Minding the Gaps: US Military Strategy toward China

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Abstract

China's ongoing military modernization efforts aimed at countering US intervention in a range of scenarios, particularly involving Taiwan or disputes in the South China Sea, have prompted the US national security community to debate the proper military response. Unfortunately, many aspects of the debate remain unresolved. Enduring analytical gaps include an inability to determine which military strategy will best deter Chinese adventurism, an incapacity to evaluate theater-level combat outcomes, little understanding of security dilemmas or competitive strategies, and difficulty in comparing costs across strategies. However, there has been some analytical progress on the risks of nuclear escalation during a US-China conflict. If analysts writing on US military strategy toward China want to improve the public debate, these analytical gaps must be filled.

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China's ongoing military modernization efforts, aimed at countering American intervention in any conflict related to Taiwan or disputes in the South China Sea, have prompted the US national security community to debate the military strategy required. These discussions have focused on ways to deter aggressive Chinese behavior and, if necessary, to prevail in a conventional armed conflict. Unfortunately for Washington, the prospects of achieving either are increasingly at risk. Research conducted in the past few years at the RAND Corporation has found that while the US continues to maintain important military advantages in a Taiwan or South China Sea scenario, China's People's Liberation Army (PLA) has rapidly caught up in many operational domains.[1] For instance, the improving accuracy and expanding coverage of the PLA's precision-guided munitions will likely force the US to harden its bases,

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disperse its forces, and deploy additional missile defenses to maintain a forward-deployed presence. If we don't adjust to this trend (not to mention several others), the entire modern American way of war might be at risk.[2] China's dramatic military improvements compound its geographic advantage: Beijing's close proximity to the potential areas of conflict enable it to bring more of its forces to bear more quickly in any future conflict with the United States.

In response to this shifting military balance, the debate about US military strategy toward China has solidified around three strategies: mainland strikes, distant blockade, or maritime denial. Unfortunately, unclassified comparisons of the costs and benefits of each strategy have been marked by several analytical gaps: an inability to compare the deterrence potential of competing military strategies, an incapacity to evaluate theater-level combat outcomes, little understanding of security dilemmas or competitive strategies, and difficulty in comparing costs across strategies. Only on the topic of the risks of nuclear escalation during a US-China conflict has there been any analytical progress.

Filling these analytical gaps in the debate presents an opportunity, while closing these gaps in public understanding could bolster support for the military expenditures these strategies require. It could also provide a better foundation for classified analysis by ensuring the broader strategic studies community scrutinizes assessments of US military strategy toward China.[3] Any improved understanding could translate into more support in Congress.

This article describes the three contending military strategies: mainland strikes, distant blockade, and maritime denial. It then assesses existing analytical gaps and the notable progress on the risks of nuclear escalation. The article does *not* close these gaps, an important task left to future efforts. Instead, it frames the debate over US military strategy toward China as a series of unanswered analytical questions.

Contending US Military Strategies toward China

The military strategies below each represent potential US operational- and theater-level military goals for a conflict with China and the means and ways of achieving them. None of these theater military strategies ought to be viewed as a grand strategy given the exclusion of economic and other political considerations.[4] But they should be regarded as ideal types where policy makers and analysts may combine elements of each strategy. Finally, these options focus on US-only military strategies.

America's allies and partners can adopt other military strategies for which the US military will play only a supporting role.[5]

Mainland Strikes

A mainland strike strategy calls for deterring China by designing US forces that can penetrate Beijing's antiaccess/area denial (A2/AD) defenses promptly in a conflict and conduct conventional strikes throughout the Chinese mainland.[6] This strategy would be undergirded by operational concepts such as those from the 2010 Center for Strategic and Budgetary Assessments (CSBA) report *Air-Sea Battle*.[7] The defining feature of a mainland strike strategy is its identification and targeting of military assets on the Chinese mainland to eliminate the PLA's operational center of gravity. This strategy views striking Chinese radars, air bases, surface-to-air missiles, command centers, intelligence centers, antisatellite weapon launch sites, and many other target categories as essential for operational success in a potential future US-China armed conflict. Consequently, a mainland strike strategy emphasizes developing the intelligence, surveillance, reconnaissance, and attack capabilities to promptly strike targets with nonnuclear weapons throughout China. A mainland strike strategy generally prioritizes further investment in stealth, supersonic, farther-ranging, and longer-loitering weapons systems. Though this strategy emphasizes air and naval assets (and to a lesser extent space and cyber assets), a mainland strike strategy also leaves room for the other services in challenging China's defenses.[8]

