

NORTH KOREA'S NUCLEAR POSTURE

An Evolving Challenge for U.S. Deterrence

John K. WARDEN

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Abstract

A more capable, nuclear-armed, North Korea will pose very substantial challenges to the U.S. deterrence posture. While North Korea's nuclear program already serves multiple functions in its security strategy, it is likely to acquire an even greater role over the coming years. Once the regime deploys more advanced nuclear weapons and ballistic missiles, it might be tempted to pursue a revisionist agenda focusing either on the reunification of the Korean peninsula or on more limited aims. In support of such ambitions, Pyongyang may develop a theory of victory relying on the threat of nuclear escalation to deter enemies from pursuing regime change and to compel them to accede to its demands. As North Korea's capabilities mature, the United States, South Korea, and Japan will need to articulate a comprehensive approach to deterring Pyongyang while managing their differences to respond to North Korea's behavior during peacetime, crisis, and conflict. To deter Pyongyang, coordination is key, hence the need for the United States and its allies to adopt a layered deterrence strategy and determine courses of action that, if pursued vigorously and carefully, would increase their chances of containing a nuclear-armed North Korea and avoiding nuclear war.

Résumé

À mesure qu'elle renforcera ses capacités nucléaires, la Corée du Nord posera un défi de plus en plus lourd à la posture de dissuasion des États-Unis. Le programme nucléaire nord-coréen remplit déjà plusieurs fonctions importantes dans la stratégie nationale et pourrait devenir plus central encore au cours des prochaines années. Une fois doté de capacités nucléaires et balistiques plus sophistiquées, le régime pourrait tenter de poursuivre sur la péninsule des stratégies révisionnistes d'ambition variable. Une telle stratégie pourrait être adossée à une théorie de la victoire s'appuyant sur la menace d'escalade nucléaire pour dissuader toute tentative de changement régime par la force ou pour imposer une sortie de conflit favorable. Les États-Unis, la Corée du Sud et le Japon doivent concevoir une approche globale de la dissuasion face à Pyongyang et apprendre à gérer leurs désaccords en répondant au défi nord-coréen aussi bien en temps de paix et de crise qu'en temps de conflit. La coordination entre alliés est ainsi cruciale pour la mise en œuvre d'une stratégie de dissuasion composite et la définition en amont d'options de réponse maximisant les chances de contenir Pyongyang et d'éviter une guerre nucléaire.

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Introduction

Over the coming years, North Korea will pose one of the most difficult deterrence challenges for the United States. The Kim Jong Un regime is openly hostile to the United States as well as South Korea and Japan, U.S. regional allies, and continues to violate numerous United Nations Security Council Resolutions. It also has one of the largest militaries in the world, a considerable stockpile of chemical weapons, and a rapidly advancing nuclear weapons program, most recently on display during its fifth nuclear test in September 2016. It is no surprise, then, that the commander of U.S. Pacific Command described North Korea as the “greatest threat that [he] face[s] on a day-to-day basis.”¹

Despite North Korea’s expanding nuclear weapons capability, the United States has refused to recognize North Korea as a nuclear weapon state, calculating that doing so might legitimize North Korea’s program and the Kim regime, discredit the Nonproliferation Treaty, and unnerve U.S. allies. Instead, Washington has pursued a policy that insists on verifiable denuclearization and the eventual unification of the Korean peninsula under South Korea’s political system.² To achieve that end, the United States has, first, attempted to make denuclearization more attractive through a combination of sticks—primarily in the form of UN and unilateral sanctions—and carrots—offers of a security guarantee or various forms of aid if North Korea agrees to abandon its nuclear ambitions. Second, the United States has tried to limit the development of North Korea’s nuclear and missile programs by tightening U.S. and multilateral export controls and sanctions. Third, it has attempted to improve the U.S. military posture and strengthen its defense relationships with South Korea and Japan to deter North Korean aggression. Finally, the United States has hoped that the regime will crumble on its own.

This U.S. strategy has, unfortunately, found limited success in slowing the growth of North Korea’s nuclear weapons program, leading the outgoing Barack Obama administration to describe North Korea as the top

1. J. Garamone, “Harris Says North Korea is Pacom’s Biggest Worry, Gives Report on Asia Rebalance”, *DoD News*, October 10, 2015, available at: www.defense.gov.

2. Office of the Press Secretary, The White House, “2015 United States-Republic of Korea Joint Statement on North Korea”, October 16, 2015, available at: www.whitehouse.gov and Office of the Press Secretary, “Joint Vision for the Alliance of the Republic of Korea and the United States of America”, June 16, 2009, available at: www.whitehouse.gov.

national security issue facing the next President.³ More work is needed to explore a range of policy options that might slow or reverse North Korea's nuclear weapons and missile programs, from tightening sanctions to negotiating a peace treaty or a cap on certain military capabilities to threatening or conducting preventive military strikes to promoting regime change. Some combination of carrots and sticks might effectively stymie Pyongyang's nuclear program or the Kim regime might collapse under the weight of its isolation, but analysts and policymakers must also consider the likelihood that efforts to halt or rollback North Korea's nuclear program will prove ineffective.⁴ If current trends hold, the United States and its allies will face a North Korea in the 2020s and 2030s that remains under the control of the Kim family and possesses a more advanced and diverse arsenal of nuclear weapons and missile capabilities.

Because of the opacity and isolation of North Korea, any analysis of Pyongyang's nuclear capabilities, posture, and strategy is limited by the scarcity of reliable information. As new information becomes available, our understanding of North Korea's capabilities and strategy will evolve. Yet, even today, there is enough information available to predict North Korea's likely path. This article analyzes the challenges posed by a more capable, nuclear-armed North Korea by drawing on North Korea's own statements about its strategy and the role of nuclear weapons; the analysis of North Korea experts; historical and theoretical insights about states that have developed and deployed nuclear weapons; and logical reasoning. First, it outlines North Korea's present and potential future capabilities and military strategy. Second, it explains why nuclear weapons have taken on a great role in North Korean strategic thinking. Third, it describes scenarios in which the United States and its allies could fight a war with North Korea and the ways that North Korea might attempt to use nuclear weapons to achieve its political and military objectives. Finally, it outlines key elements of a U.S. strategy for deterring a nuclear-armed North Korea.

3. G. F. Seib, J. Solomon and C. E. Lee, "Barack Obama Warns Donald Trump on North Korea Threat", *The Wall Street Journal*, November 22, 2016, available at: www.wsj.com.

4. J. Acton, "Can Trump Enforce His Red Line on North Korea?", *The Atlantic*, January 6, 2017, available at: www.theatlantic.com.

Making Sense of Pyongyang's Posture

North Korea has long maintained a robust military posture, but the makeup of its force and its relative strengths and weaknesses have shifted over time. Most notable is the buildup of North Korea's nuclear and missile forces, which has been even more of a focus since Kim Jong Un rose to power in December 2011. North Korea clearly values the development of nuclear weapons, but the question remains: toward what end?

Potential roles for North Korea's nuclear weapons program in its national security strategy

There are four general roles North Korea's nuclear program could serve in Pyongyang's national security strategy: a diplomatic bargaining chip, a catalytic tool, a means of assured retaliation, or an instrument of warfighting.⁵ First, North Korea could see its nuclear program as a diplomatic bargaining chip. If this were the case, Pyongyang would pursue nuclear weapons not because it seeks to deploy them, but rather because it seeks to use nuclear weapons development to garner concessions from an ally or adversary. Second, North Korea could see its nuclear forces as a catalyst to raise the stakes of a conflict in order to draw the support of an outside power. Pyongyang could pursue a relatively crude nuclear capability so that in peacetime China might offer it more political and military support, or, in a future conflict, China or potentially Russia would intervene on its behalf—either diplomatically or militarily—to avoid escalation to a nuclear conflict. Third, North Korea could develop a nuclear posture designed to assure retaliation and thus deter another state from coercing North Korea with nuclear weapons or pursuing regime change. Pyongyang could seek a relatively small survivable nuclear force to

5. The four roles described here build on the taxonomies used in S. Smith, "North Korea's Evolving Nuclear Strategy", *North Korea's Nuclear Futures Series*, US-Korea Institute at SAIS, August 2015; S. Smith, "Alternative North Korean Nuclear Futures", *Nonproliferation Policy Education Center*, January 6, 2016, available at: <http://npolicy.org>; and V. Narang, *Nuclear Strategy in the Modern Era: Regional Powers and International Conflict*, Princeton, NJ, Princeton University Press, 2014.

withstand a first strike and deliver a significant counter blow against enemy population centers, fulfilling the requirements of minimum deterrence.⁶

Fourth, North Korea could seek nuclear capabilities that are able to strike specific military targets in wartime conditions. Nuclear weapons in a warfighting role could support a range of potential nuclear employment strategies. Warfighting nuclear capabilities could, for example, substitute for conventional forces in a tactical, battlefield role, demonstrating to adversaries that North Korea is willing to use nuclear weapons early and often to offset U.S. and South Korean conventional forces.⁷ Alternatively, they could support limited deterrence by providing Pyongyang with options for limited, discriminate nuclear strikes, either to deter invasion or to manage escalation and compel adversaries to accede to North Korea's demands.⁸ More ambitiously, North Korea could seek capabilities designed to ensure escalation dominance, the ability to inflict more damage than an adversary at each rung of the escalation ladder. This is, however, not a realistic strategy for North Korea because of the United States' overwhelming quantitative and qualitative advantage in conventional and nuclear forces. North Korea knows that it cannot match the full military potential of the United States and therefore must rely on coercion to achieve its political and military objectives.

