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Lieber, Keir A.

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“Preventing Escalation During Conventional Wars”

Keir A. Lieber
Georgetown University

&

Daryl G. Press
Dartmouth College

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Executive Summary

How can the United States and its allies best plan to fight conventional conflicts against nuclear-armed adversaries without triggering adversary nuclear escalation? Preventing nuclear escalation during conventional war is arguably the greatest national security challenge facing U.S. leaders in the 21st century. This report describes the problem of adversary coercive nuclear escalation, and offers recommendations for how U.S. and allied political leaders and military planners might better evaluate – and prepare to deal with – the difficult inherent tradeoffs between the need for military effectiveness, the risks of adversary escalation, and desired end states.

The paradox of U.S. power today is that America's conventional military supremacy not only provides tremendous security to the nation and its allies and partners, but also means that U.S. adversaries feel compelled to respond asymmetrically – by relying on nuclear weapons – to survive a conventional war. Recent and future conflicts involving the United States and relatively weaker adversaries are often referred to in Washington as "regional" or "limited" wars, but for U.S. adversaries there is nothing limited about them: the dire consequences of likely military defeat mean that these conflicts are existential struggles. Thus, adversary leaders face powerful and rational incentives to coerce an end to combat very quickly – before suffering too many major battlefield defeats. Nuclear escalation to achieve stalemate in this context might well be a reasonable gamble. Indeed, a strategy of coercive nuclear escalation may be the only option that holds any promise of adversary survival.

The basic rationale behind a strategy of coercive nuclear escalation rests on adversary perceptions of the looming costs of defeat in a conventional war, which are dire; the likely benefits of escalation, which stem from the grim set of response options such a strategy would pose for U.S. and allied leaders; and the need to

gamble for resurrection, whereby adversary leaders have little to lose and much to gain by escalating the conflict.

The core logic of escalation is supported by historical and contemporary evidence of countries being willing to resort to an escalatory strategy: compelling examples include the United States in the Cold War, as well as North Korea, Pakistan, and Russia today.

Several features of the contemporary strategic context exacerbate the fundamental escalation problem. The nature of modern warfare, in which military effectiveness is derived in large measure from the ability to degrade enemy command and control systems and other vital leadership nodes, is also inherently escalatory. Attacks on adversary strategic assets (nuclear weapons and delivery systems) are even more so. Another exacerbating factor includes differing perspectives between U.S. and allied leaders about the nature and severity of escalation risks in a given theater, as well as the tradeoffs between conventional military effectiveness and escalation control in that context. Finally, preventing escalation is an even greater challenge than it might be in isolation because of the inherent difficult of calibrating and controlling military operations to achieve political objectives in wartime.

The current danger of adversary nuclear escalation during conventional wars cannot be eliminated, but the U.S. government can take some reasonable steps to reduce the risks and mitigate the consequences. This report outlines six such recommendations for military planners and civilian leaders: (1) provide leaders with a range of potential end states; (2) ensure greater coherence between military operations and mission objectives; (3) prepare appropriate communications strategies for adversaries, allies, and key third parties; (4) require an explicit "escalation avoidance strategy" as an element of war plans; (5) conduct tabletop exercises in order to refine escalation concepts and enhance alliance cohesion; and (6) develop key capabilities for mitigating the consequences of escalation.

I. Introduction

The paramount U.S. national security challenge of the 21st century is preventing adversary use of weapons of mass destruction. The greatest danger of such deterrence failure is likely to emerge in the midst of conventional wars involving U.S. and allied forces fighting against nuclear-armed foes. In those conflicts, U.S. adversaries will face tremendous incentives to use nuclear weapons to compel a military stalemate before they suffer battlefield defeat and the attendant consequences for regime survival. This report aims to improve our understanding of how the United States might best plan to fight conventional regional wars *without* triggering adversary nuclear escalation.

The analytical framework introduced here aims to be useful in three major ways: First, it should help U.S. military planners identify likely escalation triggers during conventional wars. Second, it should help U.S. commands develop war plans to achieve U.S. military objectives while minimizing the risk of adversary escalation. Third, the analysis should prompt security studies analysts to explore more rigorously the nuclear escalation risks facing the United States in the coming decades, as well as their means of prevention.

In short, this report develops a framework that U.S. planners, political leaders, and security studies analysts can use to understand how U.S. military objectives in a given theater of conventional conflict can be pursued in accordance with the overarching U.S. strategic objective of minimizing the risk of nuclear escalation.

This report is organized as follows: The first major section analyzes the core problem of adversary coercive nuclear escalation. We examine the basic logic of escalation; review evidence indicating its real-world relevance; and discuss several

major factors of contemporary warfare that exacerbate the problem. The second major section explores options for mitigating adversary escalation risks. We examine the need for: tradeoffs among desired end states, military effectiveness, and escalation avoidance; coherence between military operations and mission objectives in light of escalation dangers; communication strategies for adversaries, allies, and third parties; war plans that include explicit escalation avoidance strategies; realistic tabletop exercises; and military capabilities that can best mitigate the consequences of escalation if prevention fails.

II. The Problem of Coercive Nuclear Escalation

The international strategic environment – and the role of nuclear weapons in U.S. national security policy – has changed dramatically since the end of the Cold War. For nearly four decades starting in the late 1940s, the United States and its NATO allies planned to use nuclear weapons to defend themselves from a major Soviet and Warsaw Pact invasion of Western Europe. The armies of the Warsaw Pact were considered to be too formidable to confront with a strictly conventional defense, at least at spending levels acceptable to the North Atlantic alliance. Nuclear weapons were thus NATO's "trump card." NATO planned to employ nuclear weapons coercively during a war to raise the costs and risks to the Warsaw Pact, and thereby convince it to halt military operations before it could defeat NATO.

The Cold War is over, but the underlying conditions that made nuclear weapons vital *then* still exist *today*. What has changed: the seats at the table. Just as the U.S. and its allies during the Cold War relied on nuclear weapons to deter an adversary that possessed overwhelming conventional military power, several key states today (including potential U.S. adversaries) face the same critical task. They are thus likely to choose the same strategy. The platitude that nuclear weapons are not well suited to the security threats of this century is incorrect; for those countries that fear U.S. military might nuclear weapons are as good of a deterrent as they were for NATO during the Cold War.

Today, the United States possesses conventional military superiority, and potential U.S. adversaries around the world need trump cards of their own to stalemate the United States. Recent conflicts involving the United States are often referred to in Washington as "regional" or "limited" wars. But for U.S. adversaries, there is nothing regional or limited about them: the dire consequences of military defeat mean that these conflicts are existential struggles for the weak.

Adversary leaders, therefore, face powerful and rational incentives to create a stalemate and coerce an end to combat very quickly – before suffering too many major battlefield defeats. Nuclear escalation in this context would be a reasonable gamble.[1] Indeed, it may be the only strategy that holds any promise of survival.

A skeptic of this view might wonder if this threat is overinflated. Perhaps nuclear escalation only makes sense as a logical abstraction; indeed, one entirely dependent on conjuring up a dire life-or-death scenario for adversary leaders. Such skepticism is mistaken, however. Recent history and the current strategic environment make this far from a hypothetical danger.

The United States has easily vanquished half a dozen military opponents since the end of the Cold War.[2] Today, the United States maintains a vast network of alliances and strategic partnerships – and the most likely potential adversary of most of those allies and partners is a nuclear-armed one. This means that U.S. security commitments could quickly entail conventional combat against a nuclear-armed (yet weaker) adversary. Moreover, it is not hard to imagine several highly plausible real-world contingencies: In the coming years, the U.S. military might be required to fight a major conventional war against a nuclear-armed adversary on the Korean Peninsula; it could be drawn into an air and naval combat with China; and it might eventually face a nuclear-armed Iran in an air-, sea- and ground-campaign to keep open the Strait of Hormuz.

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[1] Throughout this report, the term "adversary escalation" refers to adversary threats of imminent nuclear weapons use or the actual employment of nuclear weapons. Such threats could be implicit (for example, raising the alert status of nuclear forces) or explicit. The employment of nuclear weapons could range from a non-lethal demonstration (such as carrying out a nuclear test or a detonation above international waters) to an actual nuclear strike.

[2] Since 1989, U.S. military forces, supported in some cases by a coalition of allies, defeated the military forces of the following states with minimal U.S. losses: Panama (1989), Iraq (1991), Serbia (1999), Afghanistan (2001), and Iraq again (2003), and the U.S. provided support to the operation that overthrew the Libyan government (2011). Although the U.S. military has had considerable difficulty defeating insurgents, from the perspective of weak governments, the hope that after one's defeat and arrest (or execution) rebels will frustrate the enemy is cold comfort.

In short, adversary coercive nuclear escalation is a real and significant problem. Resorting to such a strategy would be cold-blooded, but not irrational or far-fetched. The remainder of this section explores more closely the logic of escalation, evidence of countries willingness to resort to an escalatory strategy, and several features of modern war and the contemporary strategic context that exacerbate the core problem of escalation.

A. Logic of Escalation

The basic rationale for a strategy of coercive nuclear escalation rests on adversary perceptions of the looming costs of defeat in a conventional war, the likely benefits of escalation, and the possibility of gambling for resurrection.

