



NUCLEAR OPERATIONS AND COUNTER-HOMELAND CONVENTIONAL WARFARE: NAVIGATING BETWEEN NUCLEAR RESTRAINT AND ESCALATION RISK

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Bruce Sugden explores the dynamics that could lead the nuclear great powers to conduct counter-homeland conventional strikes, risking nuclear escalation. He explores how competitors view one another's conventional-nuclear firebreaks and their nuclear thresholds and proposes a preliminary framework for understanding how the great powers may decide to conduct conventional-strike and nuclear operations. He also looks at China's and Russia's investments in long-range conventional-strike capabilities.

What dynamics might place the homelands of the nuclear great powers — the United States, Russia, and China — under greater threat of suffering a conventional attack?¹ What are the major factors that could shape how they approach the conduct of nuclear and conventional operations against each other, notwithstanding their possession of survivable nuclear retaliatory forces? And what conditions could catalyze counter-homeland conventional strikes between these great powers and risk nuclear escalation?

While the likelihood of a great power conducting conventional strikes against another great power's homeland might be low due to the risk of nuclear escalation, by characterizing the plausible paths to counter-homeland conventional escalation this article shows that the risk is not zero. Preliminary answers to the research questions outlined above could help the Department of Defense and the broader national security community to structure a research program to better understand how the long-range conventional precision-strike regime (i.e., the capabilities and doctrines that will constitute military competitors' conduct of conventional precision-strike warfare) will evolve under the nuclear shadow during the next 10 to 20 years, and what it will imply for the strategies and operations of these three competitors.²

This article performs two tasks in addressing these research questions. First, it investigates

the potential for three dynamics to converge and set the United States, along with China and Russia, on a pathway toward a more perilous future in which these countries are more likely to suffer conventional attack in a great-power conflict, despite their nuclear deterrent arsenals. The first dynamic is reflected in the twofold issue of whether the three great-power competitors perceive a conventional-nuclear firebreak within the realm of counter-homeland strikes and, if so, how each competitor's concept of a firebreak might shape its nuclear operations.³ Relatedly, a competitor's judgment of its adversary's threshold for launching a nuclear counterstrike in response to a counter-homeland conventional strike might affect the former's decision-making regarding its long-range conventional operations. Examining this issue forms the analytic core of this article. I propose that the logic underlying a nuclear competitor's conception of a conventional-nuclear firebreak — whether primarily an effects-based or a means-based logic — will interact with its assessment of its adversary's nuclear threshold and weigh heavily in framing how the competitor will employ nuclear and conventional strike operations, including whether to engage in coercive conventional escalation and risk nuclear escalation by conducting conventional strikes against the adversary's homeland.⁴ In other words, counter-homeland conventional warfare utilizing conventional precision-strike capabilities is another way for nuclear competitors to navigate

1 In the nuclear era, a great power can be defined as either the leading state in terms of relative military power or a state that has sufficient relative military power that it could fight the leading state to the extent that a war of attrition could result. A great power must also maintain a secure nuclear second-strike capability, without which the leading state could effectively disarm it. John J. Mearsheimer, *The Tragedy of Great Power Politics* (New York: W.W. Norton, 2001), 5.

2 This article expands on arguments and ideas presented in Bruce Sugden, "China's Conventional Strikes Against the U.S. Homeland," Center for International Maritime Security, June 25, 2014, <https://cimsec.org/china-conventional-strike-us/>.

3 A firebreak is a distinct and recognizable limitation among one or more combatants during a conflict on the weapons employed, or on how particular weapons are employed, or on what types of targets the combatants may accord sanctuary status and leave unharmed. See Herman Kahn, *On Escalation: Metaphors and Scenarios* (New York: Praeger, 1965), 94–95.

4 The three great powers want to achieve their geopolitical objectives without becoming embroiled in war. This means that their conventional and nuclear arsenals are primarily tasked with deterring a competitor's military intervention. However, should deterrence of a competitor's intervention fail, or if subsequent attempts to use those arsenals to deter particular applications of military force during the course of a conflict fail, then the arsenals will provide a means of applying coercive escalation measures to achieve their war aims.





a path out of nuclear stalemate in pursuit of their national security interests.⁵

The second dynamic is the level of Chinese and Russian investment in long-range conventional-strike capabilities. Russia has already deployed Kalibr and Kh-101 conventional cruise missiles that can be launched from submarines and long-range bombers, respectively, and strike targets within the continental United States.⁶ Meanwhile, China has been increasing the ranges of its multi-domain conventional precision-strike capabilities and is developing a long-range bomber and the Type 093B nuclear-powered guided missile submarine (SSGN), suggesting that it is positioning itself to be capable of threatening targets in Alaska, Hawaii, and possibly America's west coast with conventional or nuclear strikes, or both.⁷ It might also deploy intercontinental-range hypersonic missiles to threaten the U.S. homeland, as the commander of U.S. Northern Command and North American Aerospace Defense Command suggested in testimony before Congress in 2020.⁸ Interestingly, as Fiona Cunningham and Taylor Fravel have noted, the 2004 edition of the *Science of Second Artillery Campaigns* mentioned the possibility of China arming an intercontinental ballistic missile (ICBM) with a conventional payload.⁹ Future Russian and Chinese capabilities pertaining to command, control, and communications; intelligence, surveillance, and reconnaissance; and

positioning, navigation, and timing might also enable critical long-range conventional-strike functions and tasks.

The last dynamic is the evolution of China's and Russia's improvements to their abilities for conducting long-range conventional strikes, possibly against the U.S. homeland. Aside from deploying the requisite military hardware, such improvements would be evident in doctrine and military training and exercises.¹⁰ Available evidence suggests that Russia's improvements in this area are further along than China's.

This article's second task is to analyze the conditions that might arise from a great-power conflict and that could catalyze counter-homeland conventional strikes, which may be couched within a competitor's larger effort to engage in brinkmanship as a way to produce coercive leverage against a nuclear adversary.¹¹ Two prominent conditions are military stalemate and the looming prospect of protracted war. The analysis below finds that three subsidiary factors could also play roles in catalyzing a nuclear competitor's coercive conventional escalation against a nuclear adversary's homeland.

Military operations directed against an opponent's homeland, including kinetic strikes, have been a staple of wars between great powers for centuries.¹² During the Cold War, however, U.S. and Soviet investments in nuclear forces took center

5 Nuclear stalemate describes the relationship between nuclear-armed competitors, especially when each possesses a survivable nuclear retaliatory force. See Keir A. Lieber and Daryl G. Press, *The Myth of the Nuclear Revolution: Power Politics in the Atomic Age* (Ithaca, NY: Cornell University Press, 2020), 25. For a brief description of how the United States tried to find a path out of nuclear stalemate in the Cold War, see 58–62.

6 *Russia Military Power: Building a Military to Support Great Power Aspirations*, Defense Intelligence Agency, 2017, 35, <http://www.dia.mil/Portals/27/Documents/News/Military Power Publications/Russia Military Power Report 2017.pdf>.

7 *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2020*, Department of Defense, Aug. 21, 2020, 45, <https://media.defense.gov/2020/Sep/01/2002488689/-1/-1/2020-DOD-CHINA-MILITARY-POWER-REPORT-FINAL.PDF>.

8 Terrence J. O'Shaughnessy, "Statement Before the Senate Armed Services Committee," 116th Cong., 2nd sess., Feb. 13, 2020, 6, <https://www.armed-services.senate.gov/hearings/20-02-13-united-states-northern-command-and-united-states-strategic-command>.

9 Fiona S. Cunningham and M. Taylor Fravel, "Dangerous Confidence? Chinese Views on Nuclear Escalation," *International Security* 44, no. 2 (Fall 2019): 102, https://doi.org/10.1162/isec_a_00359.

10 O'Shaughnessy, "Statement Before the Senate Armed Services Committee," 4–5.

11 It is likely that disinformation and computer-network attack campaigns will precede and accompany regional nuclear operations as well as regional and counter-homeland conventional-strike operations. While the effects of non-kinetic operations could be extensive and severe, they could take relatively more time to materialize than the effects of kinetic operations or could be offset by counter-disinformation and computer-network defense campaigns. An attacker's accurate assessment of the effects caused by its computer-network operations could also be fraught with technical challenges and delays. A good overview of these issues is in Rebecca Hersman, "Wormhole Escalation in the New Nuclear Age," *Texas National Security Review* 3, no. 3 (Summer 2020): 90–109, <http://dx.doi.org/10.26153/tsw/10220>.

12 For example, in the Seven Years' War (1754–63), Great Britain conducted amphibious punitive raids along the French coastline to compel France to redeploy forces from its northern flank to positions along the coast, which relieved pressure on Britain's German allies. In World War I, the capital cities of several of the European combatants suffered aerial bombardment, and Britain imposed a naval blockade against Germany that restricted foodstuffs. In World War II, counter-homeland aerial bombardment operations played major roles in the military strategies of the United States, Great Britain, and Germany. Great Britain, Germany, Japan, and Russia experienced the effects of naval blockades during the war. Moreover, as a result of the Japanese attack on Pearl Harbor, Hawaii, in December 1941, the United States enhanced its west coast defenses against anticipated Japanese air attacks. In fact, Japan bombed the United States using bombs delivered by balloons, killing six Americans. On Great Britain's amphibious punitive raids, see Daniel A. Baugh, *The Global Seven Years War 1754-1763: Britain and France in a Great Power Contest* (New York: Routledge, 2011), 306–10; and Paul M. Kennedy, *The Rise and Fall of British Naval Mastery* (Amherst, NY: Humanity Books, 1998), 104. On World War I, see Spencer C. Tucker, *The Great War, 1914-18* (Bloomington: Indiana University Press, 1998), 89–90, 95–96; and Martin Gilbert, *The Routledge Atlas of the First World War*, 3rd ed. (New York: Routledge, 2008), 64–68, 70, 73–76. On World War II and U.S. west coast defenses, see Stetson Conn, Rose C. Engelman, and Byron Fairchild, eds., *The Western Hemisphere: Guarding the United States and Its Outposts*, vol. 2 of *The United States Army in World War II* (Washington: Center of Military History, U.S. Army, 1962), 83, https://history.army.mil/html/books/004/4-2/CMH_Pub_4-2.pdf. On Japan's balloon bombs, see Robert C. Mikesh, *Japan's World War II Balloon Bomb Attacks on North America* (Washington, DC: Smithsonian Institution Press, 1973).

stage in their military competition with respect to being able to conduct counter-homeland strikes, while conventional forces were deployed primarily for dealing with military operations outside of the two nuclear competitors' homelands, such as in central Europe. Furthermore, in contrast to U.S. conventional capabilities, especially during the last 10 years of the Cold War, the Soviet military was essentially incapable of conducting long-range conventional precision strikes.

Two developments over the past 20 years have made thinking about the nuclear great powers' nuclear thresholds and their capabilities for conducting counter-homeland conventional strikes more important. First, China has been deploying a more survivable nuclear retaliatory force, chiefly in its road-mobile ICBMs and in its nuclear-powered submarines armed with long-range ballistic missiles, that enhances its assured-destruction capability.¹³ Second, both Russia and China have been improving their long-range conventional precision-strike capabilities, with Russia already fielding systems capable of striking the conterminous United States. China can already target Guam with conventional strikes, and it might intend to extend its conventional-strike reach to Hawaii, Alaska, and the continental United States. For analysts and policymakers who believe in the broad deterrent effects of nuclear forces against nuclear and non-nuclear threats, these two developments do not decrease their optimism about deterring conventional strikes against the U.S. homeland. To the optimists, nuclear stalemate effectively deters nuclear and conventional conflict between competitors. However, for those who are pessimistic about assured- nuclear-destruction capabilities deterring conventional attacks that fall below the threshold of posing an existential threat, these developments call into question whether the United States, Russia, and China are

safe from conventional strikes under the overhang of secure second-strike nuclear forces.

Despite these key developments, there is a dearth of studies looking at the potential for counter-homeland conventional strikes against the United States — not just Guam and Hawaii, but the continental United States — in a war against either China or Russia.¹⁴ This is unsettling given three facts. First, the 2018 *National Defense Strategy* declared that it “is now undeniable that the homeland is no longer a sanctuary,” and that in wartime, “attacks against our critical defense, government, and economic infrastructure must be anticipated.”¹⁵ Despite this judgment, the version of the strategy document released to the public described only non-kinetic attacks and omitted the prospect of kinetic attacks. Second, the national security community has published numerous studies looking at the potential for U.S. conventional strikes against China and, to a lesser degree, Russia, so the community should be looking to see if those competitors have begun to deploy capabilities for and to think about the conduct of conventional strikes against the U.S. homeland.¹⁶ Third, although China's declaratory nuclear policy is that it would not be the first country in a conflict to use nuclear weapons, the Chinese government has not disclosed how it would act following U.S. conventional strikes against China's nuclear forces and supporting systems.¹⁷ Compounding the lack of transparency on its nuclear threshold is the uncertainty surrounding how China reconciles its declaratory no-first-use pledge with its strategic concept of “active defense.” The concept asserts that when an adversary's *inclination* to attack has been determined, then China is justified in striking back. In other words, China can be on the strategic defense while going on the offensive operationally.¹⁸

The lack of studies on this topic is especially disconcerting in light of Janne Nolan's contributions

13 Department of Defense, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2020*, 45, 55–56.

14 One study that acknowledges the potential for conventional strikes against the continental United States is Elbridge Colby and Jonathan Solomon, “Facing Russia: Conventional Defence and Deterrence in Europe,” *Survival* 57, no. 6 (2015): 21–50, <https://doi.org/10.1080/00396338.2015.1116146>.

15 *Summary of the 2018 National Defense Strategy of the United States of America*, U.S. Department of Defense, January 2018, 3, <https://dod.defense.gov/Portals/1/Documents/pubs/2018-National-Defense-Strategy-Summary.pdf>.

16 On U.S. conventional strikes against the Chinese homeland, see Eric Heginbotham, et al., *The U.S.-China Military Scorecard: Forces, Geography, and the Evolving Balance of Power, 1996–2017*, RAND Corporation, 2015, esp. chap. 6, http://www.rand.org/pubs/research_reports/RR392.html; and Caitlin Talmadge, “Would China Go Nuclear? Assessing the Risk of Chinese Nuclear Escalation in a Conventional War with the United States,” *International Security* 41, no. 4 (Spring 2017): 50–92, https://doi.org/10.1162/ISEC_a_00274. On U.S. conventional strikes against the Russian homeland, see David A. Shlapak and Michael W. Johnson, “Reinforcing Deterrence on NATO's Eastern Flank: Wargaming the Defense of the Baltics,” RAND Corporation, 2016, 7, http://www.rand.org/content/dam/rand/pubs/research_reports/RR1200/RR1253/RAND_RR1253.pdf; and Colby and Solomon, “Facing Russia.”

17 Fiona S. Cunningham and M. Taylor Fravel, “Assuring Assured Retaliation: China's Nuclear Posture and U.S.-China Strategic Stability,” *International Security* 40, no. 2 (Fall 2015): 21, https://doi.org/10.1162/ISEC_a_00215.

18 M. Taylor Fravel, *Active Defense: China's Military Strategy Since 1949* (Princeton, NJ: Princeton University Press, 2019), 61, 185. In chapter 8, Fravel argues that China's nuclear strategy has been consistent with the strategic concept of active defense. I thank Paul A. Mancinelli for bringing this key uncertainty to my attention.



to the field of U.S. national security. In her study of how U.S. policymakers sought to delineate the utility of nuclear weapons in the immediate post-Cold War era, Nolan judged that the “most important constraints on the credibility of nuclear options are political, stemming from a deeply embedded reluctance of policymakers to imagine a failure of deterrence.”¹⁹ That reluctance might still be in play today among some senior decision-makers and analysts. Nevertheless, this article intends to show that when one adheres to the principle of “Listen to what they say, look at what they procure, and examine what they do” in analyzing a military competitor’s capabilities and strategic outlook, a great power’s failure to deter a nuclear adversary’s conventional attack on the homeland is not difficult to imagine.²⁰ Differences across competitors’ fears, perceptions of honor, and interests, as well senior decision-makers’ and analysts’ cognitive biases and misperceptions, can easily lead to strategic miscalculations resulting in a failure of deterrence.