The role that Pyongyang assigns to its nuclear weapons is not stagnant, nor must nuclear weapons serve only one role. North Korea's national security strategy depends on a number of factors, including its security environment, its economic situation, its domestic political landscape, and its technical capacity. North Korea's security environment determines the relative value that Kim Jong Un and his regime place on nuclear forces relative to other economic and military investments Pyongyang might make and to the international costs, such as diplomatic or economic sanctions, it would face. North Korea's technical capacity determines what is possible. For a minimum deterrence strategy to be

6. Minimum deterrence is defined as "threatening the lowest level of damage necessary to prevent attack, with the fewest number of nuclear weapons possible", Committee on the U.S.-Chinese Glossary of Nuclear Security Terms, *English-Chinese, Chinese-English Nuclear Security Glossary*, Washington, D.C., National Academies Press, 2008, p. 36.

7. V. Narang, *Nuclear Strategy in the Modern Era*, *op. cit.* and V. Narang, "Nuclear Strategies of Emerging Nuclear Powers: North Korea and Iran", *The Washington Quarterly*, vol. 38, No.1, Spring 2015, p. 73-91.

8. Limited deterrence is defined as having "sufficient counterforce and countervalue tactical, theater, and strategic nuclear forces to deter the escalation of conventional or nuclear war. If deterrence fails, this capability should be sufficient to control escalation and compel the enemy to back down." A. I. Johnston, "China's New 'Old Thinking': The Concept of Limited Deterrence", *International Security*, vol. 20, No.3, Winter 1995/1996, p. 5-6.

credible, for example, North Korea must have survivable nuclear forces that can withstand an enemy first strike and inflict unbearable costs in retaliation. To achieve a credible limited deterrence posture, North Korea must have nuclear capabilities that are also reliable, accurate, and discriminate enough to strike military targets in a wartime environment. Strategic interests and technical capacity are also interrelated. The leadership's greater perceived need for nuclear forces will drive greater investment, while increased technical capacity will make more ambitious nuclear strategies more realistic and therefore attractive. In other words, the desirable determines the possible and vice versa.

North Korea's nuclear weapons capabilities and potential

North Korea, in five nuclear tests, has demonstrated that it has crude nuclear weapons at the very least. Judging by North Korea's plutonium and uranium stockpiles, analysts estimate that North Korea has 13-21 nuclear weapons.⁹ Even absent the ability to mount a weapon on a missile, Pyongyang could threaten to deliver a crude nuclear device by, for example, using miniature submarines or special operations forces, two areas where North Korea has demonstrated proficiency.¹⁰ At minimum, North Korea's nuclear program has already exceeded expectations by expanding fissile material production, working toward miniaturization, and making progress toward greater explosive yield.¹¹

Pyongyang's missile forces also should not be underestimated. North Korea is assessed to have around one thousand ballistic missiles that can

9. D. Albright, "Future Directions in the DPRK's Nuclear Weapons Program: Three Scenarios For 2020," *North Korea's Nuclear Futures Series*, US-Korea Institute at SAIS, 2015; D. Albright and S. Kelleher-Vergantini, "Plutonium, Tritium, and Highly Enriched Uranium Production at the Yongbyon Nuclear Site", *Institute for Science and International Security*, June 14, 2016, available at: <http://isis-online.org>; S. Y. Ahn and J. S. Wit, "North Korea's Nuclear Futures: Technology and Strategy," *North Korea's Nuclear Futures Series*, US-Korea Institute at SAIS; and J. Lewis, "North Korea's Nuke Program Is Way More Sophisticated Than You Think", *Foreign Policy*, September 9, 2016, available at: <http://foreignpolicy.com>.

10. J. Meyerle, *Nuclear Weapons and Coercive Escalation in Regional Conflicts: Lessons from North Korea and Pakistan*, Washington, D.C., Center for Naval Analysis, November 2014, p. 21.

11. J. Lewis, "North Korea's Nuke Program Is Way More Sophisticated Than You Think," *op. cit.*; J. Lewis, "Why Is North Korea's Fifth Nuclear Test Different From Its Other Tests?", *The Atlantic*, September 10, 2016, available at: www.theatlantic.com; M. B. Wallerstein, "The Price of Inattention: A Survivable North Korean Nuclear Threat?", *The Washington Quarterly*, vol. 38, No.3, Fall 2015, p. 21-35; B. Klingner, "Allies Should Confront Imminent North Korean Nuclear Threat", *The Heritage Foundation*, June 3, 2014, available at: www.heritage.org.

threaten most, if not all, targets in South Korea and Japan.¹² North Korea's deployed force is composed primarily of short-range, Scud-class ballistic missiles and medium-range, Nodong-class ballistic missiles. Both systems are road-mobile and have the capacity to deliver nuclear payloads; the latter is accurate enough to strike specific soft targets such as ports and military bases.¹³ The Commander of U.S. Forces Korea acknowledged the threat in October 2014 when he said that North Korea has "the capability to have miniaturized a device at this point, and they have the technology to potentially actually deliver what they say they have."¹⁴ In a conflict, North Korea could, according to *Jane's Intelligence Review*, fire 54-72 ballistic missiles per hour for the first few hours of a conflict, then 10-20 per day thereafter.¹⁵ However, North Korea's Strategic Force still has a number of formidable hurdles to overcome, including achieving shorter launch times, dependable command and control, and effective coordination with other military forces.¹⁶

In addition to conducting work on warhead miniaturization and road-mobile launchers, North Korea has developed and tested the intermediate range Musudan ballistic missile and several components of an intercontinental range ballistic missile. Over the last five years, the Kim Jong Un regime has massively increased the pace of missile testing.¹⁷ North Korea also has conducted a substantial number of ballistic missile exercises that have "increased in size, realism (e.g., shoot-and-scoot), complexity (e.g., volley and time-on-target fire missions) and demonstrated capabilities (e.g., atypical flight trajectories)."¹⁸ In 2016, North Korean tests demonstrated advancements in missile engines, reentry vehicles, and even submarine-launched ballistic missiles (SLBMs).¹⁹ Other tests appeared to

12. "Strategic Weapons Systems: North Korea", *Jane's Intelligence Review*, December 3, 2015; J. Schilling and H. Kan, "The Future of North Korean Nuclear Delivery Systems", *North Korea's Nuclear Futures Series*, US-Korea Institute at SAIS, April 2015.

13. *Ibid.*, p. 7-14.

14. Department of Defense, Department of Defense Press Briefing by General Scaparrotti in the Pentagon Briefing Room, October 24, 2014, available at: www.defense.gov. See also E. Chanlett-Avery, I. E. Rinehart, M. B. D. Nikitin, and S. Park, *North Korea: U.S. Relations, Nuclear Diplomacy, and Internal Situation*, Congressional Research Service, No. R41259, July 21, 2015, p. 15.

15. "Strategic Weapons Systems: North Korea," *Jane's Intelligence Review*, *op. cit.*, p. 31.

16. J. S. Bermudez Jr., "North Korea's Development of a Nuclear Weapons Strategy," *North Korea's Nuclear Future Series*, US-Korea Institute at SAIS, 2015, p. 14-15; and M. Elleman, "North Korea Launches Another Large Rocket: Consequences and Options," *38 North*, February 10, 2016, available at: <http://38north.org>.

17. A. Fifield, "North Korea is 'Racing towards the Nuclear Finish Line'," *The Washington Post*, October 8, 2016, available at: www.washingtonpost.com.

18. J. S. Bermudez Jr., "North Korea's Development of a Nuclear Weapons Strategy," *op. cit.*, p. 13.

19. J. Schilling, "North Korea's Large Rocket Engine Test: A Significant Step Forward for Pyongyang's ICBM Program", *38 North*, April 11, 2016, available at: <http://38north.org>;

have been designed to evaluate methods of evading missile defenses.²⁰ Furthermore, Kim Jong Un announced in his 2017 New Year's address that Pyongyang had "entered the final stage of preparation for the test launch of [an] intercontinental ballistic missile."²¹ As North Korea's nuclear weapons and long-range missile modernization continues, there are many factors, such as the technical abilities of North Korean scientists and engineers, the level of Pyongyang's commitment to modernization, and the amount of foreign assistance that North Korea receives, that will determine the scope and pace at which these systems come online.²² But once they are deployed, intermediate- and intercontinental-range ballistic missiles will allow North Korea to threaten targets in Guam and the continental United States, respectively, with nuclear weapons.

The bottom line is that North Korea is likely to become a far more capable nuclear adversary over the next decades. By the 2020s, analysts estimate that Pyongyang could have 20-100 nuclear weapons and more advanced short-, medium-, and long-range delivery systems.²³ By the 2030s, analysts estimate that North Korea's arsenal could be even more advanced and diverse with as many as 200-500 warheads.²⁴ By that time, North Korea likely will have overcome technical hurdles, allowing it to increase the explosive yield of miniaturized nuclear weapons and potentially even deploy weapons optimized for particular military effects.

J. Schilling, "A New Submarine-Launched Ballistic Missile for North Korea", *38 North*, April 25, 2016, available at: <http://38north.org>; J. Schilling, "North Korea's SLBM Program Progresses, But Still Long Road Ahead", *38 North*, August 26, 2016, available at: <http://38north.org>; J. Schilling, "The Musudan Could Be Operational Sooner Than Expected", *38 North*, October 17, 2016, available at: <http://38north.org>; and M. Hanham, "OSINT Brief for PEOTUS", *Arms Control Wonk*, January 3, 2017, available at: www.armscontrolwonk.com.

20. "Strategic Weapons Systems: North Korea", *Jane's Intelligence Review*, *op. cit.*, p. 8.