1. Potential Costs of Defeat

The core national security problem for many countries is straightforward: how to keep more powerful enemies at bay. For relatively weak countries, military defeat can be disastrous. In some circumstances, battlefield losses are followed by conquest, brutal occupation, the loss of sovereignty, and sometimes genocide. But even when those terrible outcomes are avoided, military defeat is often disastrous for national leaders.

a. Regime Change and the Prospect of the Noose

The desire to survive provides the simplest rationale for adversaries to resort to nuclear escalation. Although the United States rarely punishes defeated adversary societies, enemy leaders do not fare so well. Consider the consequences suffered by leaders of countries that recently fought the United States: Panamanian dictator Manuel Noriega has been in prison since the U.S. invasion of his country in 1989. Slobodan Milošević, the president of Serbia and Yugoslavia during the 1999 U.S.-led NATO bombing campaign of his country, died in his prison cell in The Hague while standing trial for war crimes; and the Bosnian Serb leaders Radovan Karadžić and Ratko Mladić are still in detention pending their own war crimes trials. Saddam

Hussein, the Iraqi leader when the U.S. invaded and occupied his country in 2003, was toppled, captured, and incarcerated in humiliating fashion, his sons and grandson were killed, and then he was hung in front of jeering enemies. More recently, in 2011, the Libyan leader Muammar Qaddafi spent his final days hiding from U.S.-supported rebels before being captured, beaten, and shot to death, along with his son and several dozens of his loyalists; another son and three grandchildren died in an earlier NATO airstrike on his family compound in Tripoli.

Even when adversary leaders are "not targeted specifically" (as for example U.S. leaders claimed about the airstrikes on Qaddafi's compound), military operations – especially those conducted by the United States – increasingly involve intense campaigns against enemy command-and-control facilities, leadership sites, and sensing platforms. These targets are destroyed in order to maximize military effectiveness, but doing so poses a direct threat to regime security – to the leaders themselves, their key political allies, and their families. In short, leaders who witness their militaries being destroyed, see their security services being savaged, and experience bombs raining down upon their command bunkers will feel great pressure to halt a war as soon as possible.

b. Stakes are Too Great

Some adversaries may face big incentives to resort to coercive nuclear escalation even when they are not facing a direct existential threat to the regime or individual leaders. Instead, nuclear use might seem appealing in cases where an adversary perceives enormous political or strategic stakes in the conflict. For example, a war between the United States and China over Taiwan would not make leaders in Beijing fear "conquest" in the narrow sense of the term, but it would raise the risk of the loss of highly valued territory (Taiwan) – a vital national interest, according to official Chinese declarations. While not as bad as complete conquest and occupation, such an outcome would likely be seen as a major and unacceptable loss. If Chinese leaders are to be believed that they see Taiwan as an inseparable part of China, and especially if the people of China feel the same way, it may be too costly

for leaders in Beijing to accept defeat in a war over Taiwan, especially if the consequences might be Taiwanese independence.

Similarly, if North Korea begins a new war on the Peninsula, a Combined Forces Command advance to seize artillery positions a few dozen kilometers north of the DMZ might seem like a "limited" military operation to leaders in Seoul and Washington. But it could well be perceived as an unacceptable challenge to North Korean interests. It is not difficult to conceive the high stakes from the Kim regime's perspective: the destruction of the army and its artillery threat to Seoul would essentially eliminate North Korea's only other real bargaining chip besides nuclear weapons.

c. Danger of Coup

Not only do conventionally weaker adversaries face great pressure to create battlefield stalemate before they are conquered and their leaders imprisoned or killed – or before they lose unacceptably high stakes – they must do so quickly at the outset of a conflict. A limited conventional defeat that "merely" destroys a large fraction of a country's military, or substantially degrades the institutions that ensure government control (for example, the leadership's security force, domestic intelligence services, internal security troops, and party militias), could trigger a wartime or post-war coup. The impetus for overthrowing the defeated regime could come from military leaders and units who feel dishonored or betrayed, from regime security personnel who sense weakness at the top, or from a critical mass of an enraged and humiliated population – but the grim outcome for the leadership would be the same.

For example, the Pyongyang government might fall even if the stakes are otherwise perceived as limited by all sides, because the damage inflicted on the North Korean military and security services may sufficiently weaken the regime and trigger a coup or revolution. Similarly, if the United States dealt an overwhelming defeat to the Iranian military during a conflict over the Strait of Hormuz, it is not clear that the

Islamic Republic would survive the political turmoil likely to follow. Again, because the conquest of China is not plausible, many analysts assume that the escalation risks in a U.S.-China clash are substantially muted. However, observers of Chinese politics have noted that the Chinese Communist Party (CCP) no longer bases its legitimacy on communism, but rather on nationalism and the perception that the CCP has made China strong and globally respected – a peer of the western powers who victimized China. If during a military clash in the Pacific the United States inflicted a crushing defeat against the Chinese air force and navy, the leaders of the CCP may reasonably question whether their government could survive the political repercussions stemming from popular or military humiliation and anger.

All of these logics for escalation are worth highlighting because doing so shows how many real-world scenarios could plausibly materialize and exhibit escalatory pressures. Specifically, the problem is not limited to a single case where the adversary regime is likely to perceive any military campaign as a total war – i.e., North Korea – but rather could apply across the full range of plausible conflicts involving the United States (including with China, someday perhaps Iran, or even Russia). Moreover, as we discuss below, identifying a continuum of risks – based on how terrible conventional defeat will be perceived by adversaries – should allow U.S. planners to better identify relevant tradeoffs and risks. But there is another key dimension of the problem of adversary nuclear escalation that must be understood: the potential benefits that adversary leaders are likely to perceive when resorting to this strategy.

2. Potential Benefits of Escalation

Leaders in facing the prospect of imminent defeat in a conventional war have compelling reasons to escalate coercively, with nuclear weapons, to bring about a ceasefire. But wouldn't the use of nuclear weapons by a weak country against a strong one incite a devastating nuclear response, rather than a truce? For example, in a war on the Korean Peninsula, wouldn't North Korean use of nuclear weapons

against the Republic of Korea, Japan, or U.S. military forces in the region trigger a devastating U.S. nuclear retaliatory strike? If so, then nuclear escalation would simply turn a conventional defeat into an even worse nuclear disaster. So, how could coercive nuclear escalation work?

The answer lies in the fact that the negative *costs* of defeat are just one side of the logical coin behind a coercive escalation strategy. On the flip side are the potential *benefits* of undertaking this strategy – the reasons for believing such a strategy might work. The power (and thus appeal) of a coercive nuclear escalatory strategy by the weaker side comes from the fact that it would leave the stronger side with a set of entirely grim response options. It is because all of those options are unattractive that an adversary will be tempted to escalate in the first place.

Consider a hypothetical example: a conflict on the Korean Peninsula. Regardless of why or how it started, most analysts expect that the conventional battle will quickly favor the U.S.-ROK alliance. If or when allied forces began to move north of the DMZ, leaders in Pyongyang would face a stark choice. They could allow the conflict to continue on its course and risk a fate similar to that of Qadaffi and Hussein, or they could seek the means to compel the United States and South Korea to immediately halt offensive operations. Nuclear escalation would be the most obvious means, and could take many possible forms:

Pyongyang might begin with just a statement demanding an immediate ceasefire, along with the threat of nuclear escalation. Or it could launch a missile armed with a nuclear warhead and detonate it harmlessly over the Sea of Japan. Or it could attempt a nuclear strike on a U.S. military base in the region, such as Kadena Air Base on the island of Okinawa, Japan. North Korea could even try to strike a Japanese or South Korean city. Regardless of the severity of the initial step, the key aspect of a coercive nuclear escalatory operation is not the *initial* strike, but the threat of what is to come. In this scenario, after the initial escalatory step, Pyongyang could then declare that the United States and ROK must cease military

operations against North Korea immediately – or else North Korea will destroy half-a-dozen Japanese cities.

Some analysts might assume that the United States would respond at this point with a devastating nuclear counter-strike – especially if the North Korean coercive strategy involved actual nuclear use, rather than just the threat of doing so. But it is enlightening to consider carefully the options that a U.S. president would confront in such circumstances. What options would a U.S. president have if North Korea used nuclear weapons coercively during a conventional war? How would the United States respond, for example, to North Korean nuclear attacks on Kadena Air Base and a Japanese city that killed several thousand Americans and two or three times that many Japanese? How would a U.S. president address Pyongyang's threat to launch further strikes on Japanese cities unless the United States and the ROK accept a cease-fire and halt their military campaign? In such a scenario, four principal courses of action would be available, and all of them are grim.

a. Option 1: Accept Ceasefire

One possible response to North Korean nuclear escalation is to simply halt the military campaign and accept a ceasefire. After all, U.S. leaders might well decide that there is nothing on the Korean Peninsula for which it would be worth fighting a nuclear war. A nuclear exchange between the United States and North Korea would likely kill large numbers of Koreans (especially if North Korean nuclear sites were near populated areas), and could lead to substantial retaliation against U.S. regional allies. If Japan or other allies in the region were subsequently struck, it would likely mark the end of the U.S. alliance network in East Asia, as well as undermine U.S. nuclear umbrella commitments to dozens of other countries. On the other hand, halting the conflict before further nuclear use would likely leave the North Korean regime completely isolated. The international blowback, including pressure on third party patrons to withdraw assistance to Pyongyang to punish the regime for its behavior, would perhaps even bring North Korea close to collapse. Most important, one could argue that the potentially huge political and strategic

implications of buckling to nuclear coercion could be mitigated. For example, before accepting the "ceasefire" option, the United States might levy a symbolic – but politically useful – nuclear response (e.g., responding to a North Korean strike on Kadena Air Base with a nuclear response against one or more North Korean military facilities) before halting military operations.