In addition, this article’s examination of the great powers’ views of nuclear thresholds and escalation risks echoes a 2006 study by Nolan and her colleague, Douglas MacEachin, that explored why the United States found itself unprepared to deal with adverse developments in overseas areas of vital interest despite ongoing U.S. diplomatic and military engagement. Their study underscored the need for senior decision-makers, analysts, and strategists to be attuned to the cultural contexts of competitive interactions.²¹

This article will unfold in four stages. First, it will show how the academic literature regarding escalation under the nuclear shadow identifies hypothetical paths for nuclear adversaries to initiate counter-homeland conventional strikes. The discussion will describe the concepts of escalation and firebreaks and develop a preliminary framework for understanding how the great powers may decide to conduct conventional-strike and nuclear operations. Second, it will use the framework to highlight signs in open source empirical data showing that Russia, China, and the United States are

likely to perceive some type of a conventional-nuclear firebreak within the realm of counter-homeland strikes. In this section, it will also analyze the three dynamics that might converge to put the U.S. homeland, as well as those of China and Russia, at greater risk of conventional precision strikes, and the potential problems and challenges that might arise during a conflict that could undermine a competitor’s belief in a conventional-nuclear firebreak centered on the homelands, resulting in nuclear escalation. Third, it will describe one possible setting for a regional war involving great-power competitors and the conditions that could lead to counter-homeland conventional strikes. Fourth, the article will discuss several topics and questions that future analyses might address to help the Department of Defense better understand the implications of the emerging long-range conventional precision-strike regime intersecting with the great powers trying to find a path out of nuclear stalemate. A better understanding could help the Department of Defense devise appropriate investment decisions to improve the defense of the U.S. homeland and to safeguard U.S. war-making capacity against conventional attack.

Nuclear Restraint and Risks: The Concepts of Escalation and Firebreaks

There are innumerable ways to think about escalation, or the crossing of thresholds, in a state’s use of violence to achieve political ends.²² One approach to understanding escalation, common in the political science literature, is to place each of the various paths of escalation in one of three categories:²³ *intentional escalation* meant to destroy an opponent’s military forces or to impose pain on its population as a way to compel the government to acquiesce to the attacker’s war aims; *inadvertent escalation*, wherein conventional attacks designed to achieve conventional war objectives substantially degrade the defender’s

19 Janne E. Nolan, *An Elusive Consensus: Nuclear Weapons and American Security After the Cold War* (Washington, DC: Brookings Institution Press, 1999), 111.

20 The author credits Jerome J. Burke for passing on this wise principle of strategic analysis.

21 Janne E. Nolan and Douglas MacEachin, with Kristine Tockman, *Discourse, Dissent, and Strategic Surprise: Formulating U.S. Security Policy in an Age of Uncertainty*, Institute for the Study of Diplomacy, Edmund A. Walsh School of Foreign Service, Georgetown University, 2006, 105, <http://www.comw.org/rma/fulltext/0701nolan.pdf>.

22 Kahn, *On Escalation*, chap. 1.

23 Cunningham and Fravel, “Dangerous Confidence?” 61; and Kahn, *On Escalation*, 284–89.

nuclear-operations capabilities and, as a result, the defender responds with nuclear force;²⁴ or *accidental or unauthorized escalation*.²⁵

A second approach to understanding escalation is to use Richard Smoke's two definitions, or frameworks, of escalation dynamics: "actor image" and "phenomenal image." The two frameworks describe how people think about why escalation begins in the first place and how it will evolve once underway.²⁶ According to the actor image of escalation, an actor's intentional decision to escalate is what generates the process, whereas the phenomenal image sees the process as a function of the micro-processes intrinsic to war.²⁷ In other words, the phenomenal image of escalation is devoid of intentionality.

The classic work promulgating a framework of strategic analysis, Carl von Clausewitz's *On War*, captures and elaborates on both the actor and phenomenal frameworks of escalation. On the former, Clausewitz asserted that one needs to understand an adversary's political objects — what the leadership is trying to achieve through using violence — and the value it places on the political object, i.e., how important the objective is to the leadership, how much cost it is willing to bear, and how much effort it is willing to exert to obtain the objective.²⁸ That is, the leadership will make intentional decisions about the level of force it will employ based on what it believes is required to achieve its objectives. On the phenomenal image of escalation, Clausewitz uses the metaphors "fog" and "friction" to describe the roles of chance, uncertainty, and the accumulation of unforeseen difficulties, which are inherent to the dynamics of war and can affect decision-making.²⁹ Though only hindsight

can reveal to what degree the fog and friction of war has misinformed decision-makers on the employment of force, it is likely that episodes of escalation result from a confluence of decision-makers' intentions as well as from the interplay of chance, uncertainty, and the accumulation of unforeseen difficulties in a wartime environment.³⁰

To consider how the great powers might conduct conventional-strike warfare and think about nuclear thresholds, this analysis is concerned with both views of escalation. This is to say that the analysis will not treat the frameworks of escalation as an either-or dichotomy. Instead, it will adopt the Clausewitzian analytic approach.

Embedded within the concept of escalation is the concept of a *firebreak* in the use of military force. As Herman Kahn described with his 44-rung "escalation ladder" metaphor, each step of escalation represents a different level, or threshold, of violence. In some cases, the threshold between different levels of violence can constitute a firebreak.³¹ A firebreak can be a restraint or prohibition that a single combatant imposes on itself, or that two or more combatants can share (perhaps within a military alliance). Even opponents can perceive and maintain the same firebreak.³² At the same time, an idea of a firebreak or even multiple firebreaks shared among several combatants suggests that combatants can maintain different perceptions of what each firebreak means and the conditions under which it could be crossed. Different perspectives on firebreaks could become more pronounced as a conflict evolves, and one or more combatants could cross over the firebreak as a way to achieve war aims. The history of international crises, warfare, and arms control suggests some, but not all,

24 Barry R. Posen, *Inadvertent Escalation: Conventional War and Nuclear Risks* (Ithaca, NY: Cornell University Press, 1991), 2–3. Despite the endurance of the concept of "inadvertent escalation" in the political science literature, I find that its convoluted meaning is problematic for strategic analysis. According to how the concept is typically employed, what is inadvertent is not the defender's nuclear response to conventional attack, but the attacker's conventional operations that create pressures for the defender's nuclear escalation. Thus, the term essentially masks the intentionality behind the defender's employment of its nuclear forces. And in strategic analysis, an analyst wants to be as clear-eyed as possible to understand what might really happen, and how and why, in a future conflict.

25 On the unauthorized or accidental launch of nuclear weapons, see Scott D. Sagan, *The Limits of Safety: Organizations, Accidents, and Nuclear Weapons* (Princeton, NJ: Princeton University Press, 1995); Bruce G. Blair, *The Logic of Accidental Nuclear War* (Washington: Brookings Institution Press, 1993); and Peter D. Feaver, *Guarding the Guardians: Civilian Control of Nuclear Weapons in the United States* (Ithaca, NY: Cornell University Press, 1992).

26 Richard Smoke, *War: Controlling Escalation* (Cambridge, MA: Harvard University Press, 1977), 21–22; and Ivo H. Daalder, *NATO Strategy and Ballistic Missile Defense*, Adelphi Paper no. 233, International Institute for Strategic Studies (Winter 1988): 10.

27 Smoke, *War*, 21–22.

28 Carl von Clausewitz, *On War*, ed. and trans. Michael Howard and Peter Paret (Princeton, NJ: Princeton University Press, 1976), 81.


29 Clausewitz, *On War*, 101, 115, 119.

30 Smoke argued that the actor image and phenomenal image were two sides of the same coin. They supplement one another analytically. Smoke, *War*, 22.

31 Kahn, *On Escalation*, 94–95.

32 Interestingly, Jeffrey W. Legro employs an organizational culture approach to explain how two pre-war firebreaks shared among countries were crossed in World War II — submarine attacks against merchant ships and aerial bombing of civilian targets — and how one pre-war firebreak shared among combatants, the limitation against the use of poison gas, was maintained. Jeffrey W. Legro, "Military Culture and Inadvertent Escalation in World War II," *International Security* 18, no. 4 (Spring 1994): 108–42, <https://doi.org/10.2307/2539179>.





Though only hindsight can reveal to what degree the fog and friction of war has misinformed decision-makers on the employment of force, it is likely that episodes of escalation result from a confluence of decision-makers' intentions as well as from the interplay of chance, uncertainty, and the accumulation of unforeseen difficulties in a wartime environment.

of the most salient firebreaks are between combatants' homelands and peripheral areas outside of their homelands, between military targets and civilian targets, and between the use of conventional forces and nuclear forces.³³

The literature on the concept of a conventional-nuclear firebreak suggests that if strategists, planners, and senior decision-makers perceive such a firebreak, their perception could be informed by one of two distinct logics and how they see those logics intersecting with the dimensions of geography and time. According to Sarah Kreps and Jacquelyn Schneider's typology, effects-based or means-based logics drive perceptions of the conventional-nuclear firebreak.³⁴ Kahn's escalation ladder metaphor and its 44 rungs, they note, incorporates both logics to differentiate the thresholds in the use of force.

Kreps and Schneider, along with other scholars, cite Alain Enthoven's statement in 1963, when he was deputy assistant secretary of defense for systems analysis, as promulgating the effects-based logic of a conventional-nuclear firebreak:

There is and will remain an important distinction, a 'firebreak' if you like, between nuclear and non-nuclear war, a recognizable qualitative distinction that both combatants can recognize and agree upon, if they want to agree upon one. And, in the nuclear age, they will have every powerful incentive to agree upon this distinction and limitation, because if they do not, there does not appear to be another easily recognizable limitation on weapons — no other obvious 'fire-

break' — all the way up to the destructive spectrum of large scale thermonuclear war.³⁵

Enthoven's effects-based logic echoed Bernard Brodie's views.³⁶ In his 1959 book, *Strategy in the Missile Age*, Brodie asserted that "between the use and non-use of atomic weapons there is a vast watershed of difference and distinction, one that ought not be cavalierly thrown away."³⁷ This dovetails with his earlier belief that with the advent of nuclear weapons, even with the United States being the sole possessor of them before 1949, "Thus far the chief purpose of our military establishment has been to win wars. From now on its chief purpose must be to avert them."³⁸ The main difference that separated using nuclear weapons from conventional weapons, according to Brodie, was not that the former would make wars more violent, but that it would increase the concentration of violence within a unit of time.³⁹

Nina Tannenwald, according to Kreps and Schneider, espouses the means-based logic of the conventional-nuclear firebreak. Tannenwald is the leading scholar on the so-called "nuclear taboo." The taboo "refers to a de facto prohibition against the use of nuclear weapons. The taboo is not the behavior (of non-use) itself, but rather the normative belief about the behavior."⁴⁰ That is, the norm of non-use is a "shared expectation about behavior, a standard of right or wrong."⁴¹ Because nuclear powers facing non-nuclear powers in combat have abstained from using nuclear weapons without the fear of experiencing nuclear retaliation, Tannenwald asserts that the nuclear taboo explains the non-use of nuclear weapons by nuclear powers

33 On these issues, see John Lewis Gaddis, *The Long Peace: Inquiries Into the History of the Cold War* (New York: Oxford University Press, 1987), chap. 5; Marc Trachtenberg, *History and Strategy* (Princeton, NJ: Princeton University Press, 1991), chaps. 3–7; Nina Tannenwald, *The Nuclear Taboo: The United States and the Non-Use of Nuclear Weapons Since 1945* (New York: Cambridge University Press, 2007); Lawrence Freedman, *The Evolution of Nuclear Strategy*, 3rd ed. (New York: Palgrave MacMillan, 2003); "Why a Ban?" The International Campaign to Abolish Nuclear Weapons (ICAN), accessed May 23, 2020, http://www.icanw.org/why_a_ban/; *Nuclear Posture Review Report*, Department of Defense, April 2010, 15–17, https://dod.defense.gov/Portals/1/features/defenseReviews/NPR/2010_Nuclear_Posture_Review_Report.pdf; and *Nuclear Posture Review*, Department of Defense, February 2018, ii, http://www.defense.gov/News/Special-Reports/0218_npr/.

34 Sarah Kreps and Jacquelyn Schneider, "Escalation Firebreaks in the Cyber, Conventional, and Nuclear Domains: Moving Beyond Effects-based Logics," *Journal of Cybersecurity* 5, no. 1 (2019): 1–11, <https://doi.org/10.1093/cybsec/tyz007>.

35 Enthoven quoted in Daalder, *NATO Strategy and Ballistic Missile Defense*, 21. Abridged quote in Kreps and Schneider, "Escalation Firebreaks," 1.

36 This is not to claim that Bernard Brodie's effects-based firebreak logic made him believe that there was no utility in using nuclear weapons in a conflict. See Bernard Brodie, *Escalation and the Nuclear Option* (Princeton, NJ: Princeton University Press, 1966), 22–23.

37 Bernard Brodie, *Strategy in the Missile Age* (Santa Monica: RAND Corp., 1959), 327.

38 Bernard Brodie, *The Absolute Weapon: Atomic Power and World Order* (New York: Harcourt, Brace, and Company, 1946), 76.

39 Brodie, *Strategy in the Missile Age*, 158.

40 Nina Tannenwald, "The Nuclear Taboo: The United States and the Normative Basis of Nuclear Non-Use," *International Organization* 53, no. 3 (Summer 1999): 436, <http://www.jstor.org/stable/2601286>.

41 Tannenwald, "The Nuclear Taboo," 436.





involved in wars since 1945 better than does the concept of deterrence.⁴²

In the minds of strategists, planners, and senior decision-makers, the effects-based logic can intersect the dimensions of geography and time.⁴³ First, looking at the dimension of geography, during the Cold War the nuclear politics of the North Atlantic Treaty Organization (NATO) featured debates about whether a conventional-nuclear firebreak divided the territories of NATO's European members from the U.S. homeland. For example, with U.S. nuclear weapons deployed with American forces in NATO countries to deal with a Soviet-led, large-scale Warsaw Pact conventional assault, some U.S. and European observers could conceive that nuclear warfare might be confined to Europe during a NATO-Warsaw Pact conflict, while the U.S. homeland could remain unscathed.⁴⁴ This version of the conventional-nuclear firebreak rises to the surface in some contemporary discussions about how the United States and its NATO allies might deal with Russia's use of its non-strategic nuclear weapons to defend its gains against an allied counterattack or to defeat the U.S. reinforcement of Europe in the first place.⁴⁵ Likewise, Russian analysts' debates over deterrence and escalation management from the mid-1990s through the early 2000s seemed to imply the geographical dimension of a conventional-nuclear firebreak.⁴⁶

With regard to the dimension of time, strategists, planners, and senior decision-makers could believe in a conventional-nuclear firebreak during an interstate crisis and maintain it even in a conflict's initial phase. But maintaining the firebreak could wane as

the conflict lengthened. In its opening phase, for example, a conflict might involve only conventional weapons.⁴⁷ When one or more combatants perceive that the conflict is evolving into a protracted war, or that the tide of the war is turning against them, they could use nuclear weapons as a way to more rapidly and favorably terminate the war.⁴⁸

The literature's effects- and means-based logics of the conventional-nuclear firebreak have different implications for nuclear operations. On the one hand, with an effects-based view of the firebreak, a nuclear competitor may use low-yield nuclear weapons for battlefield-support missions — so-called tactical or non-strategic nuclear weapons — that minimize damage against non-combatants without crossing the competitor's construct of a firebreak, as long as the competitor continues to abstain from using nuclear weapons with larger yields. To wit, there is evidence that Russia maintains an effects-based view of a conventional-nuclear firebreak. A 2017 study published by the Johns Hopkins University Applied Physics Laboratory claimed that

Russia has made significant investments in the design of high-precision, low-yield nuclear warheads whose effects may discriminately exploit target-unique vulnerabilities. In particular, evidence has accumulated that Russia has been pursuing the development of low-yield nuclear weapons of a design whose energy output is predominantly from the fusion of hydrogen isotopes rather than the fission of uranium or plutonium.⁴⁹

42 Tannenwald, "The Nuclear Taboo," 433. There is evidence, however, suggesting that U.S. leaders abstained from using nuclear weapons against non-nuclear powers out of concern over how those powers' nuclear-armed patrons might respond militarily. For example, President Lyndon B. Johnson's assistant, Tom Johnson, who was a note-taker at meetings dealing with the U.S. military campaign in Vietnam, remarked in an interview over Johnson's opposition to initial military planning for the use of U.S. nuclear weapons in Vietnam that Johnson believed that U.S. nuclear use could lead to China's military intervention and "a wider war." David E. Sanger, "U.S. General Considered Nuclear Response in Vietnam War, Cables Show," *New York Times*, Oct. 6, 2018, <http://www.nytimes.com/2018/10/06/world/asia/vietnam-war-nuclear-weapons.html>. In addition, recent survey research has called into question the existence and strength of a nuclear taboo. See, for example, Daryl G. Press, Scott D. Sagan, and Benjamin A. Valentino, "Atomic Aversion: Experimental Evidence on Taboos, Traditions, and the Non-use of Nuclear Weapons," *American Political Science Review* 107, no. 1 (February 2013): 188–206, <https://doi.org/10.1017/S0003055412000597>.

43 Use of the means-based logic to construct a conventional-nuclear firebreak forbids allowing the dimensions of geography and time to lower a competitor's threshold for using nuclear weapons.