21. K. J. Un, "New Year Address for 2017", *Korea Central News Agency*, January 2, 2017, available at www.kcna.kp.

22. J. Schilling and H. Kan, "The Future of North Korean Nuclear Delivery Systems", *op. cit.*

23. D. Albright, "Future Directions in the DPRK's Nuclear Weapons Program", *op. cit.*; S. Y. Ahn and S. Wit, "North Korea's Nuclear Futures: Technology and Strategy", *op. cit.*; and J. Schilling and H. Kan, "The Future of North Korean Nuclear Delivery Systems", *op. cit.*

24. S. Smith, "Alternative North Korean Nuclear Futures", *op. cit.*

Trends driving North Korean nuclear development

After facing nuclear threats from the United States during the Korea War and after, North Korea placed a high priority on developing its own nuclear weapons in order to deter nuclear coercion and regime change.²⁵ While it is unlikely that the Kim regime ever viewed nuclear weapons as pure bargaining chips, Pyongyang did agree to severe limits on its nuclear program in exchange for improved relations with the United States in the 1994 Agreed Framework. But after the collapse of the agreement and many more failed negotiations thereafter, including most recently the 2012 Leap Day agreement, Pyongyang has made it clear that it has little to no interest in negotiated denuclearization.²⁶ It is impossible to be certain of North Korea's intentions—and they are likely to change over time—but there are reasons to think that Pyongyang will seek an even greater role for nuclear weapons in its security strategy.

First, nuclear weapons have become increasingly essential to the legitimacy and survival of the Kim regime. Pyongyang has long flaunted the acquisition of nuclear weapons as a crowning achievement of the Kim family's rule, but Kim Jong Un has gone further. In 2012, the Kim regime amended North Korea's constitution to permanently enshrine the Democratic People's Republic of Korea (DPRK) as a nuclear weapon state and established the Strategic Rocket Command as an independent service on par with the Ground Forces, Navy, Air and Anti-Air Force.²⁷ (It later became the Strategic Rocket Force and then, in May 2014, the Strategic Force.) In 2013, Kim Jong Un announced his *byungjin* policy that emphasizes parallel development of North Korea's economy and nuclear weapons, signaling a clear prioritization of strategic forces. North Korea then passed a nuclearization law decreeing that nuclear weapons “serve the purpose of deterring and repelling the aggression and attack of the enemy against the DPRK and dealing deadly retaliatory blows at the strongholds

25. S. S. Kim, “North Korea's Nuclear Strategy and the Interface between International and Domestic Politics”, *Asian Perspective*, vol. 34, No.1, 2010, p. 49-85; and J. S. Bermudez, Jr. “North Korea's Development of a Nuclear Weapons Strategy”, *op. cit.*, p. 8.

26. “DPRK's Nuclear Deterrent Serves Treasured Sword for Ensuring Peace, Building Economic Power: Rodong Sinmun”, *Korean Central News Agency*, March 31, 2014, available at: www.kcna.kp. See also P. Boram, “Kim Jong-un Seeks to Complete Nuke Development by 2017: N.K. diplomat”, *Yonhap News Agency*, December 27, 2016, available at: <http://english.yonhapnews.co.kr>.

27. H. Min, “Enhancement in Nuclear Weapons Development and Its Military, Political and Economic Repercussions in North Korea”, *Korea Institute for National Unification Online Series*, No. CO 15-25, September 21, 2015, available at: <http://lib.kinu.or.kr>.

of aggression.”²⁸ These are high-level, public commitments that are difficult to walk back, which makes it hard to imagine a plausible scenario in which Pyongyang would agree to voluntarily renounce its nuclear weapons program.

Kim Jong Un has elevated North Korea's nuclear forces as a way of consolidating power over the military. North Korea's Strategic Force is controlled directly by the Workers' Party of Korea (WPK) through the Central Military Commission. As the Strategic Force expands and rises in importance, so too does the role and status of the WPK, and thus Kim Jong Un.²⁹ Having emphasized nuclear forces at the expense of conventional military forces, Kim will be under pressure to show results lest the military become dissatisfied and challenge his rule. Showing progress in strategic forces development in order to bolster Kim's domestic position may have been a major motivation for North Korea's February 2016 satellite launch.³⁰

The regime will also have an incentive to brandish nuclear weapons either to respond to perceived slights or to create cover for low-level provocations. North Korea has already demonstrated that it sees nuclear threats as a tool for signaling. During a crisis in March and April of 2013 that began with Pyongyang protesting a U.S.-Republic of Korea (ROK) military exercise, Kim Jong Un issued numerous nuclear threats. North Korea released a map showing nuclear targets in the United States, told embassies in Pyongyang to consider evacuation, and mobilized nuclear-capable ballistic missile launchers.³¹ In the future, North Korea might consider even more provocative saber-rattling such as mating warheads with missiles or conducting a nuclear test.³² Even more worrying, during an escalating crisis or conflict, Kim and his loyalists are likely to fear that

28. C. Seong-Whun, "The Kim Jong-un Regime's "Byungjin" (Parallel Development) Policy of Economy and Nuclear Weapons and the 'April 1st Nuclearization Law'", *Korean Institute for National Unification Online Series*, No. CO 13-11, April 23, 2013, available at: <http://lib.kinu.or.kr>.

29. H. Min, "Enhancement in Nuclear Weapons Development and Its Military, Political and Economic Repercussions in North Korea", *op. cit.*

30. J. Cheng, "North Korea Rocket Launch Could Bolster Kim Domestically", *The Wall Street Journal*, February 8, 2016, available at: www.wsj.com.

31. B. E. Bechtol, Jr., "The North Korean Military Under Kim Jong-un Evolved or Still Following a Kim Jong-il Script?", *International Journal of Korean Studies*, vol. 17, No.2, Fall/Winter 2013, p. 99-100; K. E. Gause, *North Korea's Provocation and Escalation Calculus: Dealing with the Kim Jong-un Regime*, Alexandria, VA, Center for Naval Analysis, August 2015, p. 21; and B. Roberts, *The Case for U.S. Nuclear Weapons in the 21st Century*, Stanford, CA, Stanford University Press, 2016, p. 58-59.

32. V. A. Manzo, "After the First Shots: Managing Escalation in Northeast Asia", *Joint Forces Quarterly*, No.77, 2015, p. 95.

showing weakness will lead to an internal challenge to the regime.³³ With the nuclear program now central to Kim's legitimacy, he may see nuclear escalation as the best (or only) way to show strength internally.

Second, North Korea's conventional military forces are not as strong as they used to be and are becoming weaker. Throughout the Cold War, North Korea's primary area of military strength was its infantry, which was supported by Soviet-supplied tanks, artillery, and aircraft. Even today, North Korea has over one million active-duty troops, giving it one of the largest armies in the world. But what North Korea has in quantity of soldiers, it lacks in quality of equipment. Years of sanctions and economic stagnation have severely limited North Korean military modernization and sustainment.³⁴

To be clear, North Korea could still inflict significant damage on South Korea and the United States in a future conflict and may be able to achieve a local advantage in certain scenarios.³⁵ Pyongyang keeps the majority of its forces forward-deployed near the demilitarized zone (DMZ) at a high state of readiness and has fortified artillery that can range Seoul. North Korea recently upgraded its bunkers near the DMZ to make U.S. and South Korean counter-battery fire more difficult and deployed a new multiple rocket launcher fitted with fragmentation-mine shells and underground penetration shells.³⁶ It also is considered to have a large chemical weapons stockpile, a highly trained special operations force, and demonstrated cyberwarfare capabilities.³⁷ South Korea and the United States have much higher-quality conventional forces, but they are generally at a lower-level of readiness and require reinforcement from off the Korean peninsula to fight at their full potential.

Nonetheless, North Korea has, on the whole, placed greater emphasis on its nuclear forces in order to offset the growing U.S.-South Korean

33. K. E. Gause, *North Korean Calculus in the Maritime Environment: Covert Versus Over Provocations*, Alexandria, VA, Center for Naval Analysis, July 2013, p. 47-51.

34. *Military and Security Developments Involving the Democratic People's Republic of Korea 2015*, Arlington, VA, Office of the Secretary of Defense, 2015, p. 9-13; and *The Military Balance 2016*, London, UK, International Institute for Strategic Studies, 2016, p. 264.

35. *Military and Security Developments Involving the Democratic People's Republic of Korea 2015*, *op. cit.*, p. 1, 9-10.

36. B. E. Bechtol, Jr., "Strengthening South Korean Defense" in P. M. Cronin (ed.), *Breakthrough on the Peninsula: Third Offset Strategies and the Future Defense of Korea*, Washington, D.C., Center for a New American Security, November 2016, p. 55.

37. *Military and Security Developments Involving the Democratic People's Republic of Korea 2015*, *op. cit.*, p. 10-14; E. Chanlett-Avery, I. E. Rinehart, M. B. D. Nikitin, and S. Park, *North Korea: U.S. Relations, Nuclear Diplomacy, and Internal Situation*, *op. cit.*, p. 13-18; and J. S. Bermudez, Jr., "North Korea's Chemical Warfare Capabilities," *38 North*, October 10, 2013, available at: <http://38north.org>.

conventional advantage. Proclamations about the importance of nuclear forces in the constitution, in new laws, and in core party statements and documents have been matched by a shift in the allocation of North Korea's limited resources. North Korea's *Korean Central News Agency* has reported that North Korea will bolster its "war deterrent without increasing defense expenditures" and that one of the benefits of having nuclear forces is that North Korea can "drastically cut down investment into manufacturing conventional weapons but channel more fund[s] into developing the economy."³⁸ There are also indications that Pyongyang's munitions industry has prioritized the production of medium- and long-range, nuclear-related capabilities over shorter-range conventional capabilities.³⁹ Therefore, it is likely that over time the conventional gap will grow as North Korea focuses its military development and modernization on its nuclear forces, while trying to expand its fledgling economy. Pyongyang will be under pressure to use nuclear coercion to deter the United States and South Korea from engaging in a conventional conflict or, if that fails, to terminate a conventional war that is underway.⁴⁰ Even more troubling, North Korea will have an incentive to opt for a nuclear doctrine that emphasizes early nuclear use in an attempt to persuade the United States and South Korea that even a limited war could escalate quickly and uncontrollably.