The downsides of accepting a ceasefire would be significant, however. Negotiating a settlement after suffering a nuclear strike (or after receiving an explicit nuclear threat) might be very costly politically – both for the United States in the eyes of its global allies and for the U.S. president in the eyes of the American electorate. More substantively, U.S. leaders would worry about setting a precedent whereby a relatively weak state coerced the ceasefire it needed by threatening or employing nuclear weapons against U.S. forces and personnel. Such a strategy could trigger a new wave of proliferation – not only by adversaries, but also by allies that lose faith in the U.S. nuclear umbrella. And while symbolic escalation and subterfuge might make the "deal" politically palatable in the short term, when the dust settled it would become apparent that North Korea's strategy of coercive escalation had worked well.

b. Option 2: Punitive Retaliation

A second option for responding to adversary nuclear escalation would be to immediately launch a punitive nuclear attack aimed at killing the North Korean regime's leaders and destroying the remaining institutions of the North Korean state. After the retaliatory strike, South Korean and U.S. forces would march toward Pyongyang as soon as conditions allowed. The purpose of this response would be to send a clear message to the world: nuclear escalation will beget a horrifying response.

The disadvantages of this second course of action are substantial. First, and most obviously, the United States would be killing large numbers of innocent people. Hundreds of thousands of North Korean civilians would be killed in response to acts

committed by a small coterie of authoritarian leaders. Moreover, nuclear strikes aimed at deeply buried leadership bunkers would require "ground bursts" – detonations well below any altitude that would avert fallout – and would therefore spread highly radioactive material across the region. Depending on the location of the bunkers and wind patterns, lethal fallout would likely scatter across South Korea, and possibly into Japan or China – possibly killing more South Korean civilians than North Koreans. Second, it is not clear that punitive nuclear strikes would do much to shape North Korean behavior. If the threat of nuclear retaliation is meant to deter escalation from happening in the first place, or if retaliation is meant to send a strong deterrent signal to future adversaries, presumably the adversary regime must have some reason to refrain from escalation. But the logic of escalation is based on terrible consequences that adversaries expect to face if they do *not* escalate: that is, defeat, regime change, and possible death. Simply put, it is not obvious that nuclear strikes would add much pain to the expected costs of continued conventional war. Finally, a nuclear punitive strike would not solve the major dilemma at hand: North Korean nuclear forces would presumably already have been dispersed and could still carry out escalatory nuclear strikes. In short, a visceral "bomb them back to the stone age" response is problematic on many dimensions.

c. Option 3: Continue Conventional Campaign

A third option would be to accelerate the conventional offensive toward Pyongyang to end the war and capture the North Korean leadership as rapidly as possible. The advantage of this approach is that it reinforces official U.S. nuclear policy rhetoric: by not submitting to coercion, and by not responding in kind, the U.S. response would demonstrate that nuclear weapons are both abhorrent and ineffective tools of statecraft. The subsequent trials of surviving senior North Korean leaders would demonstrate to the leaders of other weak states that nuclear escalation is not a viable way to escape the calamity of military defeat.

The disadvantages of this strategy are enormous. The strategy would accept the risk that North Korea would carry out its threat and launch additional nuclear strikes against a half-dozen allied cities. Relatedly, this course of action would presumably need to be implemented over the strenuous objections of allied governments. The consequence would likely be the end of the U.S.-led alliance network in East Asia. More broadly, if the United States ignores the pleas of a critical ally, and the consequences were the destruction of several allied cities, many other U.S. allies around the world would likely rethink their tight military ties to the United States and revisit their decision to live under the U.S. nuclear umbrella.

d. Option 4: Counterforce Strike

The fourth option would be to respond to nuclear escalation with a major military strike against known and suspected North Korean nuclear targets to prevent the launch of additional weapons. A counterforce strike could be conducted with conventional weapons, nuclear weapons, or a mixture of the two, with various implications for the promptness of destroying the intended targets and the likelihood of destroying them all. This option, like the others, would rely on imperfect missile defenses to help with any North Korean weapons surviving a U.S. strike. As with the first two options, a rapid conventional advance on Pyongyang to conquer the regime and seize any surviving leaders would follow.

The advantage of this option is that it would avoid caving in to nuclear blackmail, and it would take direct action to protect U.S. allies as much as possible. Traditionally, a “counterforce” campaign such as this was evaluated based on its ability to “get ‘em all” – that is, the strategy had to promise near 100% success to be even considered a plausible option. (Surviving nuclear warheads would presumably be launched in retaliation.) Today, although there might be scenarios in which the United States and others *could* destroy every adversary nuclear asset, that criteria would no longer be sacrosanct. After all, if all the other alternatives discussed above entail the prospect of U.S. forces or allies being hit with additional nuclear weapons,

then 100% success can hardly be considered a meaningful threshold for choosing this option.

The disadvantages of this option are also substantial, however. First, a counterforce attack would not be a small operation. It would likely require prompt attacks on scores of targets across North Korea in order to rapidly destroy suspected nuclear storage sites, military command and control, mobile missile garrisons, and tunnel entrances which may be associated with North Korea's nuclear weapons or missile launchers. The nuclear component of the attack might involve several dozen – or more – U.S. weapons. Second, depending upon the details of the U.S. operation, and the location of North Korean targets, the U.S. strikes could kill a large number of North Koreans. (This would probably be the case even if U.S. strikes did not generate regional radioactive fallout, as in the counter-leadership – or punitive – option described above). A third disadvantage is that a counterforce strike might not destroy every North Korean nuclear weapon; some weapons might survive and be used against U.S. allies. Worst of all, if this option leads to additional strikes on U.S. forces, allies, or even the U.S. homeland, the U.S. might eventually be compelled to accept a ceasefire anyway. This option, therefore, like the first three, accepts a high likelihood of one or more allied cities being destroyed, along with subsequent damage to the U.S. global alliance network and grand strategy. This option becomes more perilous the closer that North Korea moves toward deploying long-range ballistic missiles that can target U.S. cities, as well as regional allies.

In sum, all of the response options in this scenario are grim – which is precisely why a desperate adversary will see the logic of resorting to a nuclear escalatory strategy. Relatively weak states will face powerful incentives to use nuclear weapons against the strong during a conventional war in order to induce stalemate.

3. Gambling for Resurrection

Skeptics of the danger of adversary nuclear escalation might argue that whether or not the strategy poses bad options for the other side, it is inconceivable that a rational adversary could be confident the strategy would work. At best, nuclear escalation would constitute an epic gamble – a nearly suicidal long shot at producing a ceasefire. At worst, such a strategy would merely constitute choosing among equally fatal poisons – replacing the prospect of regime change after conventional defeat with that of regime destruction through nuclear retaliation.

There is no doubt that a coercive nuclear escalatory strategy has many drawbacks. It could well end up being suicidal, counterproductive, or simply ineffective. But what skeptics fail to appreciate is that leaders on the verge of suffering a conventional defeat will likely find very attractive even a small chance that escalation will generate a ceasefire if the outcome of *not* escalating appears to be defeat, removal from office, and punishment (ranging from exile to death). The baseline expectation of doing nothing is essentially defeat and destruction. Leaders facing such a prospect are likely to "gamble for resurrection" – they are likely to escalate the conflict in the hopes of a dramatic reversal of fortune. In other words, leaders facing conventional defeat on the battlefield (and the likely consequences of such a defeat) have nothing much to risk in nuclear escalation, but they just might be able to stay in power and survive personally should the gamble be successful.

B. Evidence

The logic of coercive nuclear escalation is convincing, but do countries actually calculate costs and benefits in the manner discussed above? Do leaders think this way in the real world? Do relatively weaker nuclear-armed states that feel sufficiently threatened by a conventionally superior foe develop defense plans around the concept of coercive nuclear escalation? Do they create nuclear doctrines for wartime employment? In other words, do countries seem prepared to follow the cold-blooded logic of coercive nuclear escalation?

Two factors should have a powerful effect on whether nuclear-armed states develop coercive nuclear doctrines. First, countries should be more likely to view nuclear weapons in this manner if they expect to lose conventional wars. In other words, coercive nuclear doctrines should be far more appealing to the weak than to the strong. Second, these doctrines should be more attractive to states for which the consequences of conventional military defeat are dire. When the United States loses conventional wars – for example, in Vietnam, or arguably in Afghanistan and Iraq – it may damage presidential approval, but the republic does not fall, and U.S. leaders are not hung on the gallows. For other states and leaders, defeat often brings terrible consequences. Even countries that do not fear military conquest might worry that a humiliating conventional defeat might trigger uprisings or coups, and the overthrow of the existing regime. Leaders of nuclear-armed states who fear that conventional military defeat could lead to terrible consequences for themselves or their country should be more likely to develop coercive nuclear doctrines than those who do not share this fear.