44 For example, see Catherine McArdle Kelleher, "Thresholds and Theologies: The Need for Critical Reassessment," *Survival* 26, no. 4 (1984), 159–61, <https://doi.org/10.1080/00396338408442181>; and Daalder, *NATO Strategy and Ballistic Missile Defense*, chap. 1.

45 Dave Johnson, *Russia's Conventional Precision Strike Capabilities, Regional Crises, and Nuclear Thresholds*, Livermore Papers on Global Security, no. 3 (February 2018), 87, <https://cgsr.llnl.gov/content/assets/docs/Precision-Strike-Capabilities-report-v3-7.pdf>. I suspect that a great power may begin to develop the notion of a conventional-nuclear firebreak that restrains its counter-homeland nuclear operations when its major adversary deploys a secure nuclear second-strike capability, meaning the latter has achieved a key hallmark of being a great power.

46 Anya Fink and Michael Kofman, *Russian Strategy for Escalation Management: Key Debates and Players in Military Thought*, Center for Naval Analyses, April 2020, 7–12, https://www.cna.org/CNA_files/PDF/DIM-2020-U-026101-Final.pdf.

47 Fink and Kofman, *Russian Strategy for Escalation Management*, 12–17. Several Russian analysts involved in Russia's public debate over non-nuclear deterrence have employed the dimension of time in their constructs of a conventional-nuclear firebreak.

48 Kelleher, "Thresholds and Theologies," 161–62. Since the 1990s, Russian nuclear doctrine has promulgated the view that nuclear weapons could be used to offset an adversary's conventional military superiority. Michael Frankel, James Scouras, and George Ullrich, *Nonstrategic Nuclear Weapons at an Inflection Point*, The Johns Hopkins University Applied Physics Laboratory, 2017, 10, <https://www.jhuapl.edu/Content/documents/NonstrategicNuclearWeapons.pdf>.

49 Frankel, Scouras, and Ullrich, *Nonstrategic Nuclear Weapons at an Inflection Point*, 10.

Table 1: Great Powers’ Operationalization of Conventional-Nuclear Firebreak and Approach to Coercive Conventional Escalation

Assessment of Opponent’s Nuclear Threshold	Logic Underlying Conception of a Firebreak	Geography	Time
Low	<i>Effects-based Logic</i>	<ul style="list-style-type: none"> • Conducts nuclear strikes in only peripheral theaters using weapons tailored to minimize harm to non-combatants • Conducts conventional strikes in peripheral theaters; avoids conducting conventional strikes against enemy’s homeland 	<ul style="list-style-type: none"> • As cost-benefit calculation for nuclear use becomes more favorable over span of conflict, uses nuclear weapons tailored to minimize harm to non-combatants • Conducts conventional strikes in peripheral areas; avoids conducting conventional strikes against enemy’s homeland
	<i>Means-based Logic</i>	<ul style="list-style-type: none"> • Avoids first use of nuclear weapons • Conducts conventional strikes in peripheral theaters; avoids conducting conventional strikes against enemy’s homeland 	<ul style="list-style-type: none"> • Avoids first use of nuclear weapons • Conducts conventional strikes in peripheral areas; avoids conducting conventional strikes against enemy’s homeland
High	<i>Effects-based Logic</i>	<ul style="list-style-type: none"> • Conducts nuclear strikes in peripheral theaters using weapons tailored to minimize harm to non-combatants • Conducts conventional strikes in peripheral theaters and against enemy’s homeland 	<ul style="list-style-type: none"> • As cost-benefit calculation for nuclear use becomes more favorable over span of conflict, uses nuclear weapons tailored to minimize harm to non-combatants • Conducts conventional strikes in peripheral theaters and against enemy’s homeland
	<i>Means-based Logic</i>	<ul style="list-style-type: none"> • Avoids first use of nuclear weapons • Conducts conventional strikes in peripheral theaters and against enemy’s homeland 	<ul style="list-style-type: none"> • Avoids first use of nuclear weapons • Conducts conventional strikes in peripheral theaters and against enemy’s homeland

Such high fusion-fraction weapon designs would be useful for limiting harmful nuclear effects against friendly forces or against one’s own territory (e.g., defending Russian territory against a NATO ground invasion). This type of nuclear weapon, which would minimize the blast effect and the resultant canonical mushroom cloud, could blur the distinction and thus erode the firebreak between the use of a conventional and a nuclear weapon on the battlefield.

On the other hand, under a means-based view of a firebreak, a nuclear competitor would abstain even from using low-yield, high fusion-fraction tactical nuclear weapons.⁵⁰ Tannenwald has recently suggested that some U.S. senior leaders are under the influence of the nuclear taboo. She cites former Secretary of Defense James Mattis’ testimony before the House Armed Services Committee in 2018, in which he said, “I don’t think there is any such thing as a ‘tactical nuclear weapon.’ Any nuclear weapon

50 Kreps and Schneider, “Escalation Firebreaks,” 1.





used any time is a strategic game-changer.”⁵¹

Depending on what a competitor’s logic is for a conventional-nuclear firebreak, it will have different restraints for its nuclear operations, and those restraints will be different than its restraints for conventional-strike operations. So how might a great power that exercises some level of nuclear self-restraint determine the level of risk of nuclear escalation that would follow from coercive conventional escalation through conducting conventional strikes against its great-power adversary’s homeland? One possibility can be found in how the competitor assesses its adversary’s threshold for using nuclear weapons.

The Influence of an Adversary’s Nuclear Threshold on a Competitor’s Approach to Coercive Conventional Escalation

The proliferation of long-range conventional precision-strike capabilities could add another layer of complexity to how a nuclear competitor shapes its military operations against its nuclear opponent. That complexity arises from the competitor’s judgment about its opponent’s nuclear threshold in response to a conventional strike. If a nuclear competitor judges that its opponent would be deterred from initiating nuclear strikes out of fear of nuclear retaliation — that is, the opponent is assessed to have a high threshold for nuclear escalation — then the competitor will be more likely to conduct conventional strikes against the opponent’s homeland than it would be if it judged that the opponent had a lower threshold for nuclear escalation.

Table 1 illustrates an idealized scheme of how a great power might decide how to conduct conventional and nuclear operations against a great-power adversary based on the former’s beliefs in a conventional-nuclear firebreak and its assessment of the adversary’s nuclear threshold. The scheme represents an analytic framework for how to think

about the intersection between the emerging long-range conventional precision-strike regime and the three major nuclear competitors trying to find a path out of nuclear stalemate. But it does not and cannot capture all the factors that will influence their military decision-making.⁵²

Analysts can derive from the framework broad operational implications of a great power’s concept of a conventional-nuclear firebreak (two rightmost columns) when it is involved in a conflict with another great power. One implication is that a great power might provoke nuclear escalation risks by using conventional strikes to achieve its war aims.⁵³ For example, if a state’s decision-makers judge that the adversary has a high threshold for nuclear escalation, and if their construct of a firebreak is centered on effects-based logic and the dimension of geography, then the analytic expectation is that the state’s decision-makers would be more likely to authorize nuclear strikes in peripheral areas using weapons tailored to minimize harm to non-combatants. They would also be more likely to authorize counter-homeland conventional strikes, possibly manipulating escalation risks to compel the adversary to accept the state’s terms for ending the war. However, if their view of a firebreak involves the dimension of time rather than geography, then the decision-makers would be more likely to refrain from using even tailored nuclear weapons as long as militarily practicable or until the cost-benefit calculation for nuclear use becomes more favorable as the conflict evolves. Still, the decision-makers would authorize counter-homeland conventional strikes. If the decision-makers’ construct of a firebreak was grounded in means-based logic, then the expectation is that they would likely avoid first use of nuclear weapons — even low-yield ones — yet be more likely to authorize counter-homeland conventional strikes if they judged the adversary to have a high threshold for nuclear use.⁵⁴

Finally, if the state’s decision-makers believe that the adversary has a low threshold for nuclear escalation in response to an attack against its

51 Nina Tannenwald, "How Strong Is the Nuclear Taboo Today?" *The Washington Quarterly* 41, no. 3 (2018): 95, <https://doi.org/10.1080/0163660X.2018.1520553>. Illuminating the difficulty of correctly characterizing a nuclear competitor’s views of a conventional-nuclear firebreak, the deployment of a low-yield nuclear warhead option for select Trident D-5 submarine-launched ballistic missiles suggests that U.S. policymakers may actually harbor an effects-based view of a firebreak, wherein the use of such a weapon might not be seen as a strategic game-changer. Department of Defense, *Nuclear Posture Review*, 54.

52 A more comprehensive analysis of the influential factors is beyond the scope of this article. Needless to say, the factors that would influence a competitor’s decisions would vary in salience across the competitors. For an early overview of the evolving precision-strike regime, see Thomas G. Mahnken, "Weapons: The Growth and Spread of the Precision-Strike Regime," *Daedalus* 140, no. 3 (Summer 2011): 45–57, https://doi.org/10.1162/DAED_a_00097.

53 There are additional implications for counter-homeland nuclear warfare, especially when considering advanced nuclear weapon designs, such as low-yield, high fusion-fraction weapons. An effects-based view of a conventional-nuclear firebreak could interact with a great power’s judgment about an adversary’s nuclear threshold and conceivably result in the great power’s use of low-yield nuclear weapons against another great power’s homeland under the shadow of assured nuclear destruction. Space constraints preclude a more in-depth discussion of this intriguing idea in this article.

54 The possibility cannot be ruled out that decision-makers’ construct of a conventional-nuclear firebreak and assessment of an adversary’s nuclear thresholds could evolve over the span of a crisis or conflict.

homeland, and if they hold an effects-based view of a firebreak along the dimension of geography, then the state would be more likely to conduct nuclear strikes in peripheral areas using weapons tailored to minimize harm to non-combatants and to refrain from initiating counter-homeland conventional strikes.

For political scientists, the analytic framework yields an updated understanding of the implications of Glenn Snyder's stability-instability paradox. The classic understanding of the paradox states that stability in two competitors' counter-homeland, assured-destruction capabilities will generate a more permissive environment for military operations outside of the homelands.⁵⁵ However, with Russia and China joining the United States in an era of long-range conventional precision strikes, the combination of the competitors' assured-nuclear-destruction capabilities and their existing and emerging long-range conventional-strike capabilities suggests that they could assess a more permissive environment for conventional strikes against each other's homelands than has hitherto been the case, as long as the targeted state does not perceive the strikes as posing an existential threat.⁵⁶ In other words, according to this revised understanding of the implications of the paradox, just as the great powers' assured-nuclear-destruction capabilities provide their homelands a higher (but not absolute) level of sanctuary status against nuclear escalation in the midst of conventional operations in peripheral areas, those same nuclear capabilities will still provide a higher level of sanctuary status against nuclear escalation in the era of a long-range conventional precision-strike regime, but the homelands will not necessarily serve as sanctuaries for critical assets against conventional strikes.⁵⁷ This revised understanding is predicated on a nuclear

competitor judging that its nuclear opponent has a high threshold for nuclear escalation against the former's homeland due to nuclear stalemate.

Critical assets within an opponent's homeland will be attractive targets for an adversary's denial strategy. Such a strategy entails targeting an opponent's military capabilities to deny it the ability to achieve its military objectives.⁵⁸ For example, the continental United States is replete with attractive targets for nuclear competitors' denial strategies. A large proportion of the U.S. military's supporting infrastructure for power projection, such as major naval repair and replenishment facilities, are in the deep rear — Hawaii and the U.S. east and west coasts. This area is and will be, for the most part, defenseless against Russian and Chinese missile strikes through the 2020s.⁵⁹ Given some limitations in key U.S. capabilities and capacities, such as a single base within the continental United States equipped for B-2A bomber operations and only four shipyards for maintaining nuclear-powered naval combatants, the incentive to strike targets in this area would likely grow stronger as a war against Russia or China became protracted.⁶⁰

To be clear, scholars have argued that the stability-instability paradox is riddled with problems. Political scientist Robert Jervis, for example, argues that stability does not extend to all peripheral areas beyond the homelands of the great nuclear powers, but that it extends to areas of deep concern to the powers. If the effects of the stability-instability paradox had been strong during the Cold War confrontation between the United States and the Soviet Union, then either competitor should have been ready to use force when the local balance of military power in a peripheral area was in its favor.⁶¹ The empirical record of the Cold War seems mixed with regard to Jervis' contention, however, which he acknowledges. While the United States and the

55 Glenn Snyder, "The Balance of Power and the Balance of Terror," in *Balance of Power*, ed. Paul Seabury (San Francisco, CA: Chandler, 1965), 184–201; and Robert Jervis, *The Meaning of the Nuclear Revolution: Statecraft and the Prospect of Armageddon* (Ithaca, NY: Cornell University Press, 1990), 19–20.

56 Interestingly, the recent history of crises between India and Pakistan suggests those crises might have been a harbinger of what the coupling of assured nuclear retaliatory capabilities and long-range conventional precision-strike capabilities means for the conduct of warfare between the great powers. See, for example, S. Paul Kapur, "India and Pakistan's Unstable Peace: Why Nuclear South Asia Is Not Like Cold War Europe," *International Security* 30, no. 2 (Fall 2005): 127–52, <https://doi.org/10.1162/016228805775124570>. For a more recent treatment of the stability-instability paradox, see Christopher J. Watterson, "Competing Interpretations of the Stability–Instability Paradox: The Case of the Kargil War," *The Nonproliferation Review* 24, no. 1–2 (2017): 83–99, <https://doi.org/10.1080/10736700.2017.1366623>.

57 To be clear, the essence of the paradox is a relative claim, and although the probability of nuclear escalation is low under the condition of the competitors' counter-homeland assured-destruction capabilities, it is not zero. Charles L. Glaser, "Nuclear Revolution Theory Marches Forward," in "Book Review Roundtable: The Meaning of the Nuclear Revolution 30 Years Later," *Texas National Security Review*, April 30, 2020, <https://tnsr.org/roundtable/book-review-roundtable-the-meaning-of-the-nuclear-revolution-30-years-later/-essay3>.

58 Glenn Herald Snyder, *Deterrence and Defense: Toward a Theory of National Security* (Princeton, NJ: Princeton University Press, 1961), 14–15.

59 *Missile Defense Review*, U.S. Department of Defense, January 2019, 41, <https://media.defense.gov/2019/Jan/17/2002080666/-1/-1/1/2019-MISSILE-DEFENSE-REVIEW.PDF>.

60 Craig Hooper, "The US Needs a New Public Shipyard," *Defense One*, Jan. 16, 2019, <http://www.defenseone.com/ideas/2019/01/us-needs-new-public-shipyard/154221/>.

61 Jervis, *The Meaning of the Nuclear Revolution*, 35.





Soviet Union used force, sometimes through proxies, in peripheral areas, like Southeast Asia, Afghanistan, and Angola, the areas were subordinate to the importance that the competitors placed on Europe. At the same time, the Soviet Union did employ intimidation tactics on several occasions between the end of World War II and the early 1960s to compel the United States and its allies to withdraw from Berlin.⁶²

Jervis' criticism of the paradox, as well as those who have more recently debated its applicability to tensions between India and Pakistan, underscores the disagreement and uncertainty among analysts about what strategic stability actually means and what its effects on the strategies and escalation thresholds of nuclear competitors really are.⁶³ In U.S. nuclear policy debates, strategic stability typically means that the mutual vulnerability of each competitor's population and the mutual invulnerability of nuclear retaliatory forces would convince a nuclear competitor not to initiate an attack against the other's national security interests during a crisis.⁶⁴ But perhaps what is more important is not so much that an attack is occurring or has occurred against a nuclear competitor's core security interests, namely its homeland, but what are the potential or actual effects of the attack. Under nuclear stalemate, as long as a competitor does not view enemy conventional strikes against its homeland-based critical assets as an existential threat, it might refrain from counter-homeland nuclear escalation out of fear of the enemy's nuclear counterstrikes.

Counter-homeland conventional strikes can also result from a nuclear competitor engaging

in brinkmanship, which political scientist Christopher J. Watterson argues is another variant of the paradox.⁶⁵ A competitor can engage in brinkmanship under what political scientists like Jervis would consider a condition of strategic stability. Specifically, what sets the stage for instability at the "sub-strategic" level, or in areas peripheral to the nuclear competitors' core interests, is the mutual fear of nuclear escalation. Brinkmanship occurs when a nuclear competitor purposely exploits this mutual fear of "mission creep, miscalculation, technological mishap, or irrational decision-making" (i.e., phenomenal-image escalation) to achieve its objectives in a conflict.⁶⁶ Brinkmanship can generate a balance-of-resolve contest that could enable crossing firebreaks and nuclear escalation, even though the competitor initiating the contest prefers to avoid nuclear escalation.⁶⁷ It exploits what Thomas Schelling referred to as "threats that leave something to chance."⁶⁸ As Table 1 suggests, in nuclear stalemate, the likelihood of a great power engaging in brinkmanship is higher if it judges that its great-power adversary has a high threshold for nuclear escalation against the competitor's homeland after it suffers a conventional attack.