Third, North Korea has shown that it is unlikely to rely on China's protection for its security. There are at least two ways that North Korea could, in theory, attempt to use its nuclear program to catalyze Chinese support. First, Pyongyang could use the possibility of its own nuclear weapons development as a way to persuade Beijing to offer more military support.⁴¹ Under this strategy, Pyongyang would offer to restrain its nuclear development in exchange for greater relations with and protection from Beijing. Under a second catalytic strategy, North Korea could opt for a limited nuclear capability that falls short of assured retaliation, but that, through its mere existence, would scare China into intervening on its behalf to avoid nuclear escalation.⁴² There is little evidence that either of

38. "WPK's Line on Simultaneously Carrying on Economic Construction, Building of Nuclear Forces Is Justifiable", *Korean Central News Agency*, April 3, 2014, available at: www.kcna.kp.

39. A. Y. Mansourov, "Kim Jong Un's Nuclear Doctrine and Strategy: What Everyone Needs to Know", NAPSNet Special Reports, *Nautilus Institute*, December 16, 2014, available at: <http://nautilus.org>.

40. K. A. Lieber and D. G. Press, *Coercive Nuclear Campaigns in the 21st Century: Understanding Adversary Incentives and Options for Nuclear Escalation*, Monterey, CA, Naval Postgraduate School Center on Contemporary Conflict, January 2013; and K. A. Lieber and D. G. Press, "The Next Korean War", *Foreign Affairs*, April 1, 2013, available at: www.foreignaffairs.com.

41. V. Narang, "Nuclear Strategies of Emerging Nuclear Powers", *op. cit.* p. 89.

42. S. Smith, "North Korea's Evolving Nuclear Strategy", *op. cit.*

these approaches have achieved significant traction in Pyongyang. Going back to Kim Il Sung, maintaining political and military independence has been a core part of the Kim regime's ideology.⁴³

Moreover, recent developments may have made North Korea even less willing to rely on support from China. For decades, Beijing's primary objective on the Korean peninsula has been stability. Despite the Kim regime's many flaws, China sees North Korea as a valuable buffer between it and U.S. military forces in South Korea. Eight years after the conclusion of the Korean War, Beijing made its commitment to Pyongyang explicit when it agreed to a mutual assistance treaty that commits China to "render military and other assistance" if North Korea is "subjected to the armed attack by any state."⁴⁴

But with regard to North Korea's nuclear program, China has a number of interests that it seeks to balance. Beijing hopes to prevent regional instability, maintain political and economic relations with North Korea, prevent a spillover into China's domestic affairs, and maintain China's international nonproliferation reputation.⁴⁵ China has always attempted to balance its competing interests, but in recent years an increasing number of Chinese officials and experts have been more openly critical of the Kim Jong Un regime and proposed restraining and even abandoning Pyongyang.⁴⁶ Beijing under Xi Jinping has continued China's policy of attempting to control North Korea and has put increased pressure on Pyongyang to avoid provocations and nuclear and missile tests.⁴⁷ China has supported significant UN sanctions designed to limit North Korea's nuclear and missile program. It also has communicated to Pyongyang that it would not provide support if North Korea initiated a conflict with South Korea.⁴⁸

43. V. Jackson, "Alliance Military Strategy in the Shadow of North Korea's Nuclear Futures", *North Korea's Nuclear Futures Series*, US-Korea Institute at SAIS, September 2015, p. 9.

44. "DPRK-China Treaty of Friendship, Cooperation and Mutual Assistance", *Marxists.org*, July 11, 1961, available at: www.marxists.org.

45. F. Jishe, "Nuclear Nonproliferation: China's Thinking and Practices" in L. Bin and T. Zhao (eds.), *Understanding Chinese Nuclear Thinking*, Washington, D.C., Carnegie Endowment for International Peace, 2016, p. 209-210.

46. N. Beauchamp-Mustafaga, "Deciphering PLA Media Commentaries on North Korea: Going Rogue or Staying on Script", *Academic Paper Series*, Korea Economic Institute of America, July 22, 2015, available at: www.keia.org.

47. H. N. Kim, "China's Policy Toward North Korea Under the Xi Jinping Leadership", *North Korean Review*, vol. 9, No.2, Fall 2013, p. 83-98.

48. S. Snyder and D. Draudt, "First Mover Responses to North Korean Instability: The Intervention-Legitimacy Paradox", *International Journal of Korean Unification Studies*, vol. 24, No.2, 2015, p. 114.

The Kim regime, however, has ignored Chinese criticism and pushed forward with its nuclear weapons program. It appears that Pyongyang has calculated that nuclear weapons are more valuable than whatever protection that China is willing to offer. A possible effect of the decline in China-North Korea relations is that Pyongyang may view Chinese political and military support in a crisis or conflict as less certain. As a result, North Korea may acknowledge its weaker position and choose prudence over bold action in a future crisis. Alternatively, Pyongyang may pursue a military posture and doctrine that would allow North Korea to achieve its strategic and military objectives in a conflict without the support of outside powers.

Predicting North Korea's Potential Moves

While it is clear that North Korea has prioritized the development of its nuclear weapons program and plans to field an operational force, there remains uncertainty about what strategy North Korea will pursue. What are Kim Jong Un's strategic objectives? And how might nuclear weapons contribute to them? This section outlines the objectives and strategies that the Kim Jong Un regime is likely to pursue once it develops and deploys more advanced nuclear weapons and ballistic missiles.

North Korean objectives and Korean peninsula conflict scenarios

The Kim regime has consistently pursued two primary objectives: ensuring the survival of the Kim family and its loyalists and reunifying the Korean peninsula under Pyongyang's terms. To achieve these objectives, the Kim regime has attempted to eliminate internal threats to the regime, maintain a military sufficient to achieve unification, and deter U.S. and ROK aggression with a combination of military capabilities.⁴⁹ Pyongyang demonstrated in 1950 that it was willing to use military force and run risks to try to achieve unification, but has been deterred from trying again for the last sixty years. The U.S. Department of Defense assesses that "North Korea uses reunification with South Korea as a key component of its national identity narrative to validate its strategy and policies, and to justify sacrifices demanded of the populace. However, North Korea's leaders almost certainly recognize that achieving reunification under North Korean control is, for the foreseeable future, unattainable."⁵⁰ Yet the Kim regime has nonetheless been willing to use coercive diplomacy to achieve more limited revisionist objectives. Pyongyang has regularly attempted to use military threats and violent provocations to consolidate power

49. J. S. Bermudez, Jr., "North Korea and the Political Use of Strategic Culture" in K. M. Kartchner, J. L. Johnson, and J. A. Larsen (eds.), *Strategic Culture and Weapons of Mass Destruction: Culturally Based Insights into Comparative National Security Policymaking*, New York, NY, Palgrave Macmillan, 2009, p. 189.

50. *Military and Security Developments Involving the Democratic People's Republic of Korea 2015*, *op. cit.*, p. 5.

domestically, influence politics in South Korea, gain diplomatic advantages, and extract political and economic concessions.⁵¹

While there is general agreement among experts that the Kim regime has revisionist objectives, there is disagreement about the extent to which Pyongyang would be willing to run risks to achieve them once it acquires a more advanced nuclear weapons capability. There are those who argue that North Korea likely will be risk-averse, leading it to adopt a defensive strategy that seeks to maintain the survival of the regime and deter invasion while carrying out only very limited violent provocations.⁵² They point to North Korea's history of calibrating its provocations to avoid major war and Pyongyang's statements that its nuclear weapons are meant to deter aggression. If this camp is correct, then North Korea will likely seek a nuclear posture designed to deter the United States and South Korea from pursuing regime change. As a result, North Korea might develop a minimal retaliatory force to achieve its deterrence objectives without straining its limited resources.⁵³ But more likely, Pyongyang would go further and develop warfighting capabilities designed to support limited deterrence.

On the other side, there are those who argue that Pyongyang, while deterred from seeking unification or carrying out major violent provocations today, may be more willing to take risks to achieve its revisionist objectives once it has a more advanced nuclear weapons force.⁵⁴ They point to North Korea's revolutionary ideology, penchant for risk-taking, and frequent nuclear threats. If this camp is correct, then North Korea will likely seek a nuclear weapons posture that deters invasion but also supports a revisionist strategy that aims to change the political and territorial arrangement on the Korean peninsula through coercive diplomacy, military coercion, or conquest.

51. *Ibid.*, p. 6; K. E. Gause, *North Korean Calculus in the Maritime Environment*, *op. cit.*; K. E. Gause, *North Korea's Provocation and Escalation Calculus*, *op. cit.*; D. S. Maxwell, "A Strategy for Dealing with North Korea's Provocations", *International Journal of Korean Studies*, vol. 17, No.1, Spring 2013, p. 73-74; and S. M. Terry, "North Korea's Strategic Goals and Policy towards the United States and South Korea", *International Journal of Korean Studies*, vol. 17, No.2, Fall/Winter 2013, p. 63-92.

52. R. Carlin and R. Jervis, "Nuclear North Korea: How Will It Behave?", *North Korea's Nuclear Futures Series*, US-Korea Institute at SAIS, October 2015.

53. T. Roehrig, "North Korea's Nuclear Weapons Program: Motivations, Strategy, and Doctrine," in T. Yoshihara and J. Holmes (eds.), *Strategy in the Second Nuclear Age: Power, Ambition, and the Ultimate Weapon*, Washington, D.C., Georgetown University Press, 2012, p. 91-92.

54. S. Smith, "Implications for US Extended Deterrence and Assurance in East Asia", *North Korea's Nuclear Future Series*, US-Korea Institute at SAIS, November 2015.