In fact, historical and contemporary evidence suggests that the nuclear-weapon states that worry most about calamitous military defeat tend to develop coercive nuclear doctrines to give them the capability to stalemate their most-threatening adversary. The NATO alliance thought this way in the Cold War. When NATO felt unable to defend itself adequately from a major conventional attack from the Soviet-led Warsaw Pact, it adopted a coercive nuclear doctrine. Tellingly, when the balance of power shifted – that is, when the Russian conventional threat to Western Europe largely disappeared with the Soviet Union – so did the views of many alliance members about NATO's nuclear doctrine, and even about the legitimacy of the weapons they recently relied upon themselves. The only members of NATO who face the real possibility of disastrous military defeat today – the Baltic countries – are the same ones who most strongly favor retaining NATO's forward-deployed tactical nuclear weapons (B61 bombs deployed in Europe).

Meanwhile, Russia has shifted in the opposite direction. During the Cold War, Russia at least rhetorically proclaimed a doctrine of "no first use," but now that the military balance has shifted sharply against them Russian officials have publicly stated that they rely upon tactical and theater nuclear weapons to balance against the superior military forces of an unspecified powerful alliance. Since the collapse of the Soviet Union, Russia's conventional military capabilities have significantly deteriorated, leading it to adopt a doctrine of nuclear "de-escalation" – the use of limited nuclear strikes to compel a cease-fire and return to the status quo in a conventional war against a militarily superior adversary.[3] This was implicit in Russian President Vladimir Putin's statement, in the wake of Russian military incursions into Ukraine and rising tensions with NATO, that Moscow does not intend to fight a "large-scale" conventional conflict with the West: "I want to remind you that Russia is one of the most powerful nuclear nations. This is reality, not just words."[4] Soon after this, Putin announced that Russia would counter NATO's decision to deploy a rapid-reaction conventional force to protect Eastern Europe with the development of new nuclear capabilities.[5] In short, there is widespread agreement among analysts that the deterioration of Russia's conventional forces has led to a reduction in its threshold for nuclear use in a conflict.

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[3] See Nikolai N. Sokov, "Why Russia Calls a Limited Nuclear Strike 'De-escalation'," Bulletin of the Atomic Scientists, March 13, 2014. According to Russia's most recently released military doctrine (2010): "The Russian Federation reserves the right to utilize nuclear weapons in response to the utilization of nuclear and other types of weapons of mass destruction against it and (or) its allies, and also in the event of aggression against the Russian Federation involving the use of conventional weapons when the very existence of the state is under threat." Text of "The Military Doctrine of the Russian Federation," Russian Federation, February 5, 2010. Also see Alexei Arbatov, Vladimir Dvorkin, and Sergey Oznobishchev, "Contemporary Nuclear Doctrines," Institute of World Economy and International Relations (IMEMO) and the Nuclear Threat Initiative (NTI), 2010, pp. 21-27; Keir Giles, "The Military Doctrine of the Russian Federation 2010," Research Review, NATO Defense College, Rome, February 2010. Also see Stephen J. Blank, ed., *Russian Nuclear Weapons: Past, Present, and Future* (Carlisle, PA: Strategic Studies Institute, November 2011).
[4] Greg Botelho and Laura Smith-Spark, "Putin: You Better Not Come After a Nuclear-Armed Russia," CNN, August 30, 2014.
[5] See Andrei Kokoshin, "Ensuring Strategic Stability in the Past and Present: Theoretical and Applied Questions," Belfer Center for Science and International Affairs, Harvard University, June 2011, pp. 57-58.

North Korea has not publicly articulated enough details to identify an explicit nuclear doctrine, but the Pyongyang government has overtly threatened to use nuclear weapons against South Korea, Japan, and the United States to ensure the survival of the regime if it were attacked. China is an outlier in that it officially avows a "no first use" nuclear doctrine despite the likelihood of conventional defeat to the United States in a major maritime conflict, and despite the highly negative consequences that such a defeat would bring for the ruling regime. (Of course, analysts have questioned the degree to which an official "no first use" policy reflects actual Chinese planning or means what Western observers assume it to mean.)

Pakistan's official nuclear doctrine is entirely consistent with a coercive nuclear strategy in the event of a conflict with India. Most experts believe Pakistan is prepared to launch nuclear strikes against advancing Indian forces if and when those forces cross into Pakistani territory. On the one hand, Pakistan is a large country with a big population, and India has no desire to conquer and rule over 180 million Pakistani Muslims. On the other hand, most of Pakistan's largest cities – including Karachi, Lahore, Faisalabad, Rawalpindi, and its capital Islamabad – are within approximately 100 miles of the border with India. Pakistan's leaders reasonably worry that a major conventional war could lead India to seize, or isolate, major Pakistani cities, to be surrendered at some future time of India's choosing – unless Pakistan can use nuclear escalatory threats to prevent this.

In short, coercive nuclear escalation not only makes sense logically, but also appears to be reflected in the plans and doctrines of precisely those states that should be expected to adopt such a strategy.

C. Exacerbating Factors

The principal danger of nuclear escalation stems from the desperation of weaker countries that fear losing conventional wars. But the actions of the "strong" matter, too, and may greatly exacerbate the likelihood of escalation. In particular, the

nature of modern warfare and the unique strategic position of the United States in the world today make the danger of escalation especially high.

1. The Nature of Modern Warfare

Conventional war has changed dramatically over the past three decades as computers have become fully integrated into every facet of warfare. The computerization of weapons and warfare has changed nearly every aspect of combat: for example, command, communications, reconnaissance, navigation, and the precision with which weapons can be delivered against targets. As many observers have noted, modern high-tech warfare can be devastatingly effective against conventionally armed foes. What has gone unnoticed, however, is that this high-tech style of warfare is also highly escalatory.

The computerization of warfare has had three overarching effects on combat. First, military forces now derive their effectiveness, more than ever before, from their ability to function as part of a network. Sensors, data processing facilities, commanders, and shooters are often widely dispersed; increasingly, generating combat power depends on a military's ability to integrate information from multiple sources, make effective decisions, and then coordinate the actions of widely dispersed forces. Second, and following directly from the first point, the payoffs from disrupting an adversary's "command and control" network have soared. For example, China's newest anti-ship missiles might be fearsome weapons, capable of destroying a war ship nearly 2,000 miles away on the open ocean – but that is only if every link in the sensor-processing-command-shooter chain is intact. Severing or even delaying these links could render the missile system useless. Third, powerful states now have an unprecedented capacity to degrade an enemy's command and control: thanks to long-range precision weapons, and possibly also through unconventional means (e.g., offensive cyber attacks). It would be an exaggeration to say that warfare is now entirely about degrading enemy command and control; rather, those operations typically open the door for decisive force-on-force

engagements. But the efforts to gather and utilize information, coordinate actions among many units, and deny that intelligence and coordination to others, is a bigger part of modern warfare than ever before.

Not surprisingly, every major U.S. military operation over the past twenty-five years has begun with an intense effort to destroy adversary command and control. The initial U.S. air operations in the 1991 Persian Gulf War – which focused on degrading Iraqi surface-to-air radars and missile systems (to allow the United States unfettered access to Iraqi airspace), command posts, electricity, communications, and organs of government control – all aimed at denying the Iraqi leadership "situational awareness" and preventing them from coordinating their military forces in the field. This campaign included nearly two hundred strikes against Iraq's leadership on the first night of the air war – representing an intense effort to kill the senior members in Saddam's government. The air war against Serbia (1999) and during the Iraq War (2003) followed suit. Even the wars against enemies with more rudimentary command and controls systems – the Taliban leaders of Afghanistan (2001) and the brief campaign against Libya (2011) – began with attacks on the leadership and their ability to command and control their defense forces.

The problem is that although this style of warfare can be very effective at producing one-sided battlefield outcomes, it is also highly escalatory. If preventing escalation requires assuring enemy leaders that they will survive and remain in power after the war – *if* they do not escalate – then military campaigns must demonstrate that those promises will be met. In other words, these campaigns must allow leaders to see that their enemy's military objectives are limited, and that their own critical political control organizations are not being destroyed. Attacks designed to cause the enemy's command and control system to collapse, deny enemy leaders situational awareness of the battlefield, and kill the enemy leadership itself, undermine those goals. Attacks on enemy leadership, in particular, undermine escalation control. But attacks that spare these targets substantially reduce the effectiveness of conventional military forces.

2. Attacks on Strategic Assets

A related reason why modern warfare is escalatory stems from the powerful tendency among militaries to strike the most lethal weapons systems of their enemies. If the hope for preventing escalation is based on assuring adversary leaders that they can retain power as long as they do not use weapons of mass destruction, then attacks on their WMD sites and delivery systems clearly open the door for follow-on operations to overthrow them. Stated differently, if an enemy's weapons of mass destruction are its leaders' "get out of jail free" cards, then efforts to destroy those weapons will pose an existential threat – forcing him to escalate to coerce an end to those attacks. Attacking an enemy's strategic deterrent assets is, therefore, highly escalatory. The problem is that military organizations in general, and the U.S. military as a case in point, have a powerful proclivity to target those weapons during war.