Brinkmanship is distinct from implementing a strategy of denial or punishment against an opponent. The distinguishing feature of brinkmanship is the competitor's intentional exploitation of the risk of nuclear escalation to influence the opponent's decision calculus, rather than primarily intending to degrade or destroy its military capabilities to convince it that it cannot achieve its military objectives, or to punish the civilian population to produce domestic political leverage against the opponent's

62 Jervis, *The Meaning of the Nuclear Revolution*. In addition, Mark S. Bell and Nicholas L. Miller found that there is a dearth of empirical support for the stability-instability paradox: "symmetric nuclear dyads" are not "significantly more likely to engage in low-level conflict than nonnuclear dyads." See their article, "Questioning the Effect of Nuclear Weapons on Conflict," *Journal of Conflict Resolution* 59, no. 1 (2015): 86, <https://doi.org/10.1177/0022002713499718>.

63 Kapur, "India and Pakistan's Unstable Peace"; Watterson, "Competing Interpretations of the Stability–Instability Paradox"; Michael D. Cohen, "How Military South Asia Is Like Cold War Europe," *Nonproliferation Review* 20, no. 3 (2013): 433–51, <https://doi.org/10.1080/10736700.2013.857126>; and Bruce M. Sugden, "A Primer on Analyzing Nuclear Competitions," *Texas National Security Review* 2, no. 3 (May 2019): 119–23, <http://dx.doi.org/10.26153/tsw/2925>.

64 Derived from Michael S. Gerson, "The Origins of Strategic Stability: The United States and the Threat of Surprise Attack," in *Strategic Stability: Contending Interpretations*, ed. Elbridge A. Colby and Michael S. Gerson (Carlisle Barracks, PA: U.S. Army War College Press, 2013), 34, <https://publications.armywarcollege.edu/pubs/2216.pdf>.

65 Watterson, "Competing Interpretations of the Stability–Instability Paradox."

66 Watterson, "Competing Interpretations of the Stability–Instability Paradox," 87. See also, Robert Powell, "Nuclear Brinkmanship, Limited War, and Military Power," *International Organization* 69, no. 3 (Summer 2015): 589–626, <https://doi.org/10.1017/S0020818315000028>; and Robert Powell, "Nuclear Deterrence Theory, Nuclear Proliferation, and National Missile Defense," *International Security* 27, no. 4 (Spring 2003): 86–118, <https://doi.org/10.1162/016228803321951108>. Moreover, Matthew Kroenig uses his "superiority-brinkmanship synthesis theory" to argue that advantages in the nuclear balance increase a competitor's willingness to engage in the competition in risk-taking. In contrast, an inferior nuclear competitor is less likely to run great risks and initiate military aggression against a superior competitor. Matthew Kroenig, *The Logic of American Nuclear Strategy: Why Strategic Superiority Matters* (New York: Oxford University Press, 2018), 3–4, 15–20.

67 Resolve is the willingness to impose and suffer damage to win or safeguard a disputed stake. Victor A. Utgoff and Michael O. Wheeler, *On Detering and Defeating Attempts to Exploit a Nuclear Theory of Victory* (Alexandria, VA: Institute for Defense Analyses, April 2013), iii.

68 Thomas C. Schelling, *The Strategy of Conflict* (Cambridge, MA: Harvard University Press, 1960), 187. Schelling referred to two competitors engaging in brinkmanship as a "competition in risk-taking." Thomas C. Schelling, *Arms and Influence* (New Haven, CT: Yale University Press, 1966), 92–125; and Smoke, *War*, 17.

political leadership. However, because the targets a competitor selects to attack as part of brinkmanship might fit squarely within a denial or punishment campaign, the opponent might not be able to discern the competitor's intent while still perceiving growing tension between its nuclear restraint and risk of nuclear escalation.

Marc Trachtenberg's examination of the political role of nuclear weapons in the 1962 Cuban Missile Crisis between the United States and the Soviet Union adds weight to the brinkmanship thesis. Trachtenberg argues that instead of the competitors' nuclear retaliatory capabilities neutralizing the influence of nuclear weapons over the competitors' decision-making and strategies the

evidence in fact shows that: (1) leading [U.S.] officials believed that nuclear war could come without either side having to make a cold-blooded decision to start one; (2) these officials were willing during the crisis to accept a certain risk of nuclear war; and (3) the risk of nuclear war was consciously manipulated in order to affect Soviet options in the crisis.⁶⁹

Possibly further enabling a competitor to engage in brinkmanship is the psychological phenomenon known as *loss aversion*. Loss aversion is rooted in prospect theory, a descriptive theory of decision-making under risk. The founders of the theory, psychologists Daniel Kahneman and Amos Tversky, argued that whether an individual interprets his or her choices as gains or losses will influence his or her acceptance of risk, with the fear of losses leading to risky bets.⁷⁰ In some conflict settings, therefore, according to experimental findings, the psychological underpinnings of brinkmanship and escalation may be baked into the cake.⁷¹

Are the Great Powers Entering an Era of Counter-Homeland Conventional Warfare?

This section analyzes the factors that might converge to shape an environment that is more conducive to failures of deterrence, a world that sees counter-homeland conventional warfare between the three major nuclear competitors. First, with the previous section's analytic framework in mind, this section will interpret clues in open source empirical data indicating that Russia, China, and the United States are more likely than not to perceive some type of a conventional-nuclear firebreak within the realm of counter-homeland strikes, albeit not a firebreak that is uniform across the competitors, and that they are thinking about their own and each other's nuclear thresholds in response to non-nuclear attacks.⁷² It will also highlight several potential ways that counter-homeland conventional strikes could trigger nuclear escalation despite the three nuclear competitors envisioning a conventional-nuclear firebreak when it comes to conducting such strikes. Second, this section will describe Russia's and China's investments in long-range conventional-strike capabilities. Third, it will examine the evolution of Russia's and China's improvements for conducting long-range conventional strikes.⁷³

The Empirical Record: Competitors' Perceptions of Nuclear Thresholds and Firebreaks

Since the U.S. atomic bombings of Japan in August 1945 and the subsequent termination of World War II, the conventional-nuclear firebreak has been salient in discussions of nuclear escalation dynamics. Qualifications are in order, though, because the perception of such a firebreak seemed stronger within the United States than it was in the Soviet

69 Trachtenberg, *History and Strategy*, 238. President Richard Nixon used nuclear alerts to influence the thinking and calculations of the Soviet Union and North Vietnam's leaders in 1969. Scott D. Sagan and Jeremi Suri, "The Madman Nuclear Alert: Secrecy, Signaling, and Safety in October 1969," *International Security* 27, no. 4 (Spring 2003): 150–83, <http://www.jstor.org/stable/4137607>.

70 Jonathan Mercer, "Prospect Theory and Political Science," *Annual Review of Political Science*, no. 8 (June 2005): 1, <http://dx.doi.org/10.1146/annurev.polisci.8.082103.104911>; Rose McDermott, "Prospect Theory in Political Science: Gains and Losses from the First Decade," *Political Psychology* 25, no. 2 (April 2004): 298, <https://doi.org/10.1111/j.1467-9221.2004.00372.x>; and Amos Tversky and Daniel Kahneman, "Loss Aversion in Riskless Choice: A Reference-Dependent Model," *Quarterly Journal of Economics* 106, no. 4 (November 1991): 1039–61, <https://doi.org/10.2307/2937956>.

71 A good general discussion of the potential implications of prospect theory and loss aversion for the conduct of war and escalation is in Robert Jervis, *How Statesmen Think: The Psychology of International Politics* (Princeton, NJ: Princeton University Press, 2017), 90–99.

72 In looking for clues on Russia's and China's views of a firebreak and nuclear thresholds, I rely on the works of subject-matter experts who have combed through Russian- or Chinese-language publications or have interviewed knowledgeable members of what they claim to be Russia's or China's national security communities. A potential drawback of this approach, however, is that neither the authors of the Russian- or Chinese-language publications nor the interviewees may hold views truly reflective of the inner sanctums of decision-making within Russia or China, especially under the conditions of a wartime environment.

73 The discussions of long-range conventional-strike investments and preparations will omit those of the United States for the reason that for decades it has blazed the path in deploying and employing capabilities and doctrine for long-range conventional strikes.





Union.⁷⁴ This asymmetry might still hold between the United States and Russia in 2020. However, it is unclear whether there is symmetry between the beliefs of senior decision-makers, strategists, and defense planners in the United States and China on the notion of a conventional-nuclear firebreak.

United States

In the United States, presidents and some of their senior advisers seem to have believed and promulgated the notion of a conventional-nuclear firebreak as early as the late 1940s and early 1950s amid deteriorating relations with the Soviet Union, war in Korea, and crises with China. In the era of “massive retaliation” during the 1950s, for example, U.S. declaratory policy was to consider U.S. nuclear weapons equivalent to conventional weapons. Both were available to use against any form of aggression by what was then considered a monolithic Soviet-led, communist bloc.⁷⁵ Nevertheless, the record indicates that in practice President Dwight Eisenhower distinguished between the two types of weapons. In John Lewis Gaddis’ characterization of the documented history of Cold War crises and conflicts in the 1950s, when Eisenhower was confronted by situations in which he could employ nuclear weapons directly against non-nuclear powers, he concluded that the costs of their use would outweigh the benefits due to a combination of military, political, and moral reasons.⁷⁶

More interesting is the recent history of U.S. declaratory nuclear policy and how it relates to a perception of a conventional-nuclear firebreak. The 2010 and 2018 nuclear posture reviews contained language suggesting that a non-nuclear attack against U.S. interests could warrant a U.S. nuclear response.⁷⁷ In particular, the 2018 *Nuclear Posture*

Review contained more detail on the “extreme circumstances” under which the United States would consider use of nuclear weapons:

The United States would only consider the employment of nuclear weapons in extreme circumstances to defend the vital interests of the United States, its allies, and partners. Extreme circumstances could include significant non-nuclear strategic attacks. Significant non-nuclear strategic attacks include, but are not limited to, attacks on the U.S., allied, or partner civilian population or infrastructure, and attacks on U.S. or allied nuclear forces, their command and control, or warning and attack assessment capabilities.⁷⁸

A draft report of the 2018 review leaked to news organizations caused a firestorm among critics who interpreted the language regarding how the United States might act following a non-nuclear strategic attack against infrastructure as meaning that the United States reserved the right to respond with nuclear weapons following a major computer-network attack against key infrastructure, such as that related to electricity and water (the key passage was included in the final report, quoted above).⁷⁹

The then vice chairman of the Joint Chiefs of Staff disputed the critics’ inference of a potential U.S. nuclear strike in response to a major computer-network attack. The vice-chairman said that the “idea that we would resort to a nuclear attack based on cyber is actually not supported by the document.” But then he continued, “If the attack has strategic consequence, if it kills a lot of people, if it interrupts our nuclear command and control and indications and warning systems—these are all hypotheticals—we ... reserve the right to respond.”⁸⁰

74 In the 1960s, Soviet strategists expected intercontinental nuclear strikes between the United States and the Soviet Union to occur simultaneously or before major combat in the theaters bordering the Soviet Union. In addition, as Stephen M. Meyer showed in his study of Soviet doctrinal writings, the “destruction of military-industrial targets in the strategic rear (i.e., in the US and Britain) would have taken place during the initial stages of the conflict.” Stephen M. Meyer, *Soviet Theatre Nuclear Forces, Part 1: Development of Doctrine and Objectives*, Adelphi Paper, no. 187, The International Institute for Strategic Studies, 1983/4, 18, <https://doi.org/10.1080/05679328308457456>. Additional analysis of the Soviet military’s evolving views of escalation, nuclear thresholds, and limited war, and of the differences between the thinking of the Soviet military and the civilian leadership, can be found in John A. Battilega, “Soviet Views of Nuclear Warfare: The Post-Cold War Interviews,” in *Getting MAD: Nuclear Mutual Assured Destruction, Its Origins and Practice*, ed. Henry D. Sokolski (Carlisle, PA: Strategic Studies Institute, U.S. Army War College, November 2004), chap. 5. For analysis of Russian views of the same subjects during the 2010s, see the works cited in footnotes 86, 89, and 91 of this article.

75 Gaddis, *The Long Peace*, 124. Accordingly, Eisenhower threatened to use nuclear weapons against non-nuclear China in 1955: He engaged in brinkmanship. Gordon H. Chang, “To the Nuclear Brink: Eisenhower, Dulles, and the Quemoy-Matsu Crisis,” *International Security* 12, no. 4 (Spring 1988): 105–08, <https://doi.org/10.2307/2538996>.

76 Gaddis, *The Long Peace*, 141.

77 Department of Defense, *Nuclear Posture Review Report*, 2010, 16; and Department of Defense, *Nuclear Posture Review*, 2018, 21.

78 Department of Defense, *Nuclear Posture Review*, 2018, 21.

79 David E. Sanger and William J. Broad, “Pentagon Suggests Countering Devastating Cyberattacks with Nuclear Arms,” *New York Times*, Jan. 16, 2018, <http://www.nytimes.com/2018/01/16/us/politics/pentagon-nuclear-review-cyberattack-trump.html>; and George Perkovich, “Really? We’re Gonna Nuke Russia for a Cyberattack?” *Politico*, Jan. 18, 2018, <http://www.politico.com/magazine/story/2018/01/18/donald-trump-russia-nuclear-cyberattack-216477>.

80 Oriana Pawlyk, “Cyber Attack Wouldn’t Merit Nuclear Strike: Joint Chiefs Vice Chairman,” *Military.com*, Jan. 30, 2018, <http://www.military.com/defensetech/2018/01/30/cyber-attack-wouldnt-merit-nuclear-strike-joint-chiefs-vice-chairman.html>.

He did not clear up any of the report's ambiguous language. It is possible that the United States desires to leave open the possibility of responding with nuclear weapons following a conventional attack on the homeland, depending on the attack's effects. It is reasonable that the purpose behind the ambiguity is to deter such an attack, including computer-network attacks, in the first place.

On the other side of the coin, U.S. officials have said comparatively little in public about their views of competitors' nuclear thresholds, especially in connection to potential U.S. counter-homeland conventional strikes. One viewpoint, though, was made public in 2012. In discussing the proposed air-sea battle concept, which focused on ensuring U.S. forces could gain access to enemy-defended air and maritime spaces and conduct their missions, the chief of staff of the Air Force emphasized the "art of targeting" command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR) assets within a nuclear adversary's homeland (he did not mention any specific country) to avoid triggering a nuclear response.⁸¹

In addition, a former Defense Department official and a former Defense Department analyst have echoed the art of targeting: The U.S. military can thread the needle of conducting conventional strikes into a nuclear adversary's homeland and avoid its nuclear threshold.⁸² One tool for managing escalation pressures, according to Vincent Manzo, could be for U.S. strikes to be geographically limited in scope across China.⁸³ There are no *a priori* reasons to believe this level of confidence in U.S. escalation management cannot also be applied to U.S. war planning against Russia.

Meanwhile, there are indications that some Russian and Chinese strategists and planners hold a belief similar to that of some of their U.S. counterparts — that what they consider "limited" conventional strikes might not elicit U.S. nuclear escalation. Should this belief grow, it could lead to

Russian or Chinese conventional strikes against the U.S. homeland, including against targets within the continental United States, as an outgrowth of a regional conflict in Europe or in Asia.

Russia

What might be the tipping point that would lead counter-homeland conventional strikes to warrant Russia's nuclear escalation is if the strikes threaten to incapacitate the state's functioning, especially Moscow's ability to exercise national command and control or to conduct nuclear retaliatory strikes.⁸⁴

The strongest indications in the public domain of Russia's belief in a conventional-nuclear firebreak within the context of strikes against homelands can be found in the 2014 edition of Russia's military doctrine and in published writings of Russian strategists and military analysts. First, a key passage in Russia's 2014 military doctrine reads,

The Russian Federation shall reserve the right to use nuclear weapons in response to the use of nuclear and other types of weapons of mass destruction against it and/or its allies, as well as in the event of aggression against the Russian Federation with the use of conventional weapons when the very existence of the state is in jeopardy.⁸⁵

Dave Johnson notes the vague nature of the passage, writing that "any conventional attack perceived according to unknown metrics by the President as threatening the existence of the state is a potential threshold."⁸⁶

Second, Johnson points out that Russian assessments judge that the fundamental aim of U.S. conventional operations is to degrade, disrupt, or destroy enemy command, control, and communications capabilities and to achieve air superiority over a theater of operations. Such operations could

81 "Air-Sea Battle Doctrine: A Discussion with the Chief of Staff of the Air Force and Chief of Naval Operations," The Brookings Institution, May 16, 2012, esp. 42, http://www.brookings.edu/wp-content/uploads/2012/05/20120516_air_sea_doctrine_corrected_transcript.pdf; and Jonathan Greenert and Mark Welsh, "Breaking the Kill Chain," *Foreign Policy*, May 17, 2013, <https://foreignpolicy.com/2013/05/17/breaking-the-kill-chain/>. For a critical examination of the potential implications for nuclear escalation resulting from U.S. conventional strikes on the Chinese mainland, see Talmadge, "Would China Go Nuclear?"