If the pessimists are correct, then North Korea may again try to achieve unification by force.⁵⁵ Uniting the peninsula remains an explicit goal of the Kim regime, and in May 2016 Kim Jong Un said that “[North Korea] should not allow the national split to persist any longer but reunify the country in our generation without fail.”⁵⁶ A North Korean attempt to unify the peninsula likely would try to use surprise and speed to achieve an operational advantage and then put the burden of escalation on its opponents.⁵⁷ For example, North Korea could use artillery barrages and Special Forces to foment chaos, then try to capture Seoul before U.S. reinforcements arrive. With Seoul in hand, North Korea could threaten nuclear strikes against U.S. and allied forces or population centers, with the goal of convincing the United States to back down or persuading Japan to deny the United States the use of bases on its territory.⁵⁸ In another scenario, North Korea could initiate a conflict with limited aims, achieve greater operational success than expected, and then expand its goals and seek unification. Regardless, ordering a unification campaign would be a risky gamble given combined U.S.-South Korean military superiority and the potential that the war could go badly and put the Kim regime at risk. Yet it remains possible that Kim’s inner circle could convince itself that North Korea has a realistic theory of victory, particularly once it has a better plan for using nuclear coercion to manage escalation.

But even if Pyongyang calculates that unification is a bridge too far, North Korea might still attempt to use nuclear coercion to achieve limited revisionist objectives. North Korea has a history of using overt provocations to try to challenge boundaries and test the resolve of Seoul and Washington. One particular area of focus has been the maritime Northern Limit Line (NLL), which Pyongyang has rejected since 1973 and wants moved further south. From 1999 to 2011 a number of armed clashes between North and South Korea resulted from Pyongyang’s attempts to challenge the boundary and protest U.S.-South Korean military exercises,

55. There have been some indications that Pyongyang views the development of nuclear weapons as a component of a long-term strategy of achieving unification. See S. Smith, “Implications for US Extended Deterrence and Assurance in East Asia”, *op. cit.*, p. 9; and A. Y. Mansourov, “Kim Jong Un’s Nuclear Doctrine and Strategy”, *op. cit.*

56. “Line of National Reunification Reflects Kim Jong Un’s Ardent Patriotism”, *Korean Central News Agency*, May 17, 2016, available at: www.kcna.kp.

57. As noted above, North Korea likely does not have the conventional military capabilities to execute such a strategy today. However, as North Korea’s nuclear capabilities advance it could become overconfident in its ability to coerce South Korea, United States, and Japan. Alternatively, once North Korea has “finished” developing its nuclear weapons force, it could shift more resources back to conventional forces, making an offensive conventional posture, backed by nuclear capabilities to control escalation, more credible.

58. V. Cha, “North Korea’s Weapons of Mass Destruction: Badges, Shields, or Swords?”, *Political Science Quarterly*, vol. 117, No.2, 2002, p. 224.

including exchanges of fire in June 1999, June 2002, November 2004, and November 2009, the sinking of the ROK *Cheonan* in March 2010, and the shelling of Yeonpyeong Island in November 2010.⁵⁹

With a more advanced nuclear weapons force, North Korea may expand its ambitions and seek to conquer territory. Beyond any strategic gain from the territory acquired, a successful operation would weaken the U.S.-ROK alliance. One scenario envisioned is a North Korean assault against a small South Korean island south of the NLL, but close to the North Korean coast (such as Daechong or Baengnyeongdo).⁶⁰ It is possible that North Korea's military could capitalize on surprise and quickly secure an island. Yet even in this advantageous position, Pyongyang would understand that a fully-mobilized U.S.-ROK counter-offensive would overturn any gains that North Korea achieved. Therefore, North Korea might attempt to consolidate its gains by threatening escalation, such as artillery barrages on Seoul or nuclear use, if South Korea and the United States were to attempt to restore the previous status quo.

Even if the optimists are correct and North Korea is unlikely to invade South Korea, there are still a number of ways renewed hostilities on the Korean peninsula could start and escalate. According to In-Bum Chun, who served as a Lieutenant General in the Republic of Korea Army, "War remains a real possibility based on the unique nature of the North Korean system, the massive forces arrayed in close proximity on both sides of the DMZ, the extensive militarization of North Korean society, and the extent of the Kim regime's military preparations."⁶¹ A low-level provocation—similar to the many NLL clashes or the August 2015 landmine incident—could escalate. With a more advanced nuclear weapons arsenal, Pyongyang is likely to be more confident that it can provoke and coerce to gain a psychological advantage in diplomacy and extract concessions.⁶² Politics in Pyongyang will provide incentives to pursue provocations, and many in Seoul are eager to teach North Korea a lesson. South Korean defense experts at a 2015 unofficial dialogue indicated that "after five years of North Korean provocations, Seoul is itching to strike back at North Korea

59. K. E. Gause, *North Korean Calculus in the Maritime Environment*, *op. cit.* p. 11-25.

60. This speculative scenario is described in B. Glosserman, "Struggling with the Gray Zone: Trilateral Cooperation to Strengthen Deterrence in Northeast Asia", *Issues & Insight*, vol. 15, No.13, October 2015, p. C1-C2. However, it is important to note that North Korea has never claimed any of the five South Korean islands near the NLL.

61. I. B. Chun, "North Korea's Offset Strategy" in P. M. Cronin (ed.), *Breakthrough on the Peninsula: Third Offset Strategies and the Future Defense of Korea*, Washington, D.C., Center for a New American Security, November 2016, p. 41-42.

62. *Military and Security Developments Involving the Democratic People's Republic of Korea 2015*, *op. cit.*, p.6.

decisively (and disproportionately).”⁶³ If Seoul did so, Pyongyang may feel compelled to respond in-kind or escalate further, leading to an upward spiral. In another scenario, escalation might be less deliberate. In a period of high tension, Seoul and Pyongyang are likely to fear preemption. Whether through misperception or miscalculation, it is easy to envision a crisis escalating further than North Korea, South Korea, or the United States originally intended. If a crisis or provocation escalated to a conventional conflict, Pyongyang likely would find itself on the defensive as a result of its conventional military inferiority. The Kim regime would have a strong incentive to turn to nuclear coercion to try to terminate the conflict before Kim is killed or South Korean and allied forces reach Pyongyang.

North Korea's theory of victory and the implication for its nuclear strategy and posture

Pyongyang's developing nuclear capabilities fit within its larger strategy of deterring the United States and South Korea from pursuing regime change and for compelling the United States, South Korea, Japan, and others to accede to North Korean demands. Like other U.S. adversaries, North Korea has studied the American way of war and has been developing an approach to counter it. With a more advanced nuclear arsenal, North Korea will have additional options to challenge the political will and military capacity of the United States and its allies. Pyongyang may come to think that it has a plausible way to achieve its objectives while controlling escalation: in other words, a theory of victory.

In the early 1990s, North Korean officials told U.S. diplomats that they knew that the United States would attempt to build up forces before it invaded North Korea. They vowed that Pyongyang would never allow this to happen.⁶⁴ To deny the United States the ability to mass forces in the theater, North Korea could use a combination of conventional forces, offensive cyber weapons, chemical munitions, and other military capabilities to target U.S. staging areas, particularly those in Japan. The Kim regime frequently threatens preemptive strikes on U.S. military bases, including with nuclear weapons. In August 2016 a North Korean foreign ministry spokesman warned, “If the U.S. goes reckless, misjudging the trend of the times and the strategic position of the DPRK, all the U.S.

64. B. Glosserman, “Struggling with the Gray Zone”, *op. cit.*, p. VI.

64. V. Jackson, “Alliance Military Strategy in the Shadow of North Korea's Nuclear Futures”, *op. cit.*, p. 16.

military bases in the operational theatre in the Pacific including Guam will face ruin in the face of all-out and substantial attack to be mounted by the army of the DPRK.”⁶⁵ North Korea's goal would be to delay the large-scale flow of forces, keep surface ships at a distance, challenge air superiority, and disrupt logistical support.⁶⁶

A second component of Pyongyang's anti-access strategy would be to challenge the political cohesion of U.S. alliances, and even more so the U.S.-Japan-ROK trilateral relationship. Pyongyang's main lesson from the two Gulf Wars, according to one defector, was that North Korea could defeat the United States by convincing U.S. allies whose consent the United States would require to prosecute a war against North Korea to withhold support.⁶⁷ Throughout its history, the Kim regime has attempted to divide its opponents and play them off each other. In July 2016, a North Korean National Defense Commission spokesman proclaimed that “[North Korea's] way of achieving peace is to mount a prompt and merciless preemptive attack of our style on any enemy no matter from where it is coming to disturb peace which is so dear to us.”⁶⁸ With a more sophisticated nuclear force, North Korea could threaten nuclear strikes on major cities to pressure Japan or South Korea to restrict the operations of U.S. military forces on their territory. North Korea knows that the relationship between Japan and South Korea is weak and could attempt to drive a wedge in the collective resolve of the U.S.-Japan-ROK triumvirate. Another more direct option for North Korea would be to threaten nuclear strikes against American cities to compel the United States to back down.

North Korea has limited means of projecting power far beyond the DMZ. It would likely rely on medium-range ballistic missiles to target facilities such as the Port of Busan in South Korea and U.S. and UN military bases in Japan and intermediate- and intercontinental-range ballistic missiles to target bases on Guam and in the continental United States. Pyongyang could target these facilities with conventional ballistic missiles or chemical weapons, but will likely have a limited inventory of missiles that are not nearly as accurate as U.S. precision-guided munitions.

65. “DPRK Foreign Ministry Spokesman Denounces U.S. Nuclear Arms Buildup”, *Korean Central News Agency*, August 17, 2016, available at: www.kcna.kp. See also “Preemptive Nuclear Strike Is Not Monopoly of U.S.: KCNA Commentary”, *Korean Central News Agency*, August 13, 2016, available at: www.kcna.kp.