Distant Blockade

A second option is for Washington to coerce Beijing by implementing a distant blockade of seaborne commercial traffic. Many experts have discussed this possibility, sometimes labeling it simply as naval blockades.[9] Regardless, the idea calls for the US, in concert with its allies and partners, to coerce China by choking off its imports and exports. This blockade would not be conducted near China—avoiding Beijing's considerable military power near its shores and airspace—but instead at distant straits and chokepoints, intercepting all or select ships bound for China via international sea lines of communication. The US could intercept and board all China-bound ships or, in a more aggressive scenario, disable or sink them. Proponents of the plan believe Beijing is particularly susceptible to this strategy because it maintains an export-led economy and imports about 80 percent of its oil from the Middle East through the Malacca Strait.[10]

Maritime Denial

The third potential strategy focuses on directly attacking China's power projection forces operating beyond China's land borders.[11] Maritime denial would primarily rely on US undersea capabilities to avoid direct engagements with China's surface-, air-, and shore-based A2/AD defenses but could also emphasize antiship attacks launched from American combat aircraft. Rather than simply establishing a blockade, the US and its partners would seize the initiative and use offensive means to pressure Beijing to end the conflict. These operations might include, but are not limited to, antisubmarine warfare, antisurface warfare, and large-scale mining operations. This strategy construes its objectives as directly and narrowly as possible by emphasizing the denial of Chinese military objectives. The desired endstate here would be to deny Beijing's objectives by increasing the costs of Chinese action.

Beware the Analytical Gaps

Unclassified analyses that evaluate and compare these military strategies toward China have had to cope with four important analytical gaps. These gaps all have implications for developing US military strategy toward China.

Which Strategy Best Deters China?

Analysts have spent more than a few pages arguing about which military strategy is more likely to deter a large-scale Chinese military attack on an ally or partner. Avoiding war is certainly superior to fighting one, and so determining the deterrence potential of each strategy has been central to the debate. Many appear to believe that the mainland strike strategy is the surest deterrent.[12] These same strategists also often denigrate the deterrence potential of a distant blockade.[13] Skeptics of mainland strike strategies have not addressed these charges.[14] This axis of debate suffers, however, on three counts.

First, claims about which strategy deters more often amount to no more than theoretical logic without supporting evidence or appeals to scholarly authority. Aaron Friedberg suggests that the promise of denial, the potential for punishment, and—borrowing from Thomas Schelling—the "threat that leaves something to chance" could work simultaneously to make mainland strikes the strategy with the most deterrence potential.[15] On the last point, Friedberg theorizes that the threat of conventional strikes on the Chinese mainland, which might force Beijing to consider nuclear es-

calation, could strengthen conventional deterrence because Chinese leaders will not want to breach the nuclear threshold.[16] In other words, Chinese leaders might foresee that their aggression would lead to a nuclear war and would therefore avoid it in the first place. But the debate on this point never moves beyond theoretical speculation.[17]

Second, our own and others' reviews of the empirical scholarly literature on conventional deterrence lead to only one consistent finding, and it does not discriminate between mainland strike and maritime denial strategies.[18] These reviews have found that superiority in the local military balance and the ability to deny an adversary a rapid, decisive fait accompli are helpful attributes of a conventional deterrence strategy.[19] As a result, the most that can be said on the deterrence potential of these competing military strategies is that a distant blockade—because it only seeks to punish Chinese aggression and not deny any military gains—does appear to be the weakest deterrent option while the other two are similar. Of note, no empirical evidence supports the supposed ability of a mainland strike strategy to better deter large-scale aggression.