The military logic for attacking adversary strategic assets is straightforward. During war, military organizations seek to destroy the enemy's military, and they logically place a high priority on neutralizing those enemy forces that threaten to inflict the greatest damage. The notion of leaving intact an enemy's most potent weapons is deeply counterintuitive for most military planners. Moreover, if military planners have reason to believe that war is likely to escalate, then sparing an enemy's most lethal weapons systems is foolish. Those systems should be attacked at the very outset of a war, before they have been used, and when (in many cases) they are most vulnerable.

The reluctance to avoid targeting adversary strategic assets once shooting begins can be seen in U.S. military plans during the Cold War. Throughout the four decades of confrontation, U.S. nuclear war plans remained focused on so-called "counterforce" attacks: destroying Soviet nuclear weapons. In the 1950s, when the United States believed it could win a nuclear war, its plan for fighting the Soviet Union called for a massive nuclear disarming strike against every known Soviet

nuclear target – and every "Sino-Soviet Pact" airfield that could possibly launch a bomber. But even later in the Cold War, when the Soviets had achieved nuclear stalemate and the prospect of winning a nuclear war had become remote, NATO military plans still called for intense conventional attacks on Soviet nuclear forces. For example, in the 1980s, NATO's plans called for operations against the Soviet "northern flank," including operations by U.S. attack submarines to sink Soviet ballistic missile submarines at sea.[6]

In the post-Cold War world, each time the United States fights a regional war, a major element of the air campaign is to destroy the enemy's strategic assets. In 1991, the U.S. air campaign included intense attacks on Iraqi WMD sites and suspected delivery systems during the very first nights of bombing. The United States prioritized potential WMD targets in NATO operations against Serbia in 1999, and once again in 2003 against Iraq; the air war plan for Operation Iraqi Freedom identified 1,840 targets associated with the delivery systems for Iraq's (nonexistent) WMD program.[7]

This emphasis on neutralizing adversary strategic assets is undiminished today. Among the highest priorities of the U.S. Department of Defense are the development and improvement of sensors, weapons systems, and doctrines to facilitate the destruction of enemy strategic weapons. The effort to neutralize those forces spans all four services of the U.S. military, and includes every domain of warfare – including ballistic missile defenses, anti-submarine warfare programs, long loiter-time UAVs, prompt global conventional strike systems, offensive cyber operations, accurate nuclear weapons, and a broader range of efforts designed to allow the U.S. military to identify and rapidly target mobile missile launchers. The military is

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[6] Posen, *Inadvertent Escalation*, chapter 4; and John J. Mearsheimer, "A Strategic Misstep: The Maritime Strategy and Deterrence in Europe."

[7] This figure counts the targets in the "WD" target sets in the "Joint Integrated Prioritized Target List," 832 of which were eventually struck. "Operation Iraqi Freedom – By the Numbers," Assessment and Analysis Division, USCENTAF, 20 April 2003, pp. 4-5.

explicit about the purpose of these efforts: to defeat enemy WMD – because they have no confidence that wartime deterrence will hold.

The presumption that the job of the military is to neutralize or destroy the enemy's most lethal weapons systems during war does not indicate some pathology within the U.S. military. Rather, it is based on a Clausewitzian understanding of the nature of warfare that is shared by many militaries around the world. Additionally, the direction of technology will make enemy strategic assets an even more alluring target in the future. Real-time target intelligence from a range of sensors, stealthy aircraft and missiles, and highly precise weapons systems (plus unconventional military means) will make targeting enemy strategic forces seem easier and more attractive.

3. Differences Among Allies

Another factor likely to exacerbate the nuclear escalation danger faced by the United States today and in the future relates to alliance relations. Simply put, the U.S. and its allies may view escalation risks differently, and may hold different perspectives on the tradeoffs between conventional military effectiveness and escalation control.

Even close alliance relationships struggle to reconcile differences in their interests, in the threats they face, and in their perception of the enemy. For example, the United States and the Republic of Korea share a commitment to their alliance and to the eventual unification of the Korean Peninsula. But underneath that fundamental agreement are differences. As much as the United States is committed to its South Korean ally, it is undeniable true that the timing and manner of Korean unification matter more to South Koreans than to Americans. They differ as well in the objective dangers the two countries face in their dispute with North Korea. Nuclear escalation during a war on the Peninsula would be a disaster for the United States; but it could utterly wreck South Korea. Finally, they differ in their politics and, possibly, in their perception of the enemy. If war erupted, the government in Seoul

might be compelled by popular pressure to end, once and for all, the decades-long confrontation that has divided Korea. Many South Koreans, seemingly disgusted by the government in the North, express profound doubts about the rationality and deterrability of the Pyongyang government. If one puts all these types of differences together, it is not surprising if the U.S. and its allies sometimes see deterrence differently, in peacetime and wartime.

Finally, the U.S. and its allies around the world may differ in terms of their understanding of the dangers and consequences of nuclear escalation, and thus the risks that are worth undertaking in a conventional conflict. The U.S. is justifiably reluctant to share details about certain military capabilities – including those related to missile defense, cyber, and nuclear counterforce systems – as well as the limitations of those capabilities. This could mean that U.S. allies have an inflated sense of what exactly the United States military could do to prevent or mitigate adversary nuclear escalation. For example, some South Korean officials apparently believe that the U.S. nuclear umbrella effectively renders any North Korean nuclear escalatory strategy impotent or irrelevant.

4. War Plans and the Limits of Escalation Control

War plans are often created with the principal focus of maximizing the effectiveness of conventional operations in order to decisively defeat the adversary, not controlling operations for the purpose of deterring escalation. Without deliberate guidance, these plans rarely draw sufficient and explicit attention to the tradeoffs between military effectiveness and escalation control. The result is that leaders may have difficulty discerning and evaluating these tradeoffs.

The root of the problem stems from the fundamental difficulty that civilian and military leaders face in seeking to control military operations. Preventing escalation by carefully limiting conventional operations – for example, by striking certain targets but leaving others off-limits, or by advancing to certain geographic lines but

not beyond them – demands a level of fine-grained control over military operations that is sometimes at odds with the nature of war in the 21st century. For this reason, some would label “controlled warfare” an oxymoron.

When war erupts, finely calibrated control over military operations is nearly impossible. Modern conventional combat is so complex, and requires the coordination of so many people, that military organizations by necessity rely on standard operating procedures (SOPs). For example, military doctrine establishes a right way to suppress enemy air defenses, to protect one’s warships from enemy submarines, and to degrade an enemy’s military command-and-control. When civilian authorities order the military to conduct a military mission, commanders build complex operations on the foundation of the SOPs. But as a result, leaders, especially civilian leaders, often do not appreciate the military implications of their orders and objectives, making control of operations far more difficult.

The Cuban missile crisis provides many of the canonical examples of standard operating procedures impeding careful civilian control of the military. The White House developed a plan with two key components to defuse the crisis. First, U.S. leaders sought to buy time – by avoiding actions that would create an imminent clash between U.S. and Soviet forces that might rapidly escalate to war. To that end, a naval blockade was selected as the initial U.S. reaction, rather than airstrikes on missile sites, or an invasion of Cuba. The second principle component of the White House’s strategy was to begin military preparations for war, which the Soviets would observe, in order to pressure the Soviets to back down.

The problem was that some of the policies the White House chose in order to implement its strategy triggered SOPs that contradicted core objectives. As part of the naval blockade of Cuba, the U.S. Navy – following SOPs – dropped signaling depth charges near Soviet submarines. This SOP, unknown to President Kennedy and top advisers until two days after the blockade was publically announced, cut against the President’s goal of avoiding a clash between U.S. and Soviet forces. (To

make matters worse, U.S. officials were unaware that they were dropping depth charges against a nuclear-armed submarine.) In fact, when Soviet submarines began to be bombarded, their initial impression was that they were under attack. In short, neither the U.S. president nor his civilian advisers were fully aware of what they had set in motion when they ordered the Navy to blockade Cuba.[8]

In a second incident, President Kennedy ordered the Strategic Air Command (SAC) to raise the alert level of U.S. nuclear forces during the crisis, to signal the Soviets of U.S. seriousness. Unfortunately, officials in the White House did not know that the Strategic Air Command's SOPs called for them – upon an alert – to send aircraft into Soviet airspace to gather pre-strike reconnaissance on nuclear targets. Once again, efforts to wield military forces in a calibrated fashion to signal an opponent led to military actions that the leaders did not desire and which were seen as counter-productive.

More recent examples demonstrate the enduring nature of this problem. In the 1991 war against Iraq, the overarching U.S. objective was to conduct a limited offensive to eject Iraqi forces from Kuwait and heavily damage the Iraqi military – but not conquer Iraq. These limited objectives were critical for two reasons: U.S. officials did not want the United States to occupy Iraq, and they were trying to deter Iraq from using its stocks of chemical and biological weapons. The problem is that the two highest priority targets in the U.S. air campaign were Saddam Hussein and the other most-senior Iraqi leaders, as well as Iraq's WMD and delivery systems. We may never know why Saddam Hussein did not respond by using WMD in 1991, but as an example of an effort to limit war for the purpose of preventing escalation, the U.S. air operation illustrates the grave problems ensuring that military operations are consistent with political objectives.