82 Elbridge Colby, "Don't Sweat AirSea Battle," *National Interest*, July 31, 2013, <http://nationalinterest.org/commentary/dont-sweat-airsea-battle-8804>; and Vincent A. Manzo, "After the First Shots: Managing Escalation in Northeast Asia," *Joint Forces Quarterly*, no. 77 (2nd Quarter, 2015): 91–100, http://ndupress.ndu.edu/Portals/68/Documents/jfq/jfq-77/jfq-77_91-100_Manzo.pdf.

83 Manzo, "After the First Shots," 96–98.

84 Moscow's concern over maintaining its national command-and-control capabilities is similar, but not identical, to the aforementioned concern of the U.S. vice chairman of the Joint Chiefs of Staff over a non-nuclear attack's effects on U.S. nuclear command and control.

85 "The Military Doctrine of the Russian Federation," *Theatrum Belli*, translated from Russian, June 29, 2015, <https://theatrum-belli.com/the-military-doctrine-of-the-russian-federation/>.

86 Dave Johnson, *Nuclear Weapons in Russia's Approach to Conflict*, Fondation pour la Recherche Stratégique, no. 6, (November 2016): 60, <http://www.frstrategie.org/web/documents/publications/recherches-et-documents/2016/201606.pdf>.





cripple the functioning of the state, but not necessarily the survival of the nation.⁸⁷ It is the prospect of degrading or destroying the state's functions, according to open source Russian military writings, that could lead to Russia's nuclear escalation. Likewise, Russia's military doctrine states that one of the main military threats to Russia is

impeding the operation of systems of state governance and military command and control of the Russian Federation, disrupt[ing] the functioning of its strategic nuclear forces, missile warning systems, systems of outer space monitoring, nuclear munitions storage facilities, nuclear energy facilities, nuclear, chemical, pharmaceutical and medical industry facilities and other potentially dangerous facilities."⁸⁸

As of 2020, several analysts at the Center for Naval Analyses suggest that, based on their investigation of open source Russian military writings, "weapons used *en masse* against Russia's critically vital objects—presumably those relevant to the economy, population, or political control—would likely trigger NSNW [non-strategic nuclear weapons] escalation and/or nuclear retaliation," presumably with "NSNW escalation" referring to regional nuclear operations and "nuclear retaliation" meaning a nuclear attack against the enemy's homeland.⁸⁹

Third, Russian strategists are keenly aware that strategic deterrence plays out in the perceptions of an adversary's public and decision-makers, and that each set of perceptions can influence the other and, in turn, constrain the adversary's strategy.⁹⁰ To

impose costs, threaten additional costs, and manipulate the adversary's perception of risk and its decision calculus, the Russian military would employ what it refers to as the "strategic weapon set" — non-strategic nuclear weapons, strategic nuclear weapons, and long-range conventional precision-strike weapons, which could include conventionally armed ICBMs and submarine-launched ballistic missiles — in conjunction with the Russian government's diplomatic, political, and informational tools.⁹¹ Nuclear weapons dominate Russia's strategic weapon set as of 2021, but Russia aspires to expand the size and quality of its long-range conventional precision-strike weapon arsenal to give Moscow more non-nuclear options to manage escalation and achieve strategic objectives.⁹² A strategic objective, according to the Russian military, is a "planned result of military operations in a war, campaign, or strategic operation, the achievement of which leads to the desired development or radical changes in the military-political situation and strategic environment, contributing to the further successful conduct of the war and its victorious conclusion."⁹³

Should deterrence fail and coercive measures become necessary, the Russian military envisions employing its conventional precision-strike weapons in strikes of varying scale and severity: from demonstration or single strikes to "strategic operations for the destruction of critically important targets."⁹⁴ Russian military writings suggest operational and strategic target categories for the latter. Operational targets include command and control, aerial ports of debarkation, seaports of debarkation, major assembly and staging areas for military forces, and chokepoints along lines of

87 Johnson, *Nuclear Weapons in Russia's Approach to Conflict*, 61. It remains uncertain whether Russian leadership would see a difference between the functioning of the state versus the survival of the Russian nation. On Russia's longstanding fear of a massed conventional aerospace attack, see Michael Kofman and Anya Loukianova Fink, "Escalation Management and Nuclear Employment in Russian Military Strategy," *War on the Rocks*, June 23, 2020, <https://warontherocks.com/2020/06/escalation-management-and-nuclear-employment-in-russian-military-strategy/>.

88 "The Military Doctrine of the Russian Federation."

89 Michael Kofman, Anya Fink, and Jeffrey Edmonds, *Russian Strategy for Escalation Management: Evolution of Key Concepts*, Center for Naval Analyses, April 2020, 52–53, https://www.cna.org/CNA_files/PDF/DRM-2019-U-022455-1Rev.pdf.

90 On the concept of *strategic deterrence*, it is worth quoting an extended passage from a recent investigation of Russian thinking on escalation management: "Russian deterrence concepts do not neatly translate into the Western lexicon, which typically speaks to two types of coercive strategies: deterrence and compellence. The most commonly used Russian term for deterrence (*sderzhivanye*) is closer to what is understood in the West as 'containment.' It consists of measures of dissuading the adversary that are not necessarily coercive and, though lacking a singular interpretation, it is often taken in Western circles to mean 'deterrence.' A more specific Russian term, 'forceful deterrence' (*silovoye sderzhivanye*), is better understood as deterrence through the limited use of military force. Meanwhile, deterrence by fear inducement or intimidation (*ustrasheniye*) explicitly denotes deterrence through coercion, the desired effect is discouragement through fear of consequences." Kofman, Fink, and Edmond, *Russian Strategy for Escalation Management*, 6–7.

91 Johnson, *Russia's Conventional Precision Strike Capabilities*, 24, 44, 93; and Katarzyna Zysk, "Escalation and Nuclear Weapons in Russia's Military Strategy," *The RUSI Journal* 163, no. 2 (2018): 3, <https://doi.org/10.1080/03071847.2018.1469267>.

92 According to another analyst of Russian military affairs, "Russian strategic operations envision conventional strikes, single or grouped, against critical economic, military, or political objects. These may be followed by nuclear demonstration, limited nuclear strikes, and theatre nuclear warfare." Michael Kofman, "The Role of Nuclear Forces in Russian Maritime Strategy," *Russian Military Analysis*, March 12, 2020, <https://russianmilitary-analysis.wordpress.com/2020/03/12/the-role-of-nuclear-forces-in-russian-maritime-strategy/>.

93 Quoted in Johnson, *Russia's Conventional Precision Strike Capabilities*, 52–53.

94 Quoted in Johnson, *Russia's Conventional Precision Strike Capabilities*, 48; and "An interview with General Martin Dempsey," Rutherford Living History, April 11, 2016, <http://livinghistory.sanford.duke.edu/interviews/martin-dempsey/>.

communications. Strategic targets include national command and control, strategic strike capabilities, munitions stockpiles, government control centers at national and regional levels, war-supporting industry, and aerial ports and seaports of embarkation.⁹⁵ In a potential U.S.-Russian conflict centered in Europe or in East Asia, Russia would find the described strategic targets within the U.S. homeland.

Russian military experts' analysis of critical facilities within the United States underscores the plausibility of Russia using conventional weapons in strikes against the U.S. homeland. According to the Center of Naval Analyses, the purpose "of using conventional weapons against particular types of critical targets is to affect escalation management, creating a specific level of psychological coercion that will convince an adversary of the futility of further conflict, given any continued or potential escalation in damage."⁹⁶

Although command-and-control facilities are eligible for targeting under strategic operations for the destruction of critically important targets, Russia's uncertainty regarding nuclear escalation dynamics and an adversary's incentives for using nuclear weapons could dissuade it from conducting conventional strikes against some U.S. command-and-control assets in the homeland. This potential restraint is evinced in Russian military analysts' acknowledgment that conventional strikes against critically important targets could catalyze rather than forestall escalation.⁹⁷

The potential intersection of the concern over nuclear escalation and the Russian General Staff's belief that the center of gravity in war is the population's willingness to continue the war could lead the Russian military to base its counter-homeland

conventional strikes on a punishment strategy.⁹⁸ The logic of a punishment strategy could lead the Russian military to select economic targets for its initial phase of long-range conventional strikes.⁹⁹

China

With regard to how China views conducting offensive operations, there are signs that it will likely perceive a robust conventional-nuclear firebreak



Russian military experts' analysis of critical facilities within the United States underscores the plausibility of Russia using conventional weapons in strikes against the U.S. homeland.

within the context of counter-homeland strikes: China may believe it can conduct conventional strikes against the American homeland with little chance of eliciting a U.S. nuclear response. First, what many China watchers consider to be doctrinal writings of China's military forces — most notably from the People's Liberation Army Rocket Forces, formerly the Second Artillery Corps — suggest that China could use conventional missiles to support combat operations by Chinese ground, air, naval, and information operations units around and near China's periphery.¹⁰⁰ As China's conventional missile capabilities and associated employment concepts evolve, the country could design a missile campaign to conduct strikes against more distant critical targets within the continental United States.¹⁰¹ Already though, the People's Liberation Army Rocket Forces, as well as the People's Liberation Army Air Force

95 Johnson, *Russia's Conventional Precision Strike Capabilities*, 53–54.

96 Kofman, Fink, and Edmond, *Russian Strategy for Escalation Management*, 66.

97 Johnson, *Russia's Conventional Precision Strike Capabilities*, 51.

98 Kristin Ven Bruusgaard, "The Myth of Russia's Lowered Nuclear Threshold," *War on the Rocks*, Sept. 22, 2017, <https://warontherocks.com/2017/09/the-myth-of-russias-lowered-nuclear-threshold/>.

99 Zysk, "Escalation and Nuclear Weapons in Russia's Military Strategy," 4; Kofman and Fink, "Escalation Management and Nuclear Employment in Russian Military Strategy"; and Fink and Kofman, *Russian Strategy for Escalation Management*, 26. To generate an effect against the U.S. economy and the population, a punishment strategy might require a considerable quantity of conventional weapons in attacks. The expense of procuring the required number of weapons might deter Russia from adopting this strategy. I thank Victor A. Utgoff for bringing this possibility to my attention.

100 The People's Liberation Army Rocket Force was recently elevated to the position of an independent service within China's armed forces as a result of China's 2016 military reforms. It remains uncertain as of 2021 how the reforms might affect the force's conduct of conventional missile operations alongside the other military services in a joint campaign, and it is beyond the scope of this article to speculate on the reform's implications for the rocket force. More in-depth analysis of the force and China's military reforms can be found in David C. Logan, "Making Sense of China's Missile Forces," in *Chairman Xi Remakes the PLA: Assessing Chinese Military Reforms*, ed. Phillip C. Saunders, et al. (Washington, DC: National Defense University Press, 2019), 393–435, https://ndupress.ndu.edu/Portals/68/Documents/Books/Chairman-Xi/Chairman-Xi_Chapter-11.pdf?ver=2019-02-08-112005-803.

101 Ron Christman, "Conventional Missions for China's Second Artillery Corps: Doctrine, Training, and Escalation Control Issues," in *Chinese Aerospace Power: Evolving Maritime Roles*, ed. Andrew S. Erickson and Lyle J. Goldstein (Annapolis, MD: Naval Institute Press, 2011), 318–19.





and Navy, is capable of conducting conventional (and nuclear) strikes against the U.S. territory of Guam, home to Andersen Air Force Base and U.S. Navy facilities at Apra Harbor. The U.S. military would use Guam as a major hub for air and naval operations and logistics in the event of a military contingency in the western Pacific.

Michael Chase, in his analysis of the 2004 edition of the *Science of Second Artillery Campaigns*, which China watchers considered fundamental to understanding China's rocket forces doctrine throughout the 2010s, identifies several potential target types for China's conventional missile strikes: strategic- and campaign-level command, control, and communications centers; radar installations; information-related hubs; missile and air force bases; naval facilities; logistics hubs; chokepoints in lines of communications; energy infrastructure; and aircraft carrier strike groups. He notes that the *Science of Second Artillery Campaigns* describes the missile strike campaign's intent as "paralyzing the enemy's command system; weakening the enemy's military strength and its ability to continue operations; creating psychological shock in the enemy and shaking its operational resolve; and checking the powerful enemy's military intervention activities."¹⁰²

Chase turns to the discussion in China's National Defense University's 2001 edition of the *Campaign Theory Study Guide* of China's nuclear counterstrike campaign to better understand how the Chinese military approaches targeting assets in an adversary's homeland. The campaign's mission and potential targets are similar to that of a conventional missile strike campaign, but with more emphasis on destroying strategic-level targets to paralyze enemy command and control and to reduce war-supporting potential.¹⁰³

Second, many experts within China seem to expect a particular level of U.S. conventional strikes against the Chinese homeland in the event of a U.S.-Chinese conflict in the western Pacific that they believe will not elicit a Chinese nuclear response. In their 2015 examination of China's nuclear posture and strategy, Cunningham and Fravel found that their Chinese interlocutors did not

believe that U.S. conventional strikes against China's counter-intervention, or anti-access and area-denial forces, would lead to China using nuclear weapons.¹⁰⁴ This may point to a more general belief that not all counter-homeland conventional strikes will warrant a nuclear response from China.

What *could* lead to nuclear escalation, though, might be U.S. conventional operations that degrade or destroy portions of China's nuclear forces, including its nuclear command and control. While China's declaratory nuclear policy is that it would not be first in a conflict to use nuclear weapons, the Chinese government has not announced how it would act following U.S. conventional strikes against China's nuclear forces.¹⁰⁵

Third, in their more recent review of Chinese literature and interviews with members of what they call "China's strategic community," Cunningham and Fravel found that Chinese experts are confident that conventional escalation can be controlled and conventional warfighting intensity can be limited (with "limits on intensity" left unspecified) as long as the nuclear threshold had not yet been crossed in a U.S.-Chinese conflict.¹⁰⁶ Cunningham and Fravel assess that Chinese experts generally discount an opponent's disproportionate response to Chinese strikes, reinforcing the Chinese strategic community's perception of a robust conventional-nuclear firebreak.¹⁰⁷ In addition, because Chinese experts believe that nuclear offensive operations cannot be controlled once initiated, they anticipate that the United States would try to resolve a crisis with China involving overseas U.S. defense commitments before the adversaries approached the nuclear Rubicon.¹⁰⁸

These beliefs leave open, rather than foreclose, the possibility of China conducting counter-homeland conventional strikes against what it considers U.S. military operations and strategic centers of gravity to undermine U.S. resolve, because it sees the nuclear shadow (i.e., China's assured nuclear retaliatory forces) as dampening U.S. nuclear escalation incentives. In essence, China might believe that its nuclear second-strike capabilities could make it safe to conduct counter-homeland conventional strikes against the United States in a future conflict.

102 Michael S. Chase, "Second Artillery in the Hu Jintao Era: Doctrine and Capabilities," in *Assessing the People's Liberation Army in the Hu Jintao Era*, ed. Roy Kamphausen, David Lai, and Travis Tanner, Strategic Studies Institute and U.S. Army War College, April 2014, 315–16, <https://publications.armywarcollege.edu/pubs/2273.pdf>.

103 Chase, "Second Artillery in the Hu Jintao Era," 321–22.

104 Cunningham and Fravel, "Assuring Assured Retaliation," 40–41.

105 Cunningham and Fravel, "Assuring Assured Retaliation," 21.

106 Cunningham and Fravel, "Dangerous Confidence?" 75–76. If members of China's strategic community were to view counter-homeland conventional strikes as being too intense a form of warfighting, and if their views truly reflected those within the inner sanctums of China's senior-level decision-makers, then this view would militate against China initiating counter-homeland conventional strikes against the United States.

107 Cunningham and Fravel, "Dangerous Confidence?" 103.

108 Cunningham and Fravel, "Dangerous Confidence?" 77.

Potential Triggers of Nuclear Escalation

Though the publicly available data on the three nuclear competitors' nuclear thresholds and views of a conventional-nuclear firebreak paint an incomplete picture, this first cut at the data reveals several themes and potential triggers of nuclear escalation. If these potential triggers are salient in decision-makers' minds in wartime, then they might diminish their likelihood of initiating counter-homeland conventional strikes. The first potential trigger of a nuclear response is enemy conventional strikes that degrade or destroy a significant proportion of U.S., Russian, or Chinese means of exercising national-level command and control, especially of nuclear forces. Conventional strikes against the nuclear retaliatory weapon systems themselves will similarly increase the likelihood of nuclear escalation.