Third, factors beyond military strategy may be relatively more significant in determining deterrence success and failure. RAND senior political scientist Michael Mazarr and his coauthors—after completing a literature review on interstate deterrence, a quantitative analysis, and four case studies—found that aggressor motivations, more so than any other factor, "serve as the first, and in some ways decisive, variable for interstate deterrence outcomes."[20] Jack Levy's review of the quantitative international relations scholarship on deterrence outcomes finds that doubt exists in the belief that military strategy is the primary determinant of deterrence outcomes.[21] A number of other empirical articles also suggest that military strategy and posture only weakly determine deterrence patterns.[22] It could therefore be that the effect of military strategy on deterrence outcomes is minimal.

In sum, the existing evidence casts doubt on the deterrence utility of a distant blockade. Scholars will have to redouble their efforts, however, if there is to be any evidence related to conventional deterrence that separates mainland strikes from maritime denial.

Problems Measuring Theater-Level Military Outcomes

More elusive than a judgement about the deterrence potential of each strategy is a systematic analysis of prospective theater-level combat outcomes for each strategy. Without such analysis, making a judgement about the superiority of one strategy over another is analytically premature.

Existing unclassified US-China military balance research and its limits is instructive here.

There has been theater-level analysis of US-China conflict in East Asia, but none of these efforts compare the effectiveness of alternative strategies like mainland strikes and maritime denial. For example, RAND's *A Question of Balance* report from 2009 examines Chinese short-range ballistic missile strikes on Taiwanese air bases and the outcomes of an air-to-air battle. However, evaluating alternative strategies like maritime denial or mainland strikes was beyond the scope of that report.[23] Similarly, RAND's *US-China Military Scorecard* report analyzes the US-China military balance across 10 operational domains, but it focuses on time trends of the balance and not comparative analysis of American strategies.[24] Other efforts, notably one by Michael Beckley, have focused on the China-Taiwan military balance or the China-Japan military balance.[25] Beckley argues that his China-Taiwan military balance analysis suggests that "launching massive strikes on the Chinese mainland" is unnecessary and the United States would only have to "tip the scales of the battle" in a US-China conflict.[26] This important argument, which we view as excessively optimistic given his assumptions about the ability of Taiwanese air defense to survive Chinese attack, does not directly compare the utility of alternative American military strategies.[27] Another recent article does, however, address the military utility of mainland strikes. David Ochmanek writes, "Gaming of future hypothetical conflicts with China suggests strongly that using limited US forces to attack assets well inland is generally not the best approach to defeating China's aggression."[28] But his analysis does not provide evidence beyond an unspecified reference to past classified war games.

Stephen Biddle and Ivan Oelrich most comprehensively address the relative military merits of different strategies toward China.[29] Through an exploration of underlying physics principles and trends in military technology, these scholars find that there exist fundamental limits on the technologies, especially radar, that enable A2/AD strategies. In fact, they argue that the effective range of China's A2/AD will likely only extend out 400–600 kilometers, the limit of airborne radar.[30] These constraints, according to Biddle and Oelrich, render mainland strike strategies less necessary than often believed. But their analysis is largely based on an assessment of long-term trends, not a specific, detailed conflict scenario. Without an in-depth analysis, their evidence can only cast a modest amount of doubt on the necessity of mainland strike strategists. And it should be noted that their key finding will provide cold comfort to Taiwan and any

US military force coming to aid Taiwan given the island's location of 160 kilometers from the Chinese mainland.[31] In short, their analysis rightly points out the limitations of China's A2/AD strategy, but the theater-level combat outcomes generated by different military strategies—especially mainland strikes versus maritime denial—are still left unanswered at the end of the article.