66. V. Jackson, “Alliance Military Strategy in the Shadow of North Korea's Nuclear Futures”, *op. cit.*, p. 11-12.

67. Quoted in J. S. Bermudez, Jr., “North Korea and the Political Use of Strategic Culture”, *op. cit.*, p. 196.

68. “NDC Spokesman Warns U.S. of Nuclear Counter-action”, *Korean Central News Agency*, June 19, 2016, available at: www.kcna.kp.

Using nuclear rather than conventional payloads would allow Pyongyang to destroy a larger area, which would make up for deficiencies in missile accuracy, and would cause more lasting damage due to radioactive fallout, making facility reconstitution more difficult. Pyongyang made this threat explicit in July 2016 when it announced that the North Korean military conducted exercises simulating nuclear strikes against ports and airfields in South Korea.⁶⁹ More important, such an arsenal would allow North Korea to credibly threaten massive destruction against the United States, Japan, and almost any other country that opposes North Korea's interests. Nuclear weapons have a particularly strong coercive effect because of the scale of destruction they can achieve in such a short period of time and the potential for continued, invisible damage from radioactive contamination. Even today, with its limited nuclear force, Pyongyang has a penchant for issuing semi-frequent nuclear threats because of the psychological impact they have in South Korea and around the world.⁷⁰

Unlike China, which has consistently argued that its nuclear weapons serve the sole purpose of deterring a nuclear attack,⁷¹ North Korea sees its nuclear weapons capability as an instrument for deterring its enemies from pursuing regime change and for terminating conventional wars on terms favorable to Pyongyang. If non-nuclear military operations proved insufficient, North Korea's strategy likely would be to use nuclear threats and, in extremis, nuclear weapons in limited, discriminate ways to attempt to persuade the United States, South Korea, and Japan that the costs of overturning North Korean conventional military gains or overthrowing the Kim regime are not worth it. Pyongyang would have a number of gradually more escalatory nuclear options to choose from—such as threats of nuclear strikes, a nuclear test in North Korea, a nuclear demonstration shot over open ocean, a strike against a relatively remote military target, and a strike against a target in a major population center—depending on the circumstances. Executing each option, Pyongyang would attempt to demonstrate a propensity for controlled risk-taking while retaining its ability to inflict even more destruction. As North Korea moved up the escalation ladder, the United States and its allies would be forced to decide whether to continue to pursue their existing war objectives, limit their war objectives, or expand their war objectives.

69. J. Kim, "North Korea Says Missile Test Simulated Attack on South's Airfields", *Reuters*, July 20, 2016, available at: www.reuters.com.

70. P. Hayes and R. Cavazos, "North Korea's Nuclear Force Roadmap: Hard Choices," *NAPSNet Special Reports*, Nautilus Institute, March 2, 2015, available at: <http://nautilus.org>.

71. S. Xiangli, "The Development of Nuclear Weapons in China" in L. Bin and T. Zhao (eds.), *Understanding Chinese Nuclear Thinking*, Washington, D.C., Carnegie Endowment for International Peace, 2016, p. 79-101.

The Kim regime would be forced to maintain a difficult balance. In order to coerce the United States, South Korea, Japan, and others to limit their military response or back down, Pyongyang would need to credibly raise the specter of extremely high costs up to and including the use of nuclear weapons against major population centers. Pyongyang also would require a survivable nuclear warfighting capability able to hold at risk targets in South Korea, Japan, and the United States and a demonstrated capability and will to carry out nuclear strikes during a conventional conflict. At the same time, North Korea would need to exhibit restraint. Only by withholding certain actions, such as nuclear strikes against particular military targets or population centers, could Pyongyang hold those targets hostage and compel Washington, Seoul, and Tokyo to sue for peace.⁷² Moreover, Pyongyang would have to ensure that its opponents retain a plausible off-ramp by avoiding imposing too much destruction. If North Korea went too far, it could rally popular support in Seoul, Washington, and Tokyo for pursuing regime change in North Korea, even at the cost of potentially absorbing a nuclear strike.

While Pyongyang seems determined to achieve a nuclear posture that would make limited deterrence credible, there is, at least thus far, little evidence that North Korea envisions its nuclear weapons serving a tactical, battlefield role.⁷³ If this were the case, North Korea would develop low-yield nuclear weapons and deploy them on short-range nuclear delivery systems in order to demonstrate to Seoul and Washington that any conventional conflict could quickly go nuclear.⁷⁴ It may be that developing such capabilities is simply a lower priority, and Pyongyang will eventually deploy battlefield nuclear weapons.⁷⁵ Another possibility, however, is that the Kim regime does not believe that widespread deployment of battlefield nuclear weapons would be in its interest. Developing a tactical nuclear weapons capability would tax North Korea's limited resources and deploying such weapons would require sophisticated command and control arrangements and greater delegation, likely reducing Kim Jong Un's

72. B. Roberts, *The Case for U.S. Nuclear Weapons in the 21st Century*, *op. cit.*, p. 62-80.

73. V. Narang, "Nuclear Strategies of Emerging Nuclear Powers," *op. cit.*, p. 82 and V. Jackson, "Alliance Military Strategy in the Shadow of North Korea's Nuclear Futures?" *op. cit.*, p. 9.

74. For example, Pyongyang could fit its existing short-range ballistic missiles with nuclear weapons.

75. Victor Cha argues "North Korea's strategy is to become recognized as a full-fledged nuclear weapons state with the capacity to reach the United States homeland with ICBMs and to deter the U.S. on the peninsula with shorter-range, even battlefield use, nuclear weapons." V. D. Cha, "Assessing the North Korea Threat and U.S. Policy: Strategic Patience or Effective Deterrence?", Statement before the Senate Committee on Foreign Relations, Subcommittee on East Asia, the Pacific, and International Cyber security Policy, October 7, 2015, available at: www.foreign.senate.gov.

control over the regime's most treasured military capability.⁷⁶ Moreover, while deployment of tactical nuclear weapons could help deter invasion, it would simultaneously reduce Pyongyang's ability to calibrate nuclear coercion, making it more difficult to manage escalatory risk.

76. S. Smith, "North Korea's Evolving Nuclear Strategy", *op. cit.*, p. 17.

Elements of a Strategy for Achieving U.S. Objectives on the Korean Peninsula

If North Korea acquires a more advanced nuclear weapons force that is capable of striking targets in South Korea, Japan, Guam, and the continental United States, it will pose a difficult strategic challenge for the United States and its allies. As long as the United States values its alliances with South Korea and Japan, it must ensure that its extended deterrence commitments are credible and effective. Before North Korea deploys a nuclear arsenal that features reliable warheads with significant explosive yields, that are survivable and subject to consistent positive control, that can precisely deliver warheads in a wartime environment, and that can hold at risk targets as far away as the continental United States, the United States should work with South Korea and Japan to develop a tailored deterrence strategy for North Korea.

As North Korea's capabilities mature, the United States, South Korea, and Japan will need to develop a common understanding of what they want to deter and then develop a strategy for shaping North Korea's behavior during peacetime, crisis, and conflict. Now and in the future, the United States and South Korea's primary deterrence objective will be to prevent North Korea from invading and attempting to conquer South Korea. Both countries also will want to deter North Korea from initiating a limited war or carrying out military provocations. Japan will likely have similar deterrence objectives but will be more focused on North Korean threats against Japanese forces and territory. Furthermore, even if the United States, South Korea, and Japan fail to deter North Korea from initiating a provocation, limited war, or attempt at conquest, they will retain an interest in deterring North Korea from using nuclear weapons against their military forces and population centers.

Before determining *how* to deter North Korea, the a priori question is: *can* North Korea be deterred? Because North Korea is not well understood, some describe Kim Jong Un as a reckless leader who cannot be reasoned

with.⁷⁷ If Kim Jong Un were irrational, then it would not be worth trying to develop strategies to deter North Korea from taking particular actions. In that case, the only realistic military option for the United States and its allies in an escalating conventional war would be to try to limit damage and pursue regime change. But while North Korea has frequently demonstrated willingness to be bold and aggressive in its threats and provocations, it has attempted to achieve specific objectives while reducing the risk of escalation. The Kim regime's primary objective is, and will likely remain, regime survival. Joel Wit, who has had numerous interactions with the North Korean government over the last two decades, argues that, in fact, many North Korean officials can be characterized as nonideological, rational, calculating realists.⁷⁸ Moreover, Ken Gause, who has analyzed North Korean behavior since Kim Jong Un came to power, concludes that "contrary to the portrait of an impetuous leader who makes emotional decisions and lashes out at perceived threats, to date, Kim Jong-un has proven to be a pragmatic decision-maker—someone who may be able to be deterred at the upper end of the escalation scale."⁷⁹

Maintaining the option of limited war

If deterrence of conventional war fails and a conflict on the Korea peninsula escalates, North Korea would likely attempt to leverage its more advanced nuclear weapons arsenal by threatening to use nuclear weapons – or employing them in a precise, limited manner – to try to achieve its objectives without triggering a total war or nuclear retaliation. The United States, therefore, must be able to convince Pyongyang that it will not allow North Korea to "escalate [its] way out of failed conventional aggression"; this requires a strategy that both aims to deter or prevent North Korea from using nuclear weapons during a conventional conflict and, in a worst case scenario, to limit damage and achieve U.S. objectives after North Korea uses nuclear weapons.⁸⁰

In an escalating conflict with North Korea, the United States and its allies would have to consider two courses of action, both of which require prepared military capabilities and strategies if they are to be credible. One course would be to pursue regime change and limit damage by preempting

77. P. D. Shinkman, "Top U.S. Officer: Kim Jong Un Irrational, Unpredictable", *US News & World Report*, January 23, 2014, available at: www.usnews.com.