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[8] William Burr and Thomas S. Blanton, eds., *The Submarines of October: U.S. and Soviet Naval Encounters During the Cuban Missile Crisis*, National Security Archive Electronic Briefing Book No. 75, October 31, 2002.

The problem of ensuring the integration of military operations and strategic objectives endures today. Civilian officials in the U.S. Defense Department may believe they have provided sufficient guidance to war planners about the need to prevent and mitigate escalation dangers – for example, with the Guidance on the Employment of Forces (GEF), the principal directive from the Joint Chiefs of Staff that guides combatant commanders for the construction of their war plans, which includes avoiding escalation as a central objective. But in some theaters, planners would have difficulty articulating how specific operations have been tailored so as not to pressure adversaries to escalate. U.S. leaders may have identified escalation prevention as a key goal, but that objective does not appear to be guiding actual war planning to anything near the degree the importance of the objective would seem to merit.

The problem in controlling military operations has nothing to do with insubordination or incompetence. The real problem is fundamental: modern military operations are so complex that they defy fine-grained control. Moreover, leaders justly feel it is inappropriate and impractical to pour over the tactical details of war plans and second-guess their battlefield commanders. From the perspective of trying to "win the conventional fight," a division of labor that leaves strategy to the leadership, and operational details to battlefield commanders, is sound. If, however, a critical goal of military operations is to achieve desired military objectives while potentially exercising restraint for the purpose of escalation avoidance, then the impediments to carefully controlled conventional operations could also undermine those efforts to prevent escalation.

In sum, the nuclear escalatory dangers raised by conventional war are far greater than is commonly recognized. At a fundamental level, weak states face powerful incentives to escalate against strong states. Several factors stemming from the nature of modern warfare exacerbate this danger. Strong states with sophisticated militaries like the United States will inevitably target weaker states' command and control systems and strategic assets at the outset of a conventional conflict. This

compounds the weaker regime's fear of not surviving the conflict, and thus makes nuclear escalation as a means of forestalling defeat more likely. Moreover, efforts by stronger states to restrain such attacks for the purpose of controlling adversary escalation are likely to be frustrated by the inherent difficulty of calibrating military operations in wartime. In the United States, military and political leaders appear either unaware of the extent of the problem or ill equipped to address it within the normal chains of command. The efforts these leaders might try to institute to avoid provoking nuclear escalation are essentially incompatible with the modern approach to conventional operations adopted by the U.S. military, which is highly (if unintentionally) escalatory.

If adversary escalation should be seen as the baseline expectation in a war between powerful countries like the United States and weaker but nuclear-armed adversaries, then U.S. war plans should be designed specifically to include ways to reduce these escalation risks and mitigate their consequences. The means of doing so are discussed in the next section.

III. Mitigating Escalation Risks

The following section explores options for mitigating adversary escalation risks. After discussing several important caveats, we examine the need for: tradeoffs among desired end states, military effectiveness, and escalation avoidance; coherence between military operations and mission objectives in light of escalation dangers; communication strategies for adversaries, allies, and third parties; war plans that include explicit escalation avoidance strategies; realistic tabletop exercises; and military capabilities that can best mitigate the consequences of escalation if prevention fails.

A. Caveats

These ideas below should be considered in light of three caveats. First, the recommendations in this report should not be applied uniformly across theaters. The likelihood of adversary escalation – and the triggers of escalation – will vary across scenarios.[9] Furthermore, various U.S. regional commands have already integrated aspects of these approaches for escalation avoidance into their war plans and operational concepts; indeed, some of these approaches were drawn from our discussions with those planners. Therefore, the recommendations should be used as a conceptual jumping off point for combatant commands and Defense Department leaders to identify the escalation risks in a given theater, to assess the

[9] For example, if war erupts on the Korean Peninsula, the North Korean government may quickly realize that its regime survival is at stake. The war could result in the conquest of North Korea and unification of the Peninsula under South Korean control. Even a more limited defeat could trigger a coup in Pyongyang. As a result, a broad range of CFC military actions might trigger North Korean wartime escalation: for example, Coalition operations that weaken the regime's hold on power from domestic opponents (e.g., attacks that degrade DPRK internal security forces, or national command and control), or operations that indicate that the Coalition's war aims include conquest of the Peninsula. By contrast, a war in maritime East Asia would not pose analogous threats to China. The primary escalation risks in that scenario might arise from operations that enhance the regime's vulnerability to domestic threats. In both cases, there is significant danger of escalation, though the danger appears higher in the Korea case, and the specific escalation triggers would be different across the two scenarios.

adequacy of specific OPLANS/CONPLANS in terms of escalation avoidance, and to modify those plans as needed.

Second, this report is unclassified, which entails both disadvantages and advantages. The disadvantage is that this document cannot delve into the details of specific war plans, or the intelligence about specific adversary leaders. Fortunately, the core of the problem of adversary escalation is not one that lies in the classified details of a given war plan. Rather, the root of the problem lies in the broad strategic relationship between the United States and key adversaries: the United States military expects to prevail in conventional wars against most adversaries, and thus those adversaries must find a way to stalemate the U.S. military. Grasping the core of the problem does not require access to classified material. Furthermore, unclassified discussion of this problem facilitates wider discussion and debate within the U.S. military, civilian leadership, and analytical community, as well as with the broader public and foreign partners.

The third caveat is the most important. The approaches we recommend to mitigate escalation risks do not solve the problem. The dilemma that the United States and its partners face stems from the very nature of warfare. At its core, the purpose of military operations is to dominate the enemy – in order to impose one's political preferences on it. Seeking to dominate an adversary while simultaneously convincing it to keep holstered the very weapons that might preserve its safety is an inherently contradictory task. Yet that is the task that the United States currently asks of its armed forces. Although the proposals described below do not resolve this inherent tension, they have two primary goals: First, to help U.S. regional commands identify adversaries' likely escalatory triggers, and consider alternative concepts for achieving desired end states that simultaneously minimize escalation risks. Second, to enhance transparency about the inherent tradeoffs embedded in U.S. war plans with respect to (a) military effectiveness and (b) escalation avoidance. Transparency is essential to ensure that those tradeoffs align with the

judgments and priorities of the senior leadership within the combatant command, of the Defense Department leadership, and of the national command authority.

B. Reducing Risks and Mitigating Consequences

The following approaches are intended to reduce escalation risks during conventional wars, and mitigate the consequences if it occurs. They seek to modify aspects of U.S. war planning, broaden the pool of U.S. officials with deep understanding of these issues, strengthen alliance cohesion, and enhance the capabilities that would reduce the consequences of escalation if escalation occurred – and thereby help deter adversaries from escalating in the first place.[10]

1. Provide Leaders with Range of Potential End States

The end states – that is, the mission objectives – that the United States and its coalition partners seek in a military campaign may be a crucial factor in driving adversary escalation decisions. In many cases, achieving ambitious objectives would give the United States and its partners greater geopolitical benefits than achieving lesser goals.[11] But when fighting a nuclear-armed enemy, seeking ambitious end states entails great risk: it imposes greater costs on adversary leadership, thereby increasing their incentives to escalate to create stalemate. The alternative of seeking more limited aims, however, may also be fraught. Doing so may reduce adversary incentives to escalate (because their regime can survive the war without taking that risky step), but it may be deeply objectionable to U.S. leaders, U.S. partners, and their populations. For example, if North Korea begins a second war on the Peninsula – causing substantial destruction and death in Seoul – it may be nearly impossible to adopt war aims short of eliminating the DPRK regime.

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[10] For simplicity, in the remainder of this report we use the term “U.S. war plans” to refer to U.S. and coalition OPLANS and CONPLANS. We also often refer to “U.S. decisions” and “U.S. operations,” even though in most theaters critical wartime decisions will be made in a coalition context. Coalition forces would conduct many conventional operations.

[11] Although in many cases achieving ambitious end states is preferable to achieving modest ones that is not always the case. For example, conquering an enemy (rather than inflicting a limited defeat upon him) may burden the United States with a costly occupation mission.

During any conventional war against a nuclear-armed enemy, balancing these two key goals – achieving as much as possible for the United States and its partners while managing the risks of adversary escalation – would be a strategic and political matter of the highest importance. Finding the right balance might be especially challenging if the views of U.S. and allied leaders differ. Unfortunately, the end state / escalation tradeoffs are unlikely to be completely or even adequately resolved during peacetime. Senior U.S. political leaders cannot consider in depth the thorny tradeoffs and dangers in every potential military contingency that the United States faces. Moreover, adversary actions leading up to and during a conflict might change U.S. leaders' preferences significantly. Using the example from above, if North Korea launched devastating and indiscriminate attacks on Seoul during the opening phases of a conflict, U.S. and South Korean leaders might accept higher escalation risks to destroy the Pyongyang regime than they might have anticipated before the conflict. Or U.S. leaders could change their preference about desired end states after they are briefed about evolving capabilities to find and destroy adversary nuclear weapons. Or decisions reached in peacetime about balancing desired end states with escalation risks may call for actions that leaders find unacceptable in wartime. Relatedly, intra-alliance compromises reached before a conflict might crumble in the heat of war. What this means is that war plans must be formulated such that senior political leaders always have some flexibility to make tradeoffs between various end states and the associated risks of escalation.