Second, because the nuclear competitors' integrated tactical warning and attack assessment systems are pivotal in ensuring their nuclear retaliatory forces and command-and-control nodes do not suffer a surprise counterforce attack and in safeguarding their senior leadership from decapitation, the competitors seem prepared to view conventional strikes against their own systems as a trigger for nuclear escalation. A complicating factor is that some of the integrated tactical warning and attack assessment systems are increasingly dual-use: They ensure the survival and responsiveness of nuclear forces, as well as the effective operations of non-nuclear forces, such as air and missile defense forces.¹⁰⁹ For example, Russia could conduct a set of initial conventional strikes to degrade or destroy U.S. missile early-warning and tracking systems in order to enable more effective follow-on conventional strikes on the continental United States. However, losing those systems could increase the risk of a surprise counterforce attack against U.S. nuclear forces, thus moving American decision-makers to believe that Russia was on the cusp of a nuclear first strike against U.S. nuclear forces. As a result, the United States might decide to conduct a preemptive nuclear first strike against

Russia to limit damage against the U.S. homeland. It is possible that the competitors will view attacks against an opponent's integrated tactical warning and attack assessment systems as a likely nuclear trigger, and therefore decide not to conduct such an attack in the first place and forego the military benefits of the attack in a conventional conflict.

Third, intentionally or unintentionally targeting civilian society raises the risk of social upheaval or a steep, deep, and prolonged decline of the domestic economy, which could lead to nuclear escalation to persuade the attacker to halt its counter-homeland campaign. Targeting homeland energy infrastructure and war-supporting industry is common to the major nuclear competitors' ways of war. Though conventional strikes targeting these assets are not akin to directly targeting population centers to inflict pain and suffering (the intended initial effects of a punishment strategy), pain and suffering across population centers could be the second-order effects of strikes against some types of energy infrastructure and war-supporting industry targets.¹¹⁰

Russian and Chinese Investments in Long-Range Conventional Strikes

This section highlights several existing, emerging, and potential Russian and Chinese long-range conventional-strike systems. "Long range" is used here to describe strike systems — delivery vehicles, launch platforms, or combinations of the two (e.g., bombers with cruise missiles) — that are or could be capable of delivering a conventional payload over a distance of at least 3,000 km from the system's operational base or launch point.¹¹¹

Russia

Russia has several dual-capable systems (capable of carrying conventional or nuclear payloads) that can strike America's coasts and its interior. First, Russia's 9M729 (NATO designation SSC-8) ground-launched cruise missile has a range in excess of 500 km.¹¹² If it can fly up to 2,000 km, it can cover targets in Alaska from Russian Arctic bases,

109 A more extensive discussion is in James M. Acton, "Escalation through Entanglement: How the Vulnerability of Command-and-Control Systems Raises the Risks of an Inadvertent Nuclear War," *International Security* 43, no. 1 (Summer 2018): 56–99, https://doi.org/10.1162/isec_a_00320.

110 A punishment strategy would largely confine target selection to those assets whose degradation or loss would exacerbate the level of pain the opponent's population would feel. The logic of the strategy suggests that the population, in turn, would exert political pressure on the government to terminate the war on terms favorable to the attacker. Snyder, *Deterrence and Defense*, 14–15.

111 This is an arbitrary definition of a long-range system, but it captures existing Chinese and Russian conventional threats to the U.S. homeland. *Ballistic and Cruise Missile Threat*, Defense Intelligence Ballistic Missile Analysis Committee, 2017, 8, http://www.nasac.af.mil/Portals/19/images/Fact Sheet Images/2017 Ballistic and Cruise Missile Threat_Final_small.pdf?ver=2017-07-21-083234-343.

112 "Russia initially flight tested the 9M729 – a ground based missile – to distances well over 500 kilometers (km) from a fixed launcher." "Director of National Intelligence Daniel Coats on Russia's Intermediate-Range Nuclear Forces (INF) Treaty Violation," Office of the Director of National Intelligence, Nov. 30, 2018, <http://www.dni.gov/index.php/newsroom/speeches-interviews/speeches-interviews-2019/item/1923-director-of-national-intelligence-daniel-coats-on-russia-s-inf-treaty-violation>.



such as Anadyr-Ugolny Airbase. A range of up to 4,000 km would allow the 9M729 to strike the U.S. naval base at Bangor, Washington from Russian territory. Relatedly, in September 2019, Russia deployed a Bastion SS-N-26 (NATO designation of the land-based variant of the ONIKS system) ground-launched, anti-ship cruise missile unit to the Chukotka Peninsula along the Bering Sea. According to U.S. Northern Command, the system could be used to strike ground targets in Alaska, such as components of the U.S. national missile defense system.¹¹³

Second, Russian Tu-160 and upgraded Tu-95MSM bombers can carry several Kh-101 (NATO designation AS-23) conventional air-launched cruise missiles. These missiles may have a range of up to 4,000 km.¹¹⁴ With that range, the bombers could strike Alaska or northwest Washington State from the relative safety of Russian airspace. From the northern Pacific airspace, the missile could reach targets in Hawaii and California. The bombers in the airspace over the North Atlantic could range targets along the U.S. eastern seaboard. The PAK-DA bomber, which Russia might deploy in the mid-2020s, is projected to carry the Kh-101 cruise missile.¹¹⁵

Third, the Russian Severodvinsk-class SSGN can carry the 3M-14 Kalibr (NATO designation SS-N-30A) land-attack cruise missile capable of carrying conventional or nuclear warheads.¹¹⁶ The missile not only has a range of up to 2,500 km, but the Severodvinsk SSGNs are “much quieter and more lethal than previous generations of Russian attack submarines,” according to U.S. Northern Command’s Gen. Terrence O’Shaughnessy.¹¹⁷ If undetected, SSGNs miles offshore of the U.S. coast can strike targets deep within the American interior with minimal warning. The submarine-launched cruise missiles could remain undetected because the U.S. national missile defense architecture is not designed to deal with the cruise missile threat.¹¹⁸

Lastly, Russia’s aspirations pertaining to long-range conventional strikes suggest it might pursue

two types of future hypersonic-strike capabilities. Deployment of the Avangard hypersonic glide vehicle with the first SS-19 ICBM unit in 2019 and the research and development effort on the Tsirkon hypersonic anti-ship cruise missile point to a potential future, perhaps in the 2030s or 2040s, in which Russia’s long-range conventional-strike arsenal includes ICBMs and more capable cruise missiles deployed with bombers and submarines.¹¹⁹ Such a future arsenal could enable the Russian leadership to emphasize conventional-strike capabilities over nuclear-strike capabilities in its application of concepts of strategic deterrence against nuclear adversaries and provide Russia a path out of nuclear stalemate through the use of coercive conventional escalation.

This potential evolution of Russian capabilities is partly predicated on the military requirements for conventional strike forces and on how the leadership views the economics of Russian defense.¹²⁰ For example, Russian judgments that long-range nuclear weapon systems would be more cost effective in supporting the state’s national security objectives than long-range conventional weapon systems could dampen incentives to deploy conventional ICBMs.

China

China’s long-range conventional-strike arsenal is less developed than Russia’s. China’s longest-range conventional-strike systems can reach U.S. targets in Guam, about 3,000 km from the Chinese mainland. Several new or emerging systems, however, might be poised to increase China’s targeting range by thousands of kilometers. First, China’s H-6K bomber began to fly missions in 2015. The H-6K has a combat radius of about 1,500 km, but if armed with the CJ-20 air-launched cruise missile (land-attack) it could strike targets out to roughly 3,000 km, and an upgraded version of the H-6K might

113 O’Shaughnessy, “Statement Before the Senate Armed Services Committee,” 5.

114 Douglas Barrie, “Kh-101 Missile Test Highlights Russian Bomber Firepower,” *IJSS Military Balance Blog*, Feb. 8, 2019, <http://www.ijss.org/blogs/military-balance/2019/02/russian-bomber-firepower>.

115 Defense Intelligence Agency, *Russia Military Power*, 80.

116 For a more comprehensive analysis of how the Severodvinsk SSGN fits into Russia’s concept of strategic deterrence, see Jerome J. Burke, *Analogous Response Redux: Vladimir Putin’s Aspirations for Altering the Maritime Balance*, Institute for Defense Analyses, June 2020, <https://www.ida.org/-/media/feature/publications/a/an/analogous-response-redux-vladimir-putin-aspirations-for-altering-the-maritime-balance/d-14246.ashx>.

117 Defense Intelligence Ballistic Missile Analysis Committee, *Ballistic and Cruise Missile Threat*, 37; and Terrence J. O’Shaughnessy, “Statement Before the Senate Armed Services Committee,” 116th Cong., 1st sess., Feb. 26, 2019, 4, <https://www.armed-services.senate.gov/hearings/19-02-15-united-states-strategic-command-and-united-states-northern-command>.

118 *National Cruise Missile Defense: Issues and Alternatives*, Congressional Budget Office, Feb. 2021, 9, <https://www.cbo.gov/publication/56950>.

119 Vladimir Isachenkov, “New Russian Weapon Can Travel 27 Times the Speed of Sound,” *AP News*, Dec. 27, 2019, <https://apnews.com/article/vladimir-putin-moscow-ap-top-news-international-news-china-597e7f2b20b21af959e4c6983b255c37>; and Defense Intelligence Agency, *Russia Military Power*, 78–79.

120 I thank Victor A. Utgoff for raising this issue.

extend its combat radius through aerial refueling.¹²¹

Second, China is developing a long-range, low-observable bomber suitable for striking “regional and global targets.”¹²² Standoff strike and aerial refueling capabilities for what is likely to be a dual-capable bomber could enable it to strike targets in the western continental United States from airspace between Hawaii and the U.S. west coast. China has acquired several IL-78 MIDAS aerial refueling tankers from foreign suppliers, and the U.S. Defense Department projects that China will modify a version of its Y-20 heavy lift transport aircraft to conduct long-range aerial refueling missions.¹²³

Third, China is developing land-attack cruise missiles for use by its naval surface vessels and submarines.¹²⁴ As mentioned above, it is also developing the Type 093B SSGN, and China’s navy already has a fleet of nuclear-powered attack submarines. Some of the attack submarines have conducted long-duration patrols in the Indian Ocean region.¹²⁵ As seen with Russia’s Severodvinsk SSGN, China’s expanding undersea conventional-strike arsenal could put the western continental United States under greater risk of suffering conventional attack.

Finally, as the 2004 edition of the *Science of Second Artillery Campaigns* suggested, China could decide to deploy a fleet of conventionally armed ICBMs to more easily hold distant targets at risk of prompt attack. Using conventional payloads would require China to incorporate into its ICBMs the guidance and navigation technologies it employs with its shorter-range missiles to ensure the missiles could strike several types of military and non-military targets with high accuracy. Chinese strategists could see this capability as more effective than relying on long-range aircraft and submarines that might have to penetrate layers of U.S. air and maritime defenses before reaching their missile launch locations. If installed on mobile launchers, the ICBMs might also be more survivable during a protracted war against the United States. China would not necessarily desire a fleet of conventional ICBMs large enough to destroy the U.S. ICBM force, but perhaps a number sufficient to engage in brinkmanship with the United States and to target a mix of war-supporting industry and military and economic assets.

Russia’s and China’s Improvements for Conducting Long-Range Conventional Strikes

There is ample publicly available information on how Russia and China are working to improve their long-range conventional-strike capabilities. It is unclear whether some of their improvements are aimed at being able to conduct counter-homeland conventional strikes against the continental United States, or to conduct missions against targets closer to their own homelands, or both. Nevertheless, even improvements for conducting missions closer to home could provide incidental preparation for conventional strikes against the continental United States.

Russia

The participation of Russian bomber units and submarine crews in various training sorties and exercises could fit squarely within Russia’s preparations to implement its strategic operations for the destruction of critically important targets and counter-homeland conventional strikes against the United States. Since the 2010s, partly as a result of the increased resourcing of Russia’s Long-Range Aviation, Russian bombers have routinely conducted patrols in the airspace over the North Atlantic and in areas skirting U.S. and Canadian airspace.¹²⁶ Some of these patrols have been part of large-scale military exercises. It is unclear from open source data what the purposes of the patrols are, but the missions could have several objectives: to demonstrate Russian air presence near U.S. and allied airspace to deter attack; to probe the responsiveness of U.S. and allied air defenses; to improve aircrew operational proficiency; and to conduct aircrew training for nuclear- and conventional-strike missions.

Even on missions conducted far from North America, Russian strike planners and bomber aircrews can practice some of the skills essential to conducting conventional strikes against the American homeland. This is because some, but not necessarily all, of the skills required for standoff conventional-strike missions are fungible across geographic distances and adversaries. When

121 Derek Grossman, et al., *China’s Long-Range Bomber Flights: Drivers and Implications*, RAND Corporation, 2018, 1 (fn. 3), https://www.rand.org/pubs/research_reports/RR2567.html.

122 *China Military Power: Modernizing a Force to Fight and Win*, Defense Intelligence Agency, 2019, 85, http://www.dia.mil/Portals/27/Documents/News/Military_Power_Publications/China_Military_Power_FINAL_5MB_20190103.pdf.

123 Department of Defense, *Annual Report to Congress: Military and Security Developments Involving the People’s Republic of China 2020*, 51.

124 Department of Defense, *Annual Report to Congress: Military and Security Developments Involving the People’s Republic of China 2020*, 46–47.

125 Sandeep Unnithan, “Exclusive: Indian Navy Headless as Chinese Nuclear Sub Prowls Indian Ocean,” *India Today*, March 21, 2014, <http://www.indiatoday.in/india/north/story/indian-navy-chinese-nuclear-sub-indian-ocean-185695-2014-03-21>.

126 O’Shaughnessy, “Statement Before the Senate Armed Services Committee,” Feb. 13, 2020, 4; and Michael Winter, “Russian Bombers Increase Flights Near U.S. Airspace,” *USA Today*, Aug. 7, 2014, <http://www.usatoday.com/story/news/world/2014/08/07/russia-bombers-arctic/13746681/>.





Russian Tu-95MS bombers launched Kh-101 cruise missiles against Islamic State targets in Syria in July 2017, that mission helped improve some skills for longer-range conventional-strike missions.¹²⁷

Similarly, Russian undersea patrols involving submarines armed with long-range conventional mis-

es, such as aircrews' open-ocean navigation, apply to scenarios involving strikes against U.S. territories beyond Guam, such as Hawaii and Alaska.

In 2018, the U.S. Department of Defense disclosed that the People's Liberation Army Air Force began to fly H-6 bombers through the First Island Chain and into the airspace over the western Pacific Ocean in 2015.¹³⁰ Some of these patrols, according to the Defense Department, flew "within LACM [land-attack cruise missile] range of Guam." In addition, the following year China's air force added an airborne warning-and-control system and fighter aircraft to the bomber patrols to ensure defensive counterair protection for the bombers operating beyond the range of China's land- and sea-based surface-to-air missile forces.¹³¹

Furthermore, in 2018, the Defense Intelligence Agency assessed that the incorporation of live missile launches in the People's Liberation Army Rocket Forces missile brigade training permitted the units to practice "all required procedures."¹³² In January 2019, China's state-run media released a video described as showing a launch of a DF-26 intermediate-range ballistic missile. A variant of the DF-26 is capable of performing a land-attack strike against Guam.¹³³

China is preparing its military to conduct conventional precision-strike warfare in regional scenarios. The buildup and enhancement of operators' and planners' skills for the scenarios will better enable China's military to "plug and play" if it deploys long-range conventional-strike systems that can reach Hawaii and the continental United States. The developmental Type 093B SSGN, if it carries land-attack cruise missiles, might be one such system.

One possible path to a military stalemate in a U.S.-Russian conflict in Europe could result from Russia achieving a *fait accompli* in an invasion of one or all of the Baltic states of Estonia, Latvia, and Lithuania, all of which are members of NATO.

siles might involve training the crews for launching land-attack cruise missiles and for conducting anti-surface and anti-submarine warfare.¹²⁸ Like the aircrews on bombers, the submarine crews do not have to be near the U.S. coastline to improve their skills for conventional-strike missions against the U.S. homeland. Whether practicing off the coasts of American allies in Europe, in the mid-Atlantic, or in the Pacific Ocean, some of the skills for launching a conventional land-attack strike from under the sea are applicable across geographic settings.