78. J. Wit, "How 'Crazy' Are the North Koreans?", *The New York Times*, January 9, 2016, available at: www.nytimes.com.

79. K. E. Gause, *North Korea's Provocation and Escalation Calculus*, op. cit., p. 47.

80. *Quadrennial Defense Review Report*, Arlington, VA, Office of the Secretary of Defense, February 2010, p. 13.

North Korea's nuclear and missile forces. The United States and its allies might calculate that North Korea cannot be deterred, that they cannot continue to live with the North Korean regime after what has transpired, or simply that they see an opening and want to take the opportunity to end the regime once and for all. A second course would be to attempt to achieve limited military objectives, such as retrieving the previous status quo or degrading portions of North Korea's military capabilities, while dissuading North Korea from nuclear threats or limited nuclear use by demonstrating to North Korea that the benefits of restraint and accommodation outweigh those of escalation. Such an option would maintain a credible path for North Korea to accept the pre-conflict status quo while threatening escalation if Pyongyang does not take the deal.

It will be tempting for the United States and South Korea to publicly dismiss the idea of fighting a limited war with a nuclear-armed North Korea and instead attempt to deter North Korea from initiating a conflict in the first place by emphasizing the potential for massive retaliation and regime change. Today, U.S. and South Korea officials often react to North Korean nuclear and military threats by highlighting that the U.S. response to any attack will be "overwhelming and effective."⁸¹ By creating uncertainty in Pyongyang about the U.S. response to limited war or nuclear use, the United States and South Korea complicate North Korea's decision calculus with the hope of inducing restraint. Just as important, issuing vague threats preserves decision-making space for U.S. and South Korean leaders should a conflict occur.

Disavowing limited war with a nuclear-armed North Korea, however, would have two major shortcomings. First, threatening massive retaliation might prove ineffective. In many circumstances, U.S. and South Korean threats to overthrow the Kim regime or retaliate overwhelmingly, including with nuclear weapons, may not be realistic or credible. James Wirtz identifies three potential sources of optimism by weaker states that could contribute to the failure of stronger states' deterrence threats.⁸² First, Pyongyang could come to believe that strategic surprise will allow it to present a *fait accompli* that would be costly to overturn. Second, Pyongyang could calculate that it can use international or domestic political opposition to get the United States and its allies to forgo or restrain the execution of their deterrent threats. Third, Pyongyang could determine that it can take advantage of moral or political constraints, such

81. Remarks at the U.S.-Republic of Korea 2+2 Ministerial Meeting, Department of State, October 19, 2016, available at: www.state.gov.

82. J. J. Wirtz, "Deterring the Weak: Problems and Prospects", *Proliferation Papers*, vol. 43, Fall 2012.

as an aversion to collateral damage, to get the United States and its allies to restrain their military options.

In a future conflict, Pyongyang may come to believe that, first, it has a higher stake than its enemies and, second, that it is more willing to run risks to achieve its objectives. A more advanced North Korean nuclear weapons arsenal will further engrain these perceptions as the scale of destruction that Pyongyang can threaten against South Korea, Japan, and the United States grows. Depending on what is at stake and how costly North Korean retaliation would likely be, there are likely to be circumstances in which the United States, South Korea, and Japan would be unable to muster the requisite political will to preempt North Korea's nuclear forces and pursue regime change. Therefore, North Korea might know that the United States *could* level and irradiate much of North Korea and that the United States and South Korea *could* remove the regime, but question whether Washington and Seoul *would* follow through with their threat if the associated costs include international condemnation, significant casualties, and a likely retaliatory nuclear strike against a major population center in South Korea, Japan, or the United States.⁸³ Alternatively, North Korea might be confident that the United States would respond in-kind to any nuclear use, but determine that it is willing to endure retaliation in order to stave off conventional defeat or consolidate military and political gains.

Second, by publicly dismissing the possibility of limited war in peacetime, the United States and its allies would limit their options during a conflict by making it difficult, if not impossible, to convince North Korea that their war objectives are limited. While the United States generally views itself as a restrained, cautious, status quo power, Pyongyang does not share that perception.⁸⁴ As a result, some analysts argue that if Pyongyang thinks a major conventional attack is imminent, it is likely to assume the worst—in this case, that the United States is pursuing regime change—and use nuclear weapons to avoid preemption.⁸⁵ Given these perceptions, the United States and South Korea only will be able to deter North Korea if they take care to assure North Korea that they are willing to accept conflict outcomes in which the Kim regime remains intact.⁸⁶ In addition to diplomatic signaling, the United States must, particularly when North

83. H. Ham and J. Lee, "North Korea's Nuclear Decision-making and Plausible Scenarios", *The Korean Journal of Defense Analysis*, vol. 25, No.3, September 2013, p. 411.

84. J. S. Bermudez, Jr., "North Korea and the Political Use of Strategic Culture", *op. cit.*, p. 190.

85. A. Y. Mansourov, "Kim Jong Un's Nuclear Doctrine and Strategy", *op. cit.*

86. D. Santoro and J. K. Warden, "America's Delicate Dance Between Deterrence and Assurance", *The National Interest*, February 1, 2016, available at: <http://nationalinterest.org>.

Korea is losing a conventional war, ensure that its military actions are targeted and limited, avoiding military operations that would likely be interpreted as a prelude to regime change.⁸⁷

If the United States and its allies do not have a credible limited war option during a conflict with a nuclear-armed North Korea, there are three potentially disastrous outcomes. The United States and its allies could find themselves in a conflict in which North Korea has limited objectives, acknowledge that their best course of action is limited war, and recognize that they have no way of effectively signaling to North Korea that their own war aims are limited. Therefore, they would be forced to choose between accommodation, on the one hand, and pursuing damage limitation and regime change, on the other. If they attempted to disarm North Korea's nuclear forces, the United States and its allies might eventually achieve their objectives but not before taking on more risk than they would like and massively increasing the human and economic costs of the war. If they instead chose accommodation, the United States and its allies would embolden North Korea and other U.S. adversaries to pursue further aggression backed by nuclear coercion. Alternatively, the United States and its allies could find themselves in the same situation but instead attempt to pursue a limited war strategy. In this scenario, the United States and its allies would restrain their use of military force to signal their limited intentions, but, having not set the groundwork limited war ahead of time, fail to convince North Korea that their objectives were restricted. As a result, North Korea would react as if they were pursuing regime change, while the United States and its allies, having self-limited their military actions, would not have carried out the most effective damage limitation strikes against North Korea's nuclear forces.

The United States and its allies, therefore, should publicly acknowledge they are willing to *either* fight a limited war with a nuclear-armed North Korea *or* pursue regime change, making it clear to Pyongyang what types of military actions it should expect if the United States is pursuing one set of objectives or the other. Making it explicit that the United States and its allies are willing and able to fight a limited war with North Korea would be more believable to Pyongyang and therefore serve as a more credible deterrent threat. A limited war option also would demonstrate that there are conflict scenarios in which the United States and South Korea would *not* pursue regime change, and thus avoid pushing the Kim regime into a corner. At the same time, the United States and its

87. V. A. Manzo, "After the First Shots", *op. cit.*, p. 91-100; K. A. Lieber and D. G. Press, *Coercive Nuclear Campaigns in the 21st Century*, *op. cit.*; and E. Colby, "America Must Prepare for 'Limited War'", *The National Interest*, November/December 2015, available at: <http://nationalinterest.org>.

allies should tell North Korea that if it challenges core U.S. and allied interests or shows irresponsible and unacceptable behavior, regime change remains an option. Issuing such a threat without identifying ahead of time what North Korean actions would cause them to choose one set of objectives or the other would maintain decisional flexibility for the United States and allies, while establishing the conditions for effective signaling during a crisis or conflict.

Allowing for the possibility of limited war with North Korea would, however, have one major downside. If South Korea and the United States conceded that they could be willing to keep their war objectives limited, North Korea would likely feel even more confident that they could control escalation in a future conflict and therefore may be emboldened to carry out violent provocations and limited war campaigns. In acknowledging the possibility of limited war with North Korea, the United States and its allies would be acknowledging the limits of deterrence by punishment. As a result, they would have to develop military capabilities, posture, and strategy that, first, would cause Pyongyang to question whether it could achieve its military objectives at an acceptable cost in a limited war and, second, would enable Washington, Seoul, and Tokyo to be confident that they can achieve their objectives in a war with North Korea at a cost that the leader in each country would find acceptable and be able to sell to the public.

Challenging North Korea's confidence in its theory of victory

To effectively deter a nuclear-armed North Korea, the United States and its allies need a layered deterrence strategy. Deterring Pyongyang must start with demonstrating a strong political bond between the United States and its allies. The understanding that the United States values its alliances and is willing to accept high costs to defend its allies will make Pyongyang more hesitant to initiate a conflict. Moreover, at the local, conventional level the United States needs to work with South Korea to maintain a robust, forward-deployed conventional military presence; strengthen the United Nations Combined Forces Command; and better prepare for limited war campaigns.⁸⁸ It also needs to give South Korea more freedom to respond forcefully to low-level provocations so that North Korea does not perceive

88. V. Jackson, "Preventing Nuclear War with North Korea", *Foreign Affairs*, September 11, 2016, available at: www.foreignaffairs.com and V. Jackson, "Alliance Military Strategy in the Shadow of North Korea's Nuclear Futures", *op. cit.*

that it has an advantage in resolve.⁸⁹ Finally, Washington and Seoul need to identify and threaten proportional retaliatory actions that would bother the Kim regime. If North Korea is unsure it can achieve its objectives at an acceptable cost in limited, local conflicts, it might think twice about provoking or taking military action.

But at the same time, the United States and its allies must challenge North Korea's confidence in its ability to use nuclear weapons in a limited, coercive fashion and signal that, regardless of the cost, nuclear coercion will not cause the United States, South Korea, or Japan to accommodate North Korea's interests. If North Korea lacks confidence that it can use nuclear coercion to intimidate the United States and South Korea, then it might not initiate a conflict in the first place or, if a war is already underway, it might seek accommodation rather than risk escalation.