There are at least two potential approaches for giving leaders options to decide on the appropriate end states / escalation risk tradeoff. One approach is for combatant commands to create families of plans for a given theater – all with a common foundation but each reflecting a different end state. A simpler approach is to create a single plan with a defined end state, but one that incorporates a set of "off-ramps" that would allow political leaders to halt operations once less ambitious end states are achieved. The latter approach might place less of a burden on combatant

command planners, which is an important benefit. However, for reasons described below, the “off-ramps” option raises other serious challenges for escalation control.

2. Ensure Coherence Between Operations and Objectives

Facing a nuclear-armed adversary in a war, U.S. leaders and their coalition partners may reasonably choose to pursue limited objectives, very ambitious ones, or something in between. Whichever objectives they select, however, it is essential that there be strategic coherence between the conventional operations and the overarching strategy for avoiding escalation. In most cases, war plans that seek very ambitious end states (including but not restricted to adversary regime change) should include intense efforts to destroy enemy nuclear weapons capabilities from the outset. But plans designed to deter adversary escalation by limiting U.S. objectives should avoid attacking the adversary’s deterrent forces. The merits of limited or essentially unlimited objectives, and of restrained or ambitious operations, depend on the circumstances – but mismatching the two invites disastrous escalation.

Circumstances may reasonably lead the United States and its allies to pursue maximalist objectives during a war against a nuclear-armed adversary. For example, if an adversary has already conducted mass-casualty conventional attacks against a U.S. ally or employed nuclear weapons, regime elimination may be viewed as the only acceptable outcome. Alternatively, if the adversary’s regime is so weak that even limited aims strategies would likely topple it, U.S. and allied leaders may decide that there is no meaningful limited-aims option. Finally, if U.S. leaders believe they can completely neutralize adversary nuclear forces, they may prefer such an option to relying on the hope that intra-war deterrence will hold (especially if the adversary has already threatened or employed nuclear weapons). If leaders select a maximalist end state against a nuclear-armed adversary, they also need to plan to neutralize adversary nuclear forces – presumably by attacking weapons and delivery systems, impeding command and control, and striking leadership targets.

Conversely, if U.S. and allied leaders select a limited objectives operation, it is imperative that they avoid attacks on nuclear, leadership, and national-level C4I targets. If adversary leaders are relying upon the threat of escalation to hold U.S. and coalition forces at bay – and permit their regime to survive the war – then attacks on their nuclear forces and leadership will logically be perceived as an effort to disarm and destroy their regime. To be clear, conducting conventional operations without attacking an enemy's most lethal weapons systems seems to violate basic principles of warfare. Yet, such restraint is necessary if one seeks to avoid escalation by convincing the enemy that its regime will survive the conflict if it does *not* escalate.

Although circumstances could require either a limited or a maximalist objective during a war against a nuclear-armed adversary, a mixed approach may be the worst option. Adopting an unlimited aims war plan while withholding attacks on adversary strategic forces, leadership, and C4I invites escalation. Selecting a limited aims strategy to prevent escalation while attacking adversary nuclear forces, leadership, and C4I, will also likely trigger escalation. To make matters worse, faced with a war against a nuclear-armed adversary, U.S. political leaders may choose to authorize a limited military operation because they are confident that escalation risks are manageable – not realizing that these "limited war plans" involve large numbers of strikes on nuclear, leadership, and C4I targets, or not appreciating the escalatory consequences of these strikes.[12]

The problem of incoherence between the nature of military operations and escalation avoidance strategies is not merely theoretical. As discussed above, official U.S. objectives in the 1991 Persian Gulf War were to liberate Kuwait while simultaneously deterring Iraq from employing chemical or biological weapons. In

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[12] The danger is similar to circumstances that allegedly arose during the Cuban missile crisis. Senior U.S. political leaders claim not to have known that the naval quarantine they ordered included operations to harass submerged Soviet submarines, or that the nuclear alert measures they authorized included provocative strategic reconnaissance operations against Soviet nuclear targets.

other words, the United States adopted a limited-aims strategy. In a pre-war meeting with Iraq's foreign minister, U.S. Secretary of State James Baker explained the outlines of the U.S. limited approach: the United States would not seek regime change as long as Iraq did not use its unconventional weapons. However, although the U.S. ground campaign was indeed limited – freeing Kuwait and destroying Iraqi military units in the southernmost parts of Iraq – the air campaign was a no-holds-barred effort against Iraqi CBW, leadership, and C4I. For reasons that are still not fully clear, the Iraqi government chose not to escalate with unconventional weapons; thus, the United States did not march on Baghdad. But the conduct of the Persian Gulf War showed a major contradiction between the air campaign and the strategy for avoiding escalation. Analogous tensions, we believe, exist in some contemporary U.S. war plans: where even limited aims objectives involve massive air and missile attacks on the most sensitive adversary strategic assets.

The conflicting imperatives described in this section – that is, the need to rapidly destroy nuclear, leadership, and C4I targets in plans aimed at regime change, but spare those targets in limited aims operations – creates problems for the approach that seeks to create flexibility in war plans by using "off-ramps." The off-ramp approach relies on a single plan that nominally describes military operations that would lead to a maximalist outcome if fully executed. The flexibility arises because there are identified off-ramps in the plan where leaders can halt operations. The problem arises because the maximalist plan may require massive early strikes on nuclear, leadership, and C4I targets, since those would need to be neutralized as quickly as possible if the plan were to be fully executed. But those targets are precisely the ones that should not be struck if leaders want to preserve the option of taking an off-ramp. Therefore, the off-ramp approach to war planning, with early pre-planned attacks on strategic targets, may inadvertently push adversaries toward escalation and foreclose the possibilities of keeping war limited.

3. Prepare Communications Strategies toward Adversaries, Allies, and Key Neutrals

In the 21st century, any conventional war plan requires a communication strategy – to convey to enemies, allies, the American people, and the global community the goals, limits, and justification for the war. When waging war against a nuclear-armed adversary, however, the communication strategy takes on much higher importance: it may be the difference between success and catastrophic escalation.

Effective communications with the enemy are essential during a war against a nuclear-armed state. If the United States has chosen more limited objectives as a means to prevent escalation, the decision to restrain military operations accordingly must be conveyed to the enemy. In the fog of war, even a highly restrained operation will inevitably create incidents that could be mistakenly interpreted by enemies as a sign of expansive goals. Equally important, U.S. leaders must convey that U.S. restraint is conditional – and that adversary nuclear escalation would lead the United States to change course and seek regime elimination. The best means of transmitting those crucial messages – for example, directly by government-to-government contacts, through neutral countries, or via written or verbal statements – will depend on the adversary.

Even in cases in which the United States and its partners pursue unlimited objectives – and are thus targeting adversary nuclear forces, leadership, and C4I – there is still a key role for communicating with the enemy. Efforts to directly communicate with military offers in the nuclear chain-of-command may be critical: to convince them that though their regime is doomed they will receive more benign treatment if they refuse escalation launch orders, and to threaten them with personal accountability if they execute a nuclear attack.

Equally important, a conventional war plan against a nuclear-armed state will require a well-prepared communication strategy toward allies and partners. Outside of NATO, the United States does not share details about its nuclear

capabilities and planning, even with close allies. (Even in the NATO context, there are limits to those shared details.) As a result, key U.S. allies – including those directly threatened by enemy nuclear attack – might over-estimate or under-estimate U.S. capabilities. Allies might support ambitious conventional military operations under the mistaken assumption that the United States can effectively protect them if the war escalates. Alternatively, allies may reflexively reject counter-strike options – even after an adversary has escalated – because they do not appreciate the extent of U.S. offensive capabilities. U.S. national security policy *depends* upon having strong allies in key regions, and a regional conventional war against a nuclear-armed state will put those allies at grave risk. Therefore, U.S. leaders must build consensus with those allies during a conflict about appropriate end states, military options, and how to manage the risk of escalation. Building that consensus and reducing the risk of fracturing alliances may require greater information sharing about strategic capabilities with close U.S. allies – certainly during war, and perhaps during peacetime.

The third critical component of a U.S. communication strategy during a conventional war against a nuclear-armed state is communicating with neutral or third party states. Part of that effort is simply the routine practice of rallying support in the international community for U.S. military operations. But another part of that effort is even more critical, and may be a key component of efforts to prevent escalation. Specifically, the United States should seek to encourage strong, independent third parties to prepare "golden parachute" options for adversary leaders. If a conventional war is proceeding in a direction that puts the adversary's regime survival at grave risk, one option for the threatened leader is escalation to create stalemate and halt the war. If an adversary leader needs to be persuaded to reject that plan, he needs a better alternative – another "way out." One model is to persuade a neutral country, or another country allied with the adversary, to offer refuge and amnesty to the leader, his family, and his close advisors. The state offering amnesty must be powerful and independent enough to be able to credibly promise to resist post-war pressure to extradite the adversary leadership after the

golden parachute is taken. But those plans will take preparation by the country providing the amnesty and possibly even coordination with the United States – to provide a window for adversary leaders to escape. Communication with countries who might offer a golden parachute is therefore a potentially important element of escalation prevention.