China

During the 2010s, China enhanced the complexity and realism of its military training and exercises that involve its conventional precision-strike forces.¹²⁹ As with Russian operators and planners, some of the skills that Chinese military personnel hone in regional military training scenarios and exercis-

127 Polina Nikolskaya and Dmitry Solovoyov, "Russia Hits Islamic State in Syria with Advanced Cruise Missiles," *Reuters*, July 5, 2017, <http://www.reuters.com/article/us-mideast-crisis-syria-russia-idUSKBN19Q1QP>.

128 Paul McLeary, "In Return to Cold War Posture, U.S. Sending Sub-Hunting Planes to Iceland," *Foreign Policy*, Dec. 4, 2017, <https://foreignpolicy.com/2017/12/04/in-return-to-cold-war-posture-u-s-sending-sub-hunting-planes-to-iceland/>.

129 Department of Defense, *Annual Report to Congress, Military and Security Developments Involving the People's Republic of China 2019*, 22–23; and Defense Intelligence Agency, *China Military Power 2019*, 33, 95.

130 The First Island Chain is the series of islands immediately offshore from China's coastline: the Japanese home islands through the Ryukyu Islands, Taiwan, and the Philippines.

131 Department of Defense, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2018*, 118, <https://media.defense.gov/2018/Aug/16/2001955282/-1/-1/2018-china-military-power-report.pdf>.

132 Defense Intelligence Agency, *China Military Power 2019*, 95.

133 Brad Lendon, "Ballistic Missile Can Hit Moving Ships, China Says, but Experts Remain Skeptical," *CNN*, Jan. 30, 2019, <http://www.cnn.com/2019/01/29/asia/china-df-26-missile-tests-video-intl/index.html>.



Military Stalemate and Protracted War: Catalysts for Counter-Homeland Conventional Strikes and Brinkmanship

There are likely multiple factors that could cause a nuclear competitor to conduct counter-homeland conventional strikes, possibly as an intentional brinkmanship campaign, against its nuclear adversary. This section will focus on two possible catalysts: military stalemate in a regional conflict and the looming prospect of a conflict evolving into a protracted war.¹³⁴ It will discuss how the perceptions of stalemate or the prospect of a protracted war could come to fruition within a possible U.S.-Russian conflict.¹³⁵ It will then characterize three subsidiary factors that could play roles in catalyzing conventional escalation against the great powers' homelands in the contexts of both a U.S.-Russian conflict and a U.S.-Chinese conflict.

One possible path to a military stalemate in a U.S.-Russian conflict in Europe could result from Russia achieving a *fait accompli* in an invasion of one or all of the Baltic states of Estonia, Latvia, and Lithuania, all of which are members of NATO.¹³⁶ Two factors could enable Russia to quickly seize NATO territory. First, the peacetime local balance of forces between NATO and Russia might still favor the latter beyond the early 2020s. Second, with its frequent no-notice "snap" military exercises during the past few years, Russia has been practicing its military's ability to rapidly mobilize and transition its military forces to a wartime posture and to conduct operations in regional military contingencies.¹³⁷ With Russian forces occupying NATO territory, the U.S. military would attempt to reinforce Europe in preparation for a counterattack to dislodge Russian forces.¹³⁸

Anticipating a U.S.-led counterattack to liberate the Baltic states, Russia would be incentivized to

disrupt the U.S. reinforcement of Europe, or to prevent U.S. ground forces from assembling within Poland as a prelude to a counterattack to retake NATO territory. Russian kinetic strikes against airfields and ports receiving U.S. forces and war supplies could include conventional or nuclear weapons. The Russian leadership, though, might withhold its nuclear forces while it assesses the effectiveness of conventional strikes in disrupting U.S. reinforcement and in possibly sowing discord between NATO allies.

If Russia merely were to conduct a moderately scaled conventional-strike campaign against NATO assets and permit only piecemeal U.S. reinforcements to arrive in theater, the United States would likely be unable to assemble a robust force capable of dislodging Russian forces from NATO territory. As a result, both states could confront the challenges of a military stalemate, wherein combat continues between them, but there is no appreciable change in control over disputed territory or movement toward a political settlement of the war.

Perceptions of a military stalemate could motivate a competitor to escalate with conventional attacks against the adversary's homeland. To prevent Russian conventional strikes against targets west of the Baltic states and allow a robust force to assemble for a counterattack, the United States would be motivated to escalate operations against the Russian homeland, especially if it had refrained from doing so during Russia's initial invasion. This assumes that many of the Russian conventional strikes involve air- or ground-launched systems, which would originate from bases within Russia (Russia's reliance solely on sea-launched systems could offer the United States the opportunity to avoid escalating against the Russian homeland). U.S. forces might attack targets in Russia that would degrade its ability to conduct regional conventional strikes and prevent the buildup of U.S. forces.

134 I selected these two possible catalysts because they are implied as probable phenomena of great-power conflict in the definition of "great power" used in this article. See fn. 1.

135 The example assumes that all members of NATO are involved in the conflict, but U.S. operations will dwarf allies' operations and be the bulk of NATO operations. A U.S.-Chinese military contingency is excluded simply due to space constraints, but a military stalemate could develop between the two competitors in a conflict centered in the maritime space within the First Island Chain, with a salient present-day example being a Chinese Normandy-type invasion of Taiwan that experiences difficulties breaking out of beachheads. More comprehensive examinations can be found in Heginbotham, et al., *The U.S.-China Military Scorecard*; and David C. Gompert, Astrid Stuth Cevallos, and Cristina L. Garafola, *War with China: Thinking Through the Unthinkable*, RAND Corporation, 2016, http://www.rand.org/content/dam/rand/pubs/research_reports/RR1100/RR1140/RAND_RR1140.pdf.

136 Shlapak and Johnson, "Reinforcing Deterrence on NATO's Eastern Flank." Another possible path to a military stalemate is through Russian forces, upon occupying the Baltic states, facing guerrilla forces supported by NATO. NATO forces west of the Baltic states could also initiate a conventional counter attack to exploit the Baltic guerrillas' efforts and compel Russia's withdrawal. I thank James A. Blackwell, Jr. for bringing this possibility to my attention.

137 Lee Litzenberger, "Beyond ZAPAD 2017: Russia's Destabilizing Approach to Military Exercises," *War on the Rocks*, Nov. 28, 2017, <https://warontherocks.com/2017/11/beyond-zapad-2017-russias-destabilizing-approach-military-exercises/>; and Michael R. Gordon and Eric Schmitt, "Russia's Military Drills Near NATO Border Raise Fears of Aggression," *New York Times*, July 31, 2017, <http://www.nytimes.com/2017/07/31/world/europe/russia-military-exercise-zapad-west.html>.

138 Jen Judson, "Reforger Redux? Defender 2020 to be 3rd Largest Exercise in Europe Since Cold War," *DefenseNews*, Oct. 7, 2019, <http://www.defensenews.com/land/2019/10/07/reforger-redux-defender-2020-exercise-to-be-3rd-largest-exercise-in-europe-since-cold-war/>.





Meanwhile, Russia could enlarge the scale and scope of its attacks against European NATO countries to compel acquiescence to Russia's political demands. It could also go beyond European NATO territory and conduct conventional strikes against military assets within the U.S. homeland that support U.S. power projection, such as the naval bases at Norfolk, Virginia, Mayport, Florida, and Kings Bay, Georgia. Of course, Russia could threaten to escalate conventionally against the U.S. homeland at the outset of the conflict in Europe as a way to deter U.S. military intervention.¹³⁹

Even if Russia were to limit its conventional strikes and select its targets in a way that conveys its restraint, U.S. leaders might judge that the strikes threatened near-term nuclear escalation against the United States. This judgment might be more likely if "the attack has strategic consequence" in the minds of U.S. leaders.¹⁴⁰

Failure to break the stalemate could generate the second catalytic factor: an increased likelihood of a protracted war. This relationship between the two

catalytic factors that could motivate a nuclear competitor's decision to conduct counter-homeland conventional strikes or engage in brinkmanship against a nuclear adversary shows that they are not mutually exclusive. Still, a competitor could think that it is progressing toward its war aims (i.e., it is not facing a military stalemate) as it begins to see that the war is becoming protracted.

There is no non-arbitrary and widely recognized definition of a protracted war, but there are several ways a competitor might begin to perceive that it has transitioned into a protracted war.¹⁴¹ First, it has to start rotating military units out of combat duty, due to exhaustion and combat losses, and replace them with reserve units. Second, after having enjoyed widespread public support for going to war, the government sees a large decline in public support for the war effort. Third, the competitor's defense industrial base has to increase its weapons production to restock the military's arsenal, and the government directs manufacturers of consumer goods to retool their production lines for

139 I thank an anonymous reviewer of the *Texas National Security Review* for this observation.

140 Pawlyk, "Cyber Attack Wouldn't Merit Nuclear Strike: Joint Chiefs Vice Chairman."

141 For example, see Patrick Savage, "What If It Doesn't End Quickly? Reconsidering U.S. Preparedness for Protracted Conventional War," *Modern War Institute*, July 23, 2020, <https://mwi.usma.edu/what-if-it-doesnt-end-quickly-reconsidering-us-preparedness-for-protracted-conventional-war/>.

military hardware. A more significant indicator would be if the government were to come to believe that military-technical innovation, possibly a development effort measured in years, is the key to bringing the war to a successful termination.

Much of what a competitor must do to sustain itself in a protracted war is costly. Thus, the competitor might see conducting counter-homeland conventional strikes against a nuclear adversary as a way to avoid the costs of protracted war and achieve its war aims more quickly.

There are at least three subsidiary factors that could play independent or interactive roles in a competitor's decision to escalate against a nuclear adversary's homeland. First, decision-makers may intensify a state's war effort due to the influence of sunk costs on their calculus: They may assess that escalation will eventually lead to success and will justify costs — both financial and human casualties — suffered in the past.¹⁴²

Second, perceptions of the political costs of going against domestic public opinion could cause decision-makers to escalate against an opponent. For example, Oriana Skylar Mastro argues that Chinese nationalism could exacerbate Chinese leaders' tendency to "disproportionately escalate early on in a conflict." Not only is the Chinese public increasingly in favor of strong responses to perceived slights and attempts to undermine Chinese sovereignty, but the Chinese Communist Party enables the public's demands through media manipulation and education programs. After deciding to escalate, it is possible that nationalist support for a more aggressive stance might make it difficult for the government to reverse course or to take an off ramp that results in a compromise with China's adversary.¹⁴³ Moreover, the adversary's previous attacks on

China or Chinese forces could increase public support for harsh measures against the adversary, such as counter-homeland strikes against military and economic targets.

In a similar vein, loss aversion suggests that Chinese decision-makers, in the case of a Taiwan invasion scenario, could escalate a war out of fear that a failure to intensify China's war effort would likely result in severe losses for the Chinese Communist Party itself, possibly extending to its loss of control over China.¹⁴⁴ Take, for example, if, following an invasion of Taiwan, the advances of Chinese ground forces out of their beachheads were to stall due in part to U.S. military intervention, significantly slowing down China's timeline for gaining control of the island. In this scenario, China's leaders might come to view coercive conventional escalation against the U.S. homeland — perhaps as part of a brinkmanship campaign — as a necessary step to take to avoid a major military defeat that could threaten the Chinese Communist Party's hold on power.

Lastly, the competitor's assessment that the adversary lacks resolve to suffer costs, or that it lacks the resources necessary to sustain a protracted war effort or to break out of a stalemate, could persuade the competitor that escalating against the homeland could push the adversary over the edge into accepting the competitor's political demands and terms of de-escalation.

A Preliminary Research Agenda

The preceding discussion suggests at least five major topics that warrant further investigation and analysis by the Department of Defense and the national security community: 1) the views of

142 An analytic expectation of neoclassical economic theory is that if the objective is to maximize gains over costs, then a decision to escalate in war should be based on a forecast of benefits trumping costs, not on sunk costs. Roch Parayre, "The Strategic Implications of Sunk Costs: A Behavioral Perspective," *Journal of Economic Behavior and Organization* 28, no. 3 (December 1995): 418, [https://doi.org/10.1016/0167-2681\(95\)00045-3](https://doi.org/10.1016/0167-2681(95)00045-3); and Barry M. Staw, "Knee-Deep in the Big Muddy: A Study of Escalating Commitment to a Chosen Course of Action," *Organizational Behavior and Human Performance* 16, no. 1 (June 1976): 27–44, [https://doi.org/10.1016/0030-5073\(76\)90005-2](https://doi.org/10.1016/0030-5073(76)90005-2). President John F. Kennedy did not succumb to the influence of sunk costs when he decided to refrain from using U.S. air power to ensure the success of the invasion at Cuba's Bay of Pigs in 1961. See Jervis, *How Statesmen Think*, 87.

Relatedly, psychologists have explored the "effort justification hypothesis" regarding individuals' actions to reduce cognitive dissonance, a situation in which aspects of one's cognitions are psychologically inconsistent. In layman's terms, "If I have knowledge that I have invested much of my time or energy in a project, particularly in a project that has not done well, I need to put in more effort to protect and to justify the effort I have already made and thereby reduce dissonance. If I have expended effort, I assume that it is for a worthwhile cause." Thomas W. Millburn and Daniel J. Christie, "Effort Justification as a Motive for Conducting War: The Vietnam Case," in *Psychological Dimensions of War*, ed. Betty Glad (Newbury Park, CA: SAGE Publications, Inc., 1990), 238.

143 Oriana Skylar Mastro, "How China Ends Wars: Implications for East Asian and U.S. Security," *Washington Quarterly* 41, no. 1 (2018): 46–47, 50, <https://doi.org/10.1080/0163660X.2018.1445358>. Mastro believes that in the three major wars China fought between 1949 and 1979, Chinese leaders were confident they could escalate against stronger and weaker opponents. She also finds that multiple editions of *The Science of Military Strategy*, considered by analysts of China's strategic behavior to be an authoritative Chinese strategic document, have prescribed the aggressive approach to escalation.

Similarly, as a result of a survey experiment conducted in China, scholars Kai Quek and Alastair Iain Johnston found that the possibility of China's leaders making concessions in the face of U.S. military threats would generate high public opinion costs for the Chinese regime. U.S. threats, especially public threats, to impose greater costs on China to compel its de-escalation could backfire. Kai Quek and Alastair Iain Johnston, "Can China Back Down? Crisis De-escalation in the Shadow of Popular Opposition," *International Security* 42, no. 3 (Winter 2017/18): 7–36, https://doi.org/10.1162/ISEC_a_00303.

144 Jervis, *How Statesmen Think*, 92.





escalation, nuclear thresholds, and preferred targets for counter-homeland conventional strikes at the senior level of Russia's and China's national leadership, as well as at the operational planning and command levels of their military forces; 2) how the Russian and Chinese militaries might improve their operational competence in long-range conventional precision-strike operations; 3) the optimum U.S. approach to limit damage in a conflict; 4) the effects of the loss of capabilities and military production capacities within the continental United States on U.S. power projection, operations, and strategy; and 5) the challenges and opportunities that might arise when competitors' homelands take center stage within the kinetic battlespace.

Competitors' Views of Escalation, Nuclear Thresholds, and Counter-Homeland Targeting

Publicly available data suggests that the United States needs to better understand Russia's and China's views of escalation and nuclear thresholds vis-à-vis conventional strikes against their homelands, as well as how they calculate the probable U.S. response to conventional strikes against the U.S. homeland. The poor understanding of China's views, for example, is reflected in how even analysts and scholars within the U.S. national security community trained to read and understand Mandarin Chinese disagree about the implications of the 2004 edition of *The Science of Second Artillery Campaigns* for Chinese nuclear escalation during an ongoing conventional conflict.¹⁴⁵ In addition, referring to Chinese troops' 2017 weeks-long incursion into the Indian-protected territory of Doklam, analyst Dean Cheng asserts that "I don't think we understand Chinese concepts of nuclear deterrents [*sic*] and escalation. I think that they are willing to conduct themselves in ways that we would not expect."¹⁴⁶

It is important to investigate Russian and Chinese views of escalation and nuclear thresholds at three different levels of the civil-military hierarchy. First, the most senior civilian leader, or leaders, will ultimately decide whether to use

nuclear weapons. So even if lower echelons of military planners and policymakers recommend using them, senior leaders might ignore or modify their recommendations.

Second, operational planners' views of escalation thresholds might affect the range of recommended courses of action provided to higher leadership echelons. Their views might distort the types and scope of information they provide to support their recommendations, possibly biasing the higher-level leaders' consideration of what are viable and effective options for use of force during a conflict.