Analysts and, more importantly, policy makers are therefore without unclassified analysis about whether different military strategies toward China lead to different combat outcomes. The American public and even congressional leaders cannot do cost-benefit calculations about various strategies if one of the primary benefits of a military strategy—its contribution to theater-level combat outcomes—is unknown. To resolve this deficit, the security studies community will need to consider reviving the practice of theater-level combat modeling, an analytical practice that last received serious scholarly attention in the 1980s debates about the US-Soviet military balance.[32] High-level metrics such as impact on operational timeline, US attrition, and the likelihood of China achieving key military objectives will need to be used to compare strategies. The model will also need to integrate war fighting across different operational domains; for instance, the impact of Chinese missile attacks on American forward bases will need to be combined with models of China-US air-to-air combat outcomes. Only with a theater-level model can analysts develop answers to the questions about the contribution of each strategy to theater-level combat outcomes.

Little Knowledge about Peacetime Competitive Dynamics

Additionally, strategists have little knowledge about the effects of different military strategies on the US-China peacetime competitive dynamics, especially the security dilemma and so-called competitive strategies. In particular, whether each strategy exacerbates or ameliorates a security dilemma between the United States and China, or which strategy productively channels Chinese military investments, are judgements that lean on a meager base of evidence.

To be sure, there is a tremendous amount of scholarly literature on security dilemmas, a pattern in which two states—in an anarchic environment characterized by mistrust—each embrace defensive measures that the other side perceives as offensive threats. These precautionary steps lead to a ratcheting effect, increasing tensions and reducing security.[33] This body of work deals mostly with prior periods of international competition. Unfortunately, whether the US and China are currently trapped in a security

dilemma and whether any particular military strategy improves or worsens the security dilemma is simply unclear. Recent survey evidence of the Chinese and American public suggests that the mistrust emphasized by security dilemma theorists does characterize crisis situations, but this same work does not directly examine whether the security dilemma operates in the larger US-China relationship and what American policy makers should do if it does.[34]

Another article by Adam Liff and John Ikenberry directly addresses whether security dilemma dynamics explain modern US-China relations. But its relatively brief empirical investigation does not match its theoretical rigor: the authors are unable to dismiss the possibility that recent American policy makers, instead of being caught in a security dilemma, are merely responding to the rise of an assertive Chinese foreign policy based on aggressive intentions.[35] Meanwhile, Thomas Christensen's body of scholarship also engages the debate over the existence of a US-China security dilemma, though he profitably reframes the debate as an attempt to balance the twin goals of credible deterrence and reassurance.[36] Whether any particular military strategy achieves this balancing act, however, is beyond the scope of his work. Military strategists are therefore left without much solid evidence about the effect of military strategy on security dilemma dynamics—a pity given the importance often accorded to the potential for a security dilemma.

Even less is known about the efficacy of any particular military strategy as a competitive strategy. Competitive strategies refer to conscious attempts to shape an adversary's peacetime military procurement toward investments that are less threatening to the United States. The only recent scholarship on this idea mostly assumes, though never demonstrates, that competitive strategies actually accomplish their demonstrated objectives.[37] Consequently, strategic leaders have to rely on intuition more than solid evidence when judging the relative contribution of any particular US military strategy vis-à-vis China toward the goals of a competitive strategy.

Friedberg has argued that any strategy prioritizing penetrating Chinese airspace excels as a competitive strategy since China is then forced to make large investments in air defense.[38] But other authors have pointed out how the claim that any given American military investment imposes costs on China relies on assumptions about Chinese behavior that are difficult to assess.[39] For instance, Jacob Heim analyzes the potential for US theater ballistic missiles to impose costs on the Chinese military; he notes that China, instead of increasing investment in ballistic missile defense, could switch to an offense-dominated strategy, disperse or harden

assets, or not respond at all. He concludes, "Predicting the PLA's likely reaction is difficult, especially without a detailed understanding of its assessments, the standard operating procedures of its constituent organizations, and the proclivities of key decisionmakers."[40]