4. Require Explicit "Escalation Avoidance Strategy" as Element of War Plans

Any U.S. war plan against a nuclear-armed adversary should include a simple, explicit section that explains the plan's strategy for preventing escalation. That section should describe (a) the underlying assumptions about likely triggers for adversary escalation; (b) the decision whether to strike (or not) various strategic targets (including nuclear, leadership, and C4I) in light of the plan's desired end state; (c) the communication strategy, as it pertains to escalation avoidance; (d) an estimate of the likelihood of preventing escalation; and (e) key uncertainties in the escalation avoidance effort. In other words, this section of the war plan would describe in one place the various approaches identified in this report.

A clear articulation of the escalation avoidance strategy would have many benefits. First, it would highlight the importance of escalation prevention to planners working on all aspects of the war plan – including details of air, ground, and naval operations. Doing so will make those planners more likely to recognize when elements of the plan are in tension with escalation avoidance goals. Ideally they would raise those issues with senior planners (and, if necessary, the issues would be referred to senior military or political leaders).

Second, an explanation of the escalation avoidance strategy will make explicit the judgments, assumptions, and tradeoffs that necessarily underpin efforts to shape enemy escalation choices. Highlighting them will help senior leaders at the combatant command and the Pentagon scrutinize those assumptions and, if necessary, direct that the plan be modified.

Finally, highlighting the escalation assumptions and strategy underlying each plan will allow the National Command Authority to make better informed decisions – during a crisis or war – about alternative courses of action. If one course is predicated on the assumption that adversary nuclear sites can be targeted without triggering escalation – and the NCA disagrees – leaders may reject that military option. Alternatively, if there is a plan for a highly restrained campaign, but the NCA judges that the adversary regime will rapidly collapse in any case, leaders may select a military course aimed at rapidly destroying the enemy's nuclear forces and then pursuing less-restrained objectives.

Overall, the purpose of describing in a simple, explicit fashion the escalation avoidance strategy underlying a war plan is to maximize transparency for the planners, the commanders, and the NCA. Doing so will reduce the chances of strategic incoherence between operations and escalation avoidance goals, and will give senior political leaders a clearer view of the strengths, weaknesses, and uncertainties of alternative courses of action.

5. Conduct Tabletop Exercises to Refine Escalation Concepts and Enhance Alliance Cohesion

The United States could organize regular tabletop exercises based on plausible conflict scenarios against nuclear-armed adversaries. Some exercises might be "U.S. only," but the exercises could eventually include officials from key regional allies. Of critical importance, highly credible country experts – possibly from the U.S. intelligence community – should play the Red Team. The exercises should be designed to permit the Red Team to make whatever escalation choices they deem realistic – that is, to escalate or not depending on their team's assessment of the situation. The exercise should not stop at the point of adversary escalation – if that occurs – but instead challenge the players on the U.S. and allied teams to play several post-escalation moves.

Conducting regular escalation avoidance exercises would have many important benefits. First, it would provide a tool for regional combatant commands to evaluate their concepts for waging war in their own theaters without triggering escalation. Over the course of several exercises, the Blue Team could try a set of military concepts against different Red Teams to gauge the range of plausible adversary responses; Blue could also use the series of exercises to evaluate alternative military concepts for conducting effective operations without triggering adversary escalation.

Second, it will help expand the pool of senior U.S. leaders who understand the challenges of escalation avoidance during war and appreciate the conundrums that adversary escalation poses for the United States. We interviewed many knowledgeable government officials who were skeptical that rational adversaries would find any benefit in escalating a conflict; in their view, nuclear escalation is unlikely unless adversary leaders are delusional or irrational, or if they lose control of their forces. If Red Teams find realistic ways to escalate in a way that creates major problems – and bad response options – for the United States and partners, the exercises may lead U.S. officials to update their views about the logic and likelihood of adversary escalation. If the Blue Teams are drawn from SES-level officials at the Department of Defense and Department of State, congressional committee staffs, and other relevant agencies, the exercises could substantially improve the level of appreciation of the escalation problem.

Third, the exercises can be used to expand the pool of officials from key allied governments who have a deep understanding of the wartime escalation problem. Over time, as different officials rotate through the exercises, appreciation for the escalation problem will spread. The exercises may draw together the views of the United States and allied governments about escalation issues, and it will very likely enhance mutual understanding of the basis of any remaining disagreements or differing viewpoints. It is far preferable to air and explore these differences after an

exercise than after a war. Ultimately, the experience should help minimize disagreements and enhance alliance cohesion.

Finally, tabletop exercises can assist leaders in identifying the capabilities that would not only help U.S. and coalition forces conduct conventional operations in a less-escalatory manner, but also allow them to respond more effectively to escalation. The latter point is crucial: if the United States and its allies can respond effectively to an adversary's escalation – that is, if they can vastly reduce the adversary's ability to harm the United States and its partners – then adversaries will have less incentive to escalate.

A major obstacle to creating tabletop exercises that include post-escalation moves by Blue Team is that a meaningful discussion would seem to require that participants be given detailed information about highly classified U.S. strategic (nuclear and non-nuclear) capabilities. If so, participants would require appropriate security clearances, which would undermine the goal of broadening the pool of officials with deep understanding of the challenge of preventing escalation. Allied officials would also be excluded. This hurdle can be overcome, however, by creating unclassified "notional response options" for participants to consider; options that *roughly characterize* the plausible categories of U.S. response, without providing operational details. This would entail some costs in terms of analytical precision. But in the Cold War analysts employed unclassified force-exchange models to argue for and against development of various weapon systems without breaching classification rules. The same can be done today, and the benefits of broadening the discussion of nuclear escalation issues beyond a relatively small group of military officers and other government officials with sufficient clearances would greatly exceed the costs.

6. Enhance Capabilities for Countering Enemy Nuclear Weapons

For the purpose of deterring wartime escalation and mitigating the consequences if it occurs, the United States should continue to improve its capabilities for locating and disabling adversary nuclear weapons. These capabilities include sensing systems, to locate fixed and mobile targets; strike systems, including prompt conventional and nuclear weapons; capabilities for impeding adversary strategic C4I; and defenses. We are not advocating a departure from current plans and posture. In fact, throughout the Cold War and post-Cold War period, the United States has steadily invested in capabilities for countering enemy nuclear forces.[13] What has changed is not the desire to neutralize enemy nuclear forces, but the capabilities to do so.

In the past, finding strategic targets such as mobile missiles was inordinately difficult. Mobile targets are still difficult to find, but the barriers to successful offensive operations are dropping. The assumption that mobile targets will always be too hard to locate is based on a bygone technological era. The computer revolution spawned a revolution in remote sensing – making the surface of the earth and objects on it increasingly visible. Adversary mobile missile launchers used to spread out across vast expanses of road, occasionally ducking in and out of tree cover to avoid predictable U.S. satellite passes. Today, they furtively scoot from one shelter to another, knowing the potential of U.S. satellites, UAVs, autonomous ground sensors, and other platforms using a myriad of sensors to track them.[14] Hiding is not futile. But it is harder than it was in the past, and growing harder every day.

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[13] For a compelling account of the intensive U.S. strategic intelligence efforts and breakthroughs during the late Cold War, see Austin Long and Brendan Rittenhouse Green, "Stalking the Secure Second Strike: Intelligence, Counterforce, and Nuclear Strategy," *Journal of Strategic Studies,* Vol. 38 (Winter 2015), pp. 38-73.
[14] For a document that offers insight into how the United States might integrate drones, ground sensors, and standoff weapons to hunt mobile targets, see Alan J. Vick et al., "Aerospace Operations Against Elusive Ground Targets," *RAND Corporation*, MR-1398-AF, 2001, especially Ch. 4 and appendixes A and B.

In the past, preemptive plans for disarming strikes against an adversary's nuclear weapons had to promise near perfect success to be even considered a plausible option. In today's strategic context, if an adversary has already employed one or more nuclear weapons – for example, as an escalatory strategy to coerce an end to the conflict – then the threshold for a disarming strike will likely be lower than perfection. More importantly, building capabilities for neutralizing adversary nuclear forces may be the best strategy for deterring escalation during a war. After all, if one *does not* have effective capabilities for neutralizing enemy nuclear forces, then one can only respond to an enemy's escalatory strategy by accepting stalemate (which most would consider a tremendous defeat) or exchanging punitive nuclear strikes (which all would agree would be an utter disaster). But effective offensive systems negate the logic of coercive escalation. If the United States can respond to an enemy's use of one nuclear weapon by destroying its remaining arsenal, then the adversary should see little point in coercive escalation in the first place.

As the United States considers likely enemy strategies for countering U.S. conventional military supremacy, coercive escalation is a risky but potentially high-payoff approach. U.S. leaders would do well to develop capabilities that offset this enemy strategy, as U.S. and allied vulnerability to nuclear coercion invites it from determined and desperate enemies.