Third, the views of escalation at the operations command level are important because once the senior leadership has authorized using nuclear weapons or conducting conventional strikes against the opponent's homeland, it is possible that it would delegate authority, perhaps with conditions, for subsequent use of nuclear weapons or counter-homeland conventional strikes to the senior military operations commander.¹⁴⁷ Russia and China both have joint theater command-and-control structures — Joint Strategic Commands and Theater Commands, respectively — that are similar to U.S. geographic combatant commands. For both countries, though, it remains unclear how much authority a joint theater command would have over nuclear operations or long-range conventional-strike operations.¹⁴⁸

The importance of understanding the possible implications for intra-war escalation and nuclear thresholds of various linkages and disconnects between senior decision-makers and lower echelons of military planners harkens back to Nolan's analysis of the Defense Department's internecine skirmishes during the 1994 nuclear posture review process. Nolan argued that the process — largely under the control of the Defense Department's career officials rather than senior political appointees — the bureaucratic battles, and the lack of sustained senior leader involvement coalesced to ensure the review's recommendations fell short of what she considered to be its initial ambitions embodied in recent arms control and cooperative

145 For elaboration, see Sugden, "A Primer on Analyzing Nuclear Competitions," 123.

146 Dean Cheng, quoted in Dean Cheng and Brad Carson, "Jaw-Jaw: China Is a Funny Sort of Revisionist Power — A Conversation with Dean Cheng," *War on the Rocks*, Nov. 13, 2018, <https://warontherocks.com/2018/11/jaw-jaw-china-is-a-funny-sort-of-revisionist-power-a-conversation-with-dean-cheng/>.

China and Bhutan dispute the political control of Doklam. India protects Bhutan's defense interests based on a longstanding arrangement between the two states. Rory Medcalf, "Doklam: Who Won?" *The Interpreter*, Aug. 31, 2017, <http://www.lowyinstitute.org/the-interpreter/doklam-who-won>.

147 Though delegating authority might seem unlikely in light of late Cold War history, senior leaders' elevated fear of decapitation in a crisis or conflict could lead to delegating some authorities to mitigate the potential effects of enemy strikes on the state's command-and-control capabilities. The elevated fear could result from leaders' assessment of the possible effects of advanced technologies — such as artificial and machine intelligence, high-speed, maneuvering weapons delivery systems, and computer-network operations married with innovative operational concepts — on the speed of military operations.

148 Kofman, Fink, and Edmond, *Russian Strategy for Escalation Management*, 59; and Logan, "Making Sense of China's Missile Forces," 410–12.

threat-reduction initiatives between the United States and the former Soviet Union.¹⁴⁹

Finally, many of the aforementioned caveats regarding Russian and Chinese views of escalation and nuclear thresholds should be applied to their preferred targets for counter-homeland conventional operations. Greater understanding of their possible strategies — denial, punishment, cost imposition, or something else — for achieving objectives might shed light on the likelihood of them conducting conventional strikes against the U.S. homeland and on how the United States could best deter use of those strategies.

The importance of this subject area for further investigation demands a multi-disciplinary approach across the Defense Department and the national security community that involves combing through all-source data and better understanding how nuclear competitors think about escalation in a multi-domain operational environment. In addition, endorsing Nolan and MacEachin's takeaway on avoiding strategic surprise, defense analysts with the requisite language competencies should consider collaborating with cultural anthropologists, historians, and experts on Russian and Chinese military operations to take significant leaps forward in advancing the Department of Defense's understanding of the cultural contexts of competitive interactions and conflict escalation dynamics.

Operational Competence in Long-Range Conventional Precision-Strike Operations

Looking at the broader competition in long-range conventional precision-strike warfare, how might the Russian and Chinese militaries improve their operational competence in conducting such warfare, and how might they extend their reach to the continental United States and sustain effective strike operations?¹⁵⁰ Critical clues to how Russia and China would conduct and sustain long-range conventional-strike operations are likely to be found in how they organize, train, and equip their forces. Inter- or intra-organizational rivalries within the armed forces, as well as incompatible C4ISR architectures and systems across the military services, for example, could bode ill for seamless command and control of forces conducting long-range strike missions. Their training programs, including monthly or seasonal training cycles, and major exercises could reveal the

military missions and tasks they believe are essential for generating effective combat power, as well as the types of challenges they anticipate facing. For example, improvement in U.S. defenses against missile raids from Russia or China could lead to changes in how those competitors' militaries train their forces for offensive strike missions.

To enable and support effective long-range conventional precision-strike operations against the conterminous United States, Russia and China can be expected to develop and deploy appropriate C4ISR systems. Such systems might include space-based platforms to support long-haul communications to air, surface, and submerged manned and unmanned vehicles and to enable bomb-damage assessment. The latter set of capabilities is particularly important to avoid conducting re-strikes against targets that have already been physically or functionally destroyed, thereby ensuring efficient use of what could be a relatively small arsenal of long-range conventional weapon systems. Of course, with the United States being a fairly open society, both competitors might be able to collect and transmit the necessary bomb-damage information using espionage agents on the ground, albeit more slowly than with space-based systems.

The Optimum U.S. Approach to Achieve Damage-Limitation Objectives

A longstanding objective of U.S. nuclear policy has been to limit damage against the United States in the event of a conflict involving a nuclear-armed opponent. The United States has defensive and offensive kinetic options to limit damage, but the former has not been applicable to Russian or Chinese long-range ballistic missile strikes, whether armed with nuclear or conventional weapons, against the continental United States.¹⁵¹ Is it time to reinvigorate both active and passive defenses against Russian and Chinese long-range missile strikes — not just cruise missiles originating from platforms offshore, but also intercontinental-range missiles — as a viable option for U.S. homeland defense?

Because they see U.S. active missile defenses as a formidable challenge to their missile strike capabilities, Russia and China have been investing in high-speed, maneuvering delivery vehicles (e.g., hypersonic missiles) that can complicate U.S.

149 Nolan, *An Elusive Consensus*, 46–58.

150 "Operational competence" in this context refers to the armed forces' ability to effectively integrate and coordinate diverse combat activities and skills, various military and, perhaps, non-military organizations, and multiple technologies to create combat power against an adversary.

151 Department of Defense, *Nuclear Posture Review*, 2018, 23; and Department of Defense, *Missile Defense Review*, 8.





missile defense operations. With terrestrial-based active missile defense already looking like a cost-ineffective option for dealing with Russian and Chinese ballistic missile technologies, Russia's and China's possible deployment of high-speed, maneuvering delivery vehicles could exacerbate the cost-exchange ratio for the United States.

Russia's and China's hypersonic missile threat has already spurred a U.S. look at investing in space-based active defense aimed at the boost phase of missiles carrying hypersonic glide vehicles.¹⁵² The rise of space-based missile defense across major military competitors could spawn a more intense offense-defense competition in space.

Passive defenses against strikes by conventional long-range missiles, including high-speed, maneuvering delivery vehicles, might be a more cost-effective option for the United States. Passive defenses are measures that can reduce the vulnerability of an asset to attack through mobility, dispersal, redundancy, hardening, concealment and deception, and increased warning time of an attack.¹⁵³ Analysts could explore the potential effectiveness of electronic warfare systems (e.g., jammers) to protect critical fixed assets, such as shipyards, satellite and space launch production facilities and space launch sites, long-range bomber bases, and conventional weapons munitions factories.

Possibly costlier, yet effective, would be to bury assets underground or harden above-ground assets to resist the blast effects of conventional weapons. Is it time for the U.S. Navy to construct hardened overhead shelters for submarines at piers? Should the U.S. Air Force shelter the new B-21 stealth bomber and its ground support equipment in a hardened underground facility? Due to the expense of sheltering bombers effectively, hiding them through other means might be more cost effective.

These types of questions should be addressed alongside issues pertaining to the potential efficacy of large-scale U.S. conventional counterforce strikes against Russian and Chinese long-range conventional weapon systems to limit the level of damage they may inflict on the United States.

The Potential Effects on U.S. Power Projection, Operations, and Strategy

During the next 20 years, counter-homeland conventional strikes between the great power military competitors may be an outgrowth of U.S. military intervention in a conflict involving Russia or China along either country's peripheries. The U.S. military's ability to intervene in distant regional conflicts is predicated on its capabilities and capacity to project power from the continental United States over long distances, as well as to constantly supply and replenish those forward-deployed forces.¹⁵⁴

Prolonged U.S. power projection rests on bases, war reserve materiel, and manufacturing of weapons and equipment located within the U.S. homeland. Moreover, U.S. deployment of forces occurs in time phases — not all U.S. aircraft carriers and surface escorts are ready at a moment's notice for deployment. The U.S. Navy's Optimized Fleet Response Plan staggers ships' deployment in a 36-month cycle, with each overseas deployment extending seven months. The remaining 29 months are spent in shipyard maintenance, crew basic training, and homeport sustainment.¹⁵⁵ In the homeport sustainment phase, the ships are deployable over days or weeks, but while in port non-deployed ships would be fixed targets vulnerable to long-range conventional precision-strike weapons.

What might be the effects of losing U.S. homeland-based power projection capabilities and capacities on expeditionary operations and U.S. strategy? How might the United States assure its allies of its commitment to defend their vital national security interests if it cannot deploy or sustain significant general-purpose forces in theaters near adversaries' borders? In a protracted war, what might be the effect of the destruction of Lockheed Martin's production facility for the Joint Air-to-Surface Standoff Missile Extended Range in Troy, Alabama?¹⁵⁶ How would the duration of repairs to damaged ships, military depots, shipyards, and munitions factories compare to cases

152 Sydney J. Freedberg, Jr., "Space-Based Missile Defense Can Be Done: DoD R&D Chief Griffin," *Breaking Defense*, Aug. 8, 2018, <https://breakingdefense.com/2018/08/space-based-missile-defense-is-doable-dod-rd-chief-griffin/>.

153 Donald H. Rumsfeld, *Department of Defense Annual Report to the President and the Congress*, 2002, 86, https://history.defense.gov/Portals/70/Documents/annual_reports/2002_DoD_AR.pdf?ver=2014-06-24-153732-117.

154 Michael J. Mazarr, "Toward a New Theory of Power Projection," *War on the Rocks*, April 15, 2020, <https://warontherocks.com/2020/04/toward-a-new-theory-of-power-projection/>. Needless to say, sea forces in transit from the U.S. coasts to conflict zones will be vulnerable to anti-ship precision-strike weapon systems. James Lacey, "A Revolution at Sea: Old Is New Again," *War on the Rocks*, Oct. 17, 2019, <https://warontherocks.com/2019/10/a-revolution-at-sea-old-is-new-again/>. It is also possible that counter-homeland conventional strikes between the great-power military competitors could result from Russian or Chinese expansionism.

155 Megan Eckstein, "U.S. Fleet Forces: New Deployment Plan Designed to Create Sustainable Naval Force," *USNI News*, Jan. 20, 2016, <https://news.usni.org/2016/01/19/u-s-fleet-forces-new-deployment-plan-designed-to-create-sustainable-naval-force>.

156 "Lockheed Martin Breaks Ground On New Production Facility," Lockheed Martin, May 16, 2019, <https://news.lockheedmartin.com/2019-05-16-Lockheed-Martin-Breaks-Ground-on-New-Production-Facility>.

of degradation resulting from computer-network attack? Would the prospect of a degraded ability to project forces overseas and wage a protracted war motivate the United States to conduct preemptive counter-homeland conventional strikes to weaken an opponent's ability to fight a protracted war? These are the types of questions that require analysis to understand how the United States will need to approach power projection in the years ahead.

Homelands in the Battlespace

The history of homelands coming under conventional attack offers a litany of questions and hypotheses to explore rather than an abundance of answers as to how the U.S. population, and the populations of Russia and China, might behave under the stress of wartime deprivations. Besides suffering the direct effects of strikes, civilians might suffer from indirect effects, such as shortages of food, water, and consumable fuels, as well as an increase in civil upheaval and criminal activity.¹⁵⁷ George Quester, looking back at the behavior of Londoners during World War I and World War II, notes the glaring difference between the two episodes: Social discord was more rampant in London during World War I as a result of German air raids compared to relative social cohesion during the much heavier and more damaging air raids of World War II. Quester proposes that two key factors may explain the difference. First, having experienced air raids roughly 30 years earlier and prepared themselves for a future episode featuring the use of poison gas, Londoners during World War II may have been somewhat happy to discover that the German air raids did not fulfill their expectations. Second, the states dominated the societies of Europe in World War II much more than they did in World War I, thereby resulting in greater social order under enemy bombardment.¹⁵⁸ One lesson, Quester submits, is that a population may cope better under bombardment if the government has prepared it for an adverse wartime environment prior to the outbreak of the war.

The history of counter-homeland bombardment suggests at least three lines of research effort. First, one line of effort could address the factors that might lead to a "Pearl Harbor" or "rally-around-the-flag" effect, both in the United States and in an opponent's country. An assessment of

how an opponent's population could react under different conditions of counter-homeland strikes could influence how the U.S. military selects targets. The research could also help the U.S. government best ensure social resilience and support for a war involving counter-homeland strikes against the United States.

Second, analysts should look at what civil defense measures might be necessary, and how willing the U.S. population would be to implement or tolerate certain measures. This research effort could help the U.S. government develop civil defense and public education programs to prepare the country for potential deprivations in a wartime environment.

Third, because political alienation is more likely than economic hardship to generate political upheaval, researchers should look at how political alienation in the United States might arise under the conditions of counter-homeland strikes during a protracted war and propose measures for heading it off.¹⁵⁹ At the same time, analysts should investigate how the United States could stoke political alienation and upheaval in Russia or China during a conflict. The answers could have implications for U.S. targeting policy.

Conclusion

A great power's conception of a conventional-nuclear firebreak could interact with its assessment of its adversary's nuclear threshold to shape its conduct of nuclear and conventional strike operations, including whether to engage in coercive conventional escalation by conducting conventional strikes against the adversary's homeland, thereby circumventing nuclear stalemate. Essentially, a great power could view its survivable nuclear retaliatory force as a shield against its adversary's counter-homeland nuclear escalation in response to the former's counter-homeland conventional strikes. Navigating a path out of nuclear stalemate during a great-power conflict could lead to a dual failure of nuclear and conventional deterrence with one or several nuclear-armed adversaries conducting limited regional nuclear strikes as well as counter-homeland conventional strikes.

There are already indications that the great powers are thinking about how to employ counter-homeland conventional strikes to chart a path


157 Adrian Gregory, "Imperial Capitals at War: A Comparative Perspective," *The London Journal* 41, no. 3 (November 2016): 219–32, <https://doi.org/10.1080/03058034.2016.1216757>; and George H. Quester, "The Psychological Effects of Bombing on Civilian Populations: Wars of the Past," in Glad, ed., *Psychological Dimensions of War*, 204.

158 Quester, "The Psychological Effects of Bombing on Civilian Populations," 204–05.

159 Robert A. Pape, *Bombing to Win: Air Power and Coercion in War* (Ithaca, NY: Cornell University Press, 1996), 24.



out of nuclear stalemate. There is open source empirical data showing that Russia, China, and the United States are more likely than not to perceive some type of a conventional-nuclear firebreak within the realm of counter-homeland strikes. In addition, Russia and China are investing in military capabilities that will extend their conventional strike reach. The major warning here is not that Russia and China are building capabilities for projecting conventional military power overseas to the same degree and in the same manner as the United States, but that Russia and China appear to be looking for ways to use long-range conventional-strike capabilities to deter and, if necessary, defeat U.S. conventional military intervention (i.e., defeat through coercion). Military stalemate in a regional conflict or the looming prospect of a conflict evolving into a protracted war could convince Russian or Chinese leaders to engage in coercive conventional escalation against the U.S. homeland in ways that they believe will minimize the risk of a U.S. nuclear response and enable them to achieve termination of a war on terms favorable to their interests. Likewise, U.S. leaders could perceive incentives that favor initiating counter-homeland conventional strikes against either Russia or China and risking nuclear escalation.

Although the publicly available data suggests that the homelands of the great powers are already facing the peril of conventional attack, additional data collection and analysis is required to tease out Russia's thinking about America's nuclear threshold and the U.S. military's conduct of counter-homeland conventional operations, as well as its thinking about its own threshold and plans for carrying out counter-homeland conventional strikes.¹⁶⁰ Performing the same tasks with respect to the U.S.-Chinese military competition is more challenging, because China's strategic thought with respect to nuclear escalation and warfare is more opaque than Russia's. Moreover, how the United States thinks about its conduct of long-range conventional-strike warfare in relation to nuclear thresholds and escalation risk might be evolving as China's nuclear forces become more capable.¹⁶¹ 

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¹⁶⁰ The ongoing public debate among Russian military analysts on these issues has been in progress for several decades. See Kofman, Fink, and Edmond, *Russian Strategy for Escalation Management*, 57–58.

¹⁶¹ Joby Warrick, "China Is Building More than 100 New Missile Silos in Its Western Desert, Analysts Say," *Washington Post*, June 30, 2021, https://www.washingtonpost.com/national-security/china-nuclear-missile-silos/2021/06/30/0fa8debc-d9c2-11eb-bb9e-70fda8c37057_story.html.