Comparing Costs

A comparison of alternative strategies toward China also requires estimating the budgetary cost of each strategy. But this analytical task has been done inadequately—if it has been done at all. One of the more widely cited, and now dated, estimates comes from a private firm. Its 2013 estimates suggest additional costs of $50 billion per year for an Air-Sea Battle–like strategy.[41] But this analysis appears to treat particular weapons programs—like the F-35—as if they can be entirely attributed to Air-Sea Battle, an obvious analytical shortcoming.[42] Other analyses treat the financial costs of strategy toward China even more casually, either deemphasizing the issue or treating Air-Sea Battle as the obviously more expensive alternative.[43]

Broadly speaking, these strategic accounting analyses fail to clearly define alternatives and then determine the marginal cost of each strategy. Attributing the costs of F-35 to a single strategy is symptomatic of this larger issue. A future analysis of American military strategy toward China will need to dig deeper by testing military alternatives and assessing their implications for procurement. A recent exemplary strategy-level cost analysis of conventional land-based missiles in Asia performed by the CSBA suggests that rigorous strategic accounting is possible and useful.[44] Until there is broader use of comprehensive strategy-level cost estimates, decision-makers will be left with only vague guidance about the financial costs of alternative military strategies toward China.

Analytic Progress on Nuclear Escalation

In contrast to the lack of mature analysis on US military strategy vis-à-vis China in the conventional domain, analysis of what works in US-China nuclear deterrence has progressed beyond its early stages. In particular, participants in the strategic debate have long disagreed about the likelihood that mainland strikes would lead to Chinese nuclear escalation; several recent articles narrow the debate or at least provide grist for a substantial conversation.[45]

T. X. Hammes and Elbridge Colby first addressed this issue in the aftermath of the Air-Sea Battle debates. Hammes, along with Joshua

Rovner and others, argued that nuclear war could result if the US embraced a mainland strike strategy.[46] Conventional strikes on targets of the homeland of a nuclear power, these escalation pessimists contend, could lead to Beijing's nuclear use should Chinese leaders come to fear American destruction of China or its nuclear weapons.[47] Another school of thought, largely implicit in the writings of the CSBA—though more fully articulated by Colby—takes a more optimistic view: the prospect of mutually assured destruction ensures that a US-China conventional war will stay conventional.[48]

The first important contribution to this debate can be found in the scholarship of Fiona Cunningham and Taylor Fravel.[49] Through interviews with Chinese military and civilian experts who work on nuclear strategy and an examination of open-source Chinese military literature, they find that Chinese strategists are relatively optimistic about the potential to avoid either intentional or unintentional nuclear escalation in a US-China war. Their Chinese interlocutors believe that a clear firebreak between the use of conventional and nuclear weapons, and the tight control likely to be exercised in a crisis—among other reasons—reduces the probability of nuclear war. Given that it is arguably in the interest of Chinese strategists to emphasize nuclear escalation in the name of deterring US intervention and mainland strikes, these statements are all the more credible. Cunningham and Fravel's findings consequently cast some doubt on the worries of escalation pessimists who view Chinese nuclear escalation as likely during a war.

Caitlin Talmadge has also taken up this debate and shed some much-needed light on the topic in an article that addresses the extent to which mainland strikes on conventional targets would inadvertently threaten Chinese nuclear assets, especially Chinese command and control facilities, and would affect Chinese perceptions during such a war. She argues that although US military strikes would "erode" some Chinese nuclear-relevant capabilities, mainland strikes would be "extremely unlikely to inadvertently eliminate China's nuclear arsenal outright."[50] This technical point, which bolsters the argument of escalation optimists, is overshadowed by her next claim though. She theorizes that the "fog and suspicions of a major war" could lead Chinese leaders to believe that Washington was waging a counterforce campaign against Chinese nuclear weapons—even if the United States was not actually executing such a campaign—and to conclude that nuclear escalation was the least bad option.[51] Talmadge posits that the failure of Chinese nuclear weapons "to deter the onset and escalation of a massive conventional war on one's home territory," combined with

limited situational awareness, will shock Chinese leaders out of the relaxed peacetime nuclear views described by Cunningham and Fravel.[52] Her analysis of Beijing's behavior in the 1969 Sino-Soviet War is consistent with her worries about the potential for Chinese nuclear escalation. Chinese leaders dramatically updated their peacetime beliefs on nuclear weapons mid-crisis, displayed paranoia toward the possibility of a surprise Soviet nuclear attack, and even readied their country's nuclear arsenal for use.[53]

