to the exercise may have been hampered by domestic economic constraints and internal pressure to make military training and operations more economical.⁶² Consistent with this policy, in 1984, the Soviet military announced that it would decrease its submarine force by 25 percent over ten years. Yet, the “numbers of Soviet Northern Fleet submarines [were] expected to remain roughly constant” over the same period.⁶³ This decision may have been influenced by Soviet concerns regarding the vulnerability of the Murmansk region following the exercise, even if we do not also see an increase in the deployment of Soviet naval forces to the area.

⁵⁸ V. Rusak, *From the Experience of Cooperating in the Fight Against Enemy Intelligence Services*, Sbornik KGB SSSR, Lithuanian Special Archives, F. K-46, Ap. 2, B. 45, 1985; V. Ivlev and V. Prokopenko, *Measures Against the Intelligence Gathering of Foreign Seamen*, Sbornik KGB SSSR, Lithuanian Special Archives, F. K-46, Ap. 2, B. 27, 1987. Such intelligence preparations would have also been valuable for an offensive Soviet attack, but there is no evidence that the Soviets had such intentions prior to the attack, as noted above.

⁵⁹ Fischer, 1997, pp. 5–6. The causal relationship between Ocean Venture 81 and the initiation of Operation RYAN is unclear, but Fischer has argued that “air and naval probes near Soviet borders” in the early months of the Reagan administration played a role in precipitating the introduction of the program. Ocean Venture 81 was one of the most provocative of the U.S. and NATO naval probes during this period.

⁶⁰ For a discussion of this expansion prior to Ocean Venture, see Lehman, 2018, p. 143. This effort seems to have been successful. The Soviet Navy sought the “use of additional naval facilities in Third World countries,” invested in the construction of new submarines, and improved naval aviation capabilities. See *Report on the NATO Intelligence Working Group—MC 161/82 and MC 255*, NATO Archives, AIR 8/3210, June 4, 1982. In 1983, the British Chief of the Defence Staff highlighted recent “improvements in [Soviet] maritime capability,” noting that the “Soviet Navy [had] developed into a force with global potential and [was] fast rectifying an imbalance which previously worked in NATO’s favor” (Chief of the Defence Staff, 1984). One year later, the Acting Chairman of the NATO Defence Review Committee characterized the Soviet Navy as a “global force” (Draft Letter, Secretary of the Vice Chief to the Naval Staff to Admiral W.L. McDonald, SACLAN, 1984). These activities, however, were part of a broader program of expansion that predated the exercise.

⁶¹ Joseph Luns, *Note by the Secretary General of NATO*, North Atlantic Treaty Organization, NATO Archives, C-M(82)28, April 15, 1982.

⁶² James T. Westwood, “Soviet Reaction to the U.S. Maritime Strategy,” *Naval War College Review*, Vol. 41, No. 3, Summer 1988, p. 63.

⁶³ T. Huitfeldt, *Memorandum to NATO Secretary General*, North Atlantic Treaty Organization, NATO Archives, MCM-CBG-77-84, November 19, 1984.

Overall, the changed tone of articles published in Soviet military journals and new efforts to improve the collection of naval intelligence following Ocean Venture 81 suggest that the exercise may have increased Soviet perceptions of the threat of an attack by the United States. The extent of the impact of the exercise on Soviet motivations to consider undertaking their own precipitous attack in response, however, remains unclear from the available evidence.

Conclusion

Ocean Venture 81 was an extraordinary, yet understudied, exercise in the later part of the Cold War. As discussed in this appendix, the exercise demonstrated the extent of U.S. EMCON and deception capabilities and showed that the NATO Striking Fleet would no longer restrict its activities to the area below the GIUK gap. It led the Soviet Union to reassess how the United States would fight in future conflicts and increased Soviet perceptions of U.S. operational unpredictability because the Soviets believed the United States and NATO might now develop options for striking the Soviet Union that relied more on the element of surprise. The exercise also caused Soviet military officials to increase their assessments of U.S. offensive intentions and to increase intelligence collection on NATO's naval capabilities and activities.

Although there is not enough evidence on Soviet ambitions to assess the effect of the greater operational unpredictability demonstrated in Ocean Venture on deterring any immediate offensive threat from the Soviet Union with confidence, it is plausible that it had a diffuse, general effect on deterring the prospect of future Soviet aggression. However, whether the effect of underlining the military costs the United States was able to impose on the Soviet Union was more salient for deterrent purposes than it was escalatory—by providing the Soviets with greater concern for U.S. aggression and therefore greater incentives to consider aggressive actions of their own—remains unclear.

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The 2018 U.S. National Defense Strategy instructed the U.S. military to become more operationally unpredictable and suggested that doing so would help the United States deter attacks on U.S. partners. The authors of this report propose a definition of U.S. operational unpredictability—adversary uncertainty about how the United States would fight; develop four potential approaches for increasing U.S. operational unpredictability and deterring attacks on U.S. allies and partners; and assess how the four approaches could affect U.S. relations with Russia and China. They also examine two Cold War-era cases in which the United States sought to be more operationally unpredictable.

The authors find that increasing adversaries' perceptions of U.S. operational unpredictability may be possible if the United States has detailed information about their operational analysis and decisionmaking processes. The most promising way to increase U.S. operational unpredictability is to publicize new U.S. capabilities and demonstrate that they give the United States multiple options for achieving its key objectives. However, increasing U.S. operational unpredictability may be costly and, in some cases, involve negative side effects (e.g., reducing U.S. military effectiveness and increasing China's and Russia's threat perceptions). The authors recommend weighing the potential costs and effectiveness of these approaches against more traditional approaches to deterring U.S. adversaries.

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