First, the United States and its allies should challenge North Korea's ability to conduct limited nuclear strikes. If nuclear threats were to fail and North Korea used nuclear weapons to coerce the United States and its allies, Pyongyang might launch a nuclear strike with one or two nuclear weapons against a relatively remote military target such as a U.S. surface action group or a military base on Japan. Such a strike would have a significant military impact and demonstrate North Korean resolve, but would allow North Korea to argue that it exercised restraint. North Korea's goal would be to disrupt the flow of forces to the Korean peninsula and scare Washington, Tokyo, and Seoul while demonstrating willingness to control its nuclear use. Deploying layered missile defenses to protect U.S. and allied forces involved in a war on the Korean peninsula would challenge North Korea's strategy by making it more difficult for Pyongyang to achieve a nuclear effect on a target with only a handful of weapons.⁹⁰ The United States has already taken steps in this direction by deploying a Terminal High Altitude Area Defense (THAAD) battery in Guam and Standard Missile-3 (SM-3) interceptors aboard Aegis cruisers.⁹¹ In addition, the United States is making arrangements to deploy an additional THAAD battery in South Korea, cooperatively developing a new SM-3 interceptor with Japan, and pursuing additional technologies that are likely to make its missile defenses more reliable and cost effective. South Korea is

89. D. Santoro and J. K. Warden, "Assuring Japan and South Korea in the Second Nuclear Age", *The Washington Quarterly*, vol. 38, No.1, Spring 2015, p. 153-156.

90. J. K. Warden and B. Glosserman, "China's THAAD Gamble Is Unlikely to Pay Off", *The Diplomat*, April 15, 2015, available at: <http://thediplomat.com>.

91. The U.S. layered missile defense against North Korea also includes a Ground-Based Midcourse Defense (GMD) system deployed in Alaska and California. This homeland defense challenges potential North Korean coercion by making nuclear strikes against the continental United States more difficult.

also planning to develop its own indigenous missile defense system. If the United States and its allies have a credible layered defense in place, North Korea, when considering nuclear use against U.S. and allied forces or bases in the theater, would be forced to choose between a large nuclear strike that is more likely to penetrate missile defenses, but, because of its size, would increase pressure in the United States to respond more forcefully, on the one hand, and no nuclear use on the other. Given those options, Pyongyang may well calculate that the risk of escalation is too high and choose restraint.

Second, the United States and its allies should show Pyongyang that they can threaten North Korea's nuclear reserve. North Korea's nuclear coercion strategy requires it to threaten to use nuclear weapons or use them in a limited way, while keeping a significant force in reserve to hold U.S. and allied cities and forces hostage. To challenge North Korea's strategy, the United States must develop and deploy military capabilities that cause North Korea to question the survivability of its reserve. This task will be increasingly difficult as North Korea deploys larger quantities of nuclear-armed missiles on road-mobile transporter erector launchers (TEL), takes advantage of hardened, underground complexes, and sends ballistic missile submarines to sea. While North Korean mobile launchers will be difficult to track, the United States can make the problem more manageable by dedicating significant intelligence resources to maintaining the ability to find, fix, track, and target North Korean TELs.⁹² The United States should also deploy additional stealth fighters-bombers and potentially rail guns on the peninsula, explore options for using offensive cyber weapons to target aspects of Pyongyang's command and control for missiles, and pursue Conventional Prompt Global Strike systems to give it more options to disable and destroy North Korean missile launches.⁹³ It also should continue to encourage South Korea to deploy more capable conventional ballistic missiles.⁹⁴ In addition, the United States and its allies should track and hold at risk any North Korean submarines carrying

92. A. Long and B. Rittenhouse Green, "Stalking the Secure Second Strike: Intelligence, Counterforce, and Nuclear Strategy", *Journal of Strategic Studies*, vol. 38, No.1-2, 2015, p. 38-73.

93. J. R. Harvey, "Negating North Korea's Nukes", *Defense News*, February 15, 2016, available at: www.defensenews.com; P. M. Cronin and S. Lee, "The U.S.-ROK Alliance and the Third Offset Strategy", in P. M. Cronin (ed.), *Breakthrough on the Peninsula: Third Offset Strategies and the Future Defense of Korea*, Washington, D.C., Center for a New American Security, November 2016, p. 10-19; P. M. Cronin, "How the Third Offset (Think Railguns) Could Nullify North Korea's Missiles", *The National Interest*, August 26, 2016, available at: <http://nationalinterest.org>; and M. E. Bunn and V. Manzo, "Conventional Prompt Global Strike: Strategic Asset or Unusable Liability?", *Strategic Forum*, National Defense University, February 2011, available at: <http://ndupress.ndu.edu>.

94. C. Sang-Hun, "U.S. Agrees to Let South Korea Extend Range of Ballistic Missiles", *The New York Times*, October 7, 2012, available at: www.nytimes.com.

nuclear-armed SLBMs by investing in anti-submarine warfare capabilities. If U.S. and allied capabilities cause North Korea to question whether it could maintain a survivable nuclear force in reserve, then Pyongyang might calculate that accommodation would be preferable to the risk that the United States and its allies preempt North Korea's nuclear forces and pursue regime change.

From a deterrence perspective, it would be better for the United States and its allies to hold at risk North Korea's nuclear forces with conventional weapons so there would be less doubt in Pyongyang about their willingness to execute a strike. But as North Korea's nuclear arsenal expands and becomes more sophisticated, the United States may require nuclear weapons to target mobile launchers and deeply buried facilities in certain wartime conditions.⁹⁵ Therefore, the United States could enhance deterrence by maintaining nuclear capabilities optimized for counterforce strikes against North Korea's deployed nuclear forces.⁹⁶ The threat of U.S. nuclear strikes would only be credible, however, if Pyongyang believed that U.S. nuclear capabilities were usable.

Third, the United States, South Korea, and Japan should attempt to convince North Korea that nuclear coercion would not cause them to capitulate. North Korea's theory of victory would depend on creating a perception that Pyongyang is more willing to run nuclear risks and, if necessary, absorb nuclear costs than Seoul, Tokyo, or Washington. To counter this perception, the United States and its allies should demonstrate that they have the capability and will to pursue their war objectives even after North Korea employs nuclear weapons. To start, they should increase the resiliency of their basing structure in Korea and Japan by maintaining a geographically diverse set of hardened ports and air bases, preparing to conduct operations from different bases on short notice so that individual bases are less lucrative targets for Pyongyang, and deploying additional missile defenses.⁹⁷ More important, the United States, Japan, and South Korea need to demonstrate that they have the will to continue fighting even after the nuclear threshold has been crossed. Public statements would contribute to the perception of allied resolve, but visible exercises would send a clearer, more decisive signal to Pyongyang. If the United States,

95. A. Long, "U.S. Strategic Nuclear Targeting Policy: Necessity and Damage Limitation", *H-Diplo/ISSF Policy Roundtable 1-4 (2016) on U.S. Nuclear Policy*, December 22, 2016, available at: <https://issforum.org>.

96. K. A. Lieber and D. G. Press, "Nuclear Weapons in the New Era of Counterforce", *H-Diplo/ISSF Policy Roundtable 1-4 (2016) on U.S. Nuclear Policy*, December 22, 2016, available at: <https://issforum.org>.

97. V. Jackson, "Alliance Military Strategy in the Shadow of North Korea's Nuclear Futures", *op. cit.*, p. 11-15.

South Korea, and Japan harden their military facilities against radiation, electromagnetic pulse (EMP), and other nuclear effects and train and equip their military forces to operate in a weapon of mass destruction environment, North Korea might reconsider the effectiveness of nuclear coercion.

Fourth, the United States and its allies must develop flexible deterrent options that will shape North Korea's assessments of likely costs and risks during a conflict. If Pyongyang initiates a conventional war or uses nuclear coercion to try to terminate a conflict, it will do so based on an assessment of the likelihood of achieving its objectives, the likely costs associated with particular actions, and the anticipated response of its opponents. Traditionally, the United States has signaled resolve by showing force. After North Korea's fourth and fifth nuclear tests, the United States flew bombers over the Korean peninsula to remind Pyongyang and Seoul of U.S. military capabilities. Unfortunately, these flyovers have become the routine U.S. response to North Korean provocations. As a result, in a true crisis or escalating conflict, North Korea will see similar nuclear and conventional signaling as run-of-the-mill, not a sign that the United States is more resolved to or capable of opposing North Korean aggression.⁹⁸

To alter Pyongyang's calculus and induce restraint, the United States and its allies would need to upend North Korea's assumptions about their capability and will. One option would be for the United States to reveal and demonstrate a military capability of which Pyongyang was previously unaware.⁹⁹ If the capability could help the United States hold North Korea's nuclear forces at risk, it might change North Korea's evaluation of the likely success of its nuclear coercion strategy. A second option would be to respond to nuclear coercion by conducting a limited nuclear strike against a specific military target, such as a nuclear-armed missile TEL. By demonstrating the capability and will to use nuclear weapons in a counterforce strike, the United States would show resolve and cause North Korea to question the survivability of its nuclear forces. A third option would be to declare a clear red line. The United States and its allies could, for example, threaten to disarm North Korea's nuclear forces and pursue regime change if North Korea used a nuclear weapon against any land-based target. While North Korea may be skeptical of the credibility of U.S. threats issued in peacetime, a specific U.S. commitment to retaliate in a particular way to a particular action during a conflict would put the U.S.

98. V. Jackson, "The Trouble With the US Bomber Overflight Against North Korea", *The Diplomat*, January 12, 2016, available at: <http://thediplomat.com>.

99. The benefit of revealing a capability to deter North Korea would have to be balanced against the cost of potentially reducing the capability's effectiveness in a future conflict.

president's credibility on the line