The final contribution to this debate comes from James Acton in an article that combines theoretical logic with technical analysis to demonstrate that "entanglement" between nuclear and nonnuclear capabilities, including command and control, creates the potential for inadvertent nuclear escalation during a great power war.[54] In a US-China conflict, Acton argues that crisis instability, false alarms, and the need for damage limitation—in combination with American nonnuclear strikes on entangled systems—could lead to a Chinese decision to use nuclear weapons.

These articles, while not definitive, add important evidence to the debate about the potential for nuclear escalation. Cunningham and Fravel, by employing interviews with Chinese experts, show that the Chinese view, which is presumably better informed about likely Chinese actions, expresses considerably less alarm about the potential for Chinese nuclear escalation. Talmadge and Acton's work suggests the dangers of a mainland strikes strategy. There is ample room, they argue, for misperception and crisis instability to turn nonconventional strikes on Chinese mainland targets into a nuclear exchange. To increase knowledge in this area, future research could also focus on the effects of strategic culture and nationalism on potential Chinese responses to mainland strikes or other potential US military strategies toward China.[55]

Concluding Thoughts

This article has tried to demonstrate that there are enduring analytical gaps in unclassified scholarship on US military strategy toward China. The current public analysis that assesses and compares potential US military strategies toward China—defined as mainland strikes, distant blockade, and maritime denial—could be improved if there was additional research on conventional deterrence, theater-level combat outcomes, competitive dynamics, and the marginal costs of each military strategy. Improving the reliability of these assessments will become even more important as the US appears poised to deploy ground-based conventional missile systems in the Asia-Pacific region since its withdrawal in August 2019 from the Intermediate-Range Nuclear Forces Treaty with Russia.

Scholarship on this subject is only just beginning and will require rigorously derived answers to all of our identified gaps, and perhaps to new ones as well.

Admittedly, we have done the easy part here by critiquing the current strategic landscape. It will be much harder of course to close these gaps, which will not simply be an academic exercise. Less uncertainty in these areas could increase public and congressional support for the military expenditures that these different strategies require. Furthermore, additional unclassified analysis that closes these gaps could also improve classified analysis by ensuring that the broader strategic studies community scrutinizes assessments of US military strategy toward China. SSQ

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Notes

1. Eric Heginbotham et al., *The U.S.-China Military Scorecard: Forces, Geography, and the Balance of Power, 1996–2017* (Santa Monica, CA: RAND Corporation, 2015), https://www.rand.org/; and David A. Shlapak et al., *A Question of Balance: Political Context and Military Aspects of the China-Taiwan Dispute* (Santa Monica, CA: RAND Corporation, 2009), https://www.rand.org/.

2. Alan J. Vick, *Air Base Attacks and Defensive Counters: Historical Lessons and Future Challenges* (Santa Monica, CA: RAND Corporation, 2015), 32–37, https://www.rand.org/; and Evan Braden Montgomery, "Contested Primacy in the Western Pacific: China's Rise and the Future of U.S. Power Projection," *International Security* 38, no. 4 (Spring 2014): 115–49, https://www.mitpressjournals.org/. The American way of war can be summarized briefly as the ability to marshal forces in a sanctuary close to the operational theater and then to deploy them offensively at a time and place of American choosing. For a recent description of the American "way of war" and a broader exploration of this concept, see Christopher M. Dougherty, *Why America Needs a New Way of War* (Washington, DC: Center for a New American Security, 2019), 7–8, https://www.cnas.org/.

3. For an article that captures the importance of creating a coherent strategic concept to garner lasting public support for military expenditures, see Samuel P. Huntington, "National Policy and the Transoceanic Navy," *Proceedings* 80, no. 5 (May 1954): 483–93, https://www.usni.org/.

4. We even concede that "military strategy" might be too broad of a term for these three alternatives, but we found other options, such as "strategic concepts," lacking.

5. Eric Heginbotham and Richard J. Samuels, "Active Denial: Redesigning Japan's Response to China's Military Challenge," *International Security* 42, no. 4 (May 2018): 128–69, https://dspace.mit.edu/bitstream/handle/1721.1/118651/isec_a_00313.pdf?sequence=1&isAllowed=y; and Jim Thomas, Iskander Rehman, and John Stillion, *Hard ROC 2.0: Taiwan and Deterrence through Protraction* (Washington, DC: The Center for Strategic and Budgetary Assessments, 2014), https://csbaonline.org/research/.

6. Analysts might wonder whether a mainland strike strategy is best characterized as a "punishment," an "attrition" strategy, or a "denial" strategy. Because these terms are ambiguous and are not salient in the writings of those persons who described this strategy, we do not take a stand on whether a mainland strike strategy fits these definitions.

7. Air-Sea Battle sometimes refers to the Air-Sea Battle Office, a Pentagon outfit charged with implementing cross-service responses to A2/AD challenges. The moniker also sometimes refers to two 2010 reports by analysts at the Center for Strategic and Budgetary Assessments. Both of these references are too narrow for the analytical purposes of this article. See Jan van Tol et al., *AirSea Battle: A Point-of-Departure Operational Concept* (Washington, DC: The Center for Strategic and Budgetary Assessments, 2010), https://csbaonline.org/; and Andrew F. Krepinevich, *Why AirSea Battle?* (Washington, DC: The Center for Strategic and Budgetary Assessments, 2010), https://csbaonline.org/. The military services later wrote documents and created an organization to implement "AirSea Battle," but it is not clear that this version of AirSea Battle was what the authors at the CSBA had in mind. See Department of Defense, *Air-Sea Battle: Service Collaboration to Address Anti-Access and Area Denial Challenges* (Washington, DC: Department of Defense, Air-Sea Battle Office, May 2013), http://archive.defense.gov/pubs/ASB-ConceptImplementation-Summary-May-2013.pdf. For more information on Air-Sea Battle from then-chief of naval operations and then-chief of staff of the Air Force, see Adm Jonathan W. Greenert and Gen Norton A. Schwartz, "Air-Sea Battle," *The American Interest*, 20 February 2012, https://www.the-american-interest.com/.

8. Michael E. Hutchens et al., "Joint Concept for Access and Maneuver in the Global Commons: A New Operational Joint Concept," *Joint Force Quarterly* 84 (1st Quarter 2017): 135–39, http://ndupress.ndu.edu/; Terrence Kelly et al., *Employing Land-Based Anti-Ship Missiles in the Western Pacific* (Santa Monica, CA: RAND Corporation, 2013), https://www.rand.org/; and Jim Thomas, "Why the U.S. Army Needs Missiles: A New Mission to Save the Service," *Foreign Affairs* 92, no. 3 (May/June 2013): 137–44, https://www.foreignaffairs.com/.

9. There are many versions of this strategy. See, for example, T. X. Hammes, "Offshore Control: A Proposed Strategy for an Unlikely Conflict," Institute for National Strategic Studies (INSS), *Strategic Forum* 278, June 2012, http://ndupress.ndu.edu/Portals/68/Documents/stratforum/SF-278.pdf; and Sean Mirski, "Stranglehold: The Context, Conduct and Consequences of an American Naval Blockade of China," *Journal of Strategic Studies* 36, no. 3 (2013): 385–421, http://www.tandfonline.com/doi/abs/10.1080/01402390.2012.743885.

10. Sara Hsu, "China's Energy Insecurity Glaring in South China Sea Dispute," *Forbes*, 2 September 2016, https://www.forbes.com/.

11. Jeffrey E. Kline and Wayne P. Hughes, "Between Peace and the Air-Sea Battle: A War at Sea Strategy," *Naval War College Review* 65, no. 4 (Autumn 2012), https://

digital-commons.usnwc.edu/cgi/viewcontent.cgi?article=1490&context=nwc-review; Eric Heginbotham and Jacob L. Heim, "Deterring without Dominance: Discouraging Chinese Adventurism under Austerity," *Washington Quarterly* 38, no. 1 (Spring 2015): 185–99; and Andrew S. Erickson, "China's Naval Modernization: Implications and Recommendations," Senate Armed Services Committees on Seapower and Projection Forces, 11 December 2013, http://docs.house.gov/meetings/AS/AS28/20131211/101579/HHRG-113-AS28-Wstate-EricksonA-20131211.pdf. Also see his adapted article at Andrew S. Erickson, "Deterrence by Denial: How to Prevent China from Using Force," *The National Interest*, 16 December 2013, http://nationalinterest.org/.

12. Aaron Friedberg, *Beyond Air-Sea Battle: The Debate over US Military Strategy in Asia* (New York: Routledge, 2014). Caitlin Talmadge has also identified the existence of this strain of strategic thinking among American officials. 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): 91–92, https://cpb-us-e1.wpmucdn.com/blogs.gwu.edu/dist/b/1590/files/2018/08/Would-China-Go-Nuclear-ry6vut.pdf.

13. Friedberg, *Beyond Air-Sea Battle*. Also see David Ochmanek, "Sustaining U.S. Leadership in the Asia-Pacific Region: Why a Strategy of Direct Defense Against Anti-Access and Area Denial Threat Is Desirable and Feasible" (Santa Monica, CA: RAND, 2015), 10, https://www.rand.org/.

14. Hammes, "Offshore Control"; and Jeffrey E. Kline and Wayne P. Hughes Jr., "Between Peace and the Air-Sea Battle: A War at Sea Strategy," *Naval War College Review* 65, no. 4 (2012), https://digital-commons.usnwc.edu/.

15. Friedberg, *Beyond Air-Sea Battle*.

16. Friedberg.

17. Scholars might perceive our argument as unfair. Given that nuclear weapons have only been used in World War II, how can the effect of nuclear weapons be studied? We think that a recent renaissance in nuclear studies suggests that scholarly progress on the role of nuclear weapons in international politics is possible. Scott D. Sagan, "Two Renaissances in Nuclear Security Studies," in H-Diplo/ISSF Forum 2, "What We Talk about When We Talk about Nuclear Weapons," 15 June 2014, https://issforum.org/forums/.

18. Michael S. Gerson, "Conventional Deterrence in the Second Nuclear Age," *Parameters* 39, no. 3 (Autumn 2009): 32–48; and Jonathan F. Solomon, "Demystifying Conventional Deterrence: Great-Power Conflict and East Asian Peace," *Strategic Studies Quarterly* 7, no. 4 (Winter 2013): 117–57, https://www.airuniversity.af.edu/Portals/10/SSQ/documents/Volume-07_Issue-4/2013winter-Solomon.pdf. For an unpublished review of the empirical literature on conventional interstate deterrence, contact the authors.

19. See John J. Mearsheimer, *Conventional Deterrence* (Ithaca, NY: Cornell University Press, 1983); Paul Huth and Bruce Russett, "What Makes Deterrence Work? Cases from 1900 to 1980," *World Politics* 36, no. 4 (July 1984): 524, https://www.cambridge.org/; Paul Huth and Bruce Russett, "Deterrence Failure and Crisis Escalation," *International Studies Quarterly* 32, no. 1 (March 1988): 38, https://www.jstor.org/; and Michael J. Mazarr et al., *What Deters and Why: Exploring Requirements for Effective Deterrence of Interstate Aggression* (Santa Monica, CA: RAND, 2018), 24–26, https://www.rand.org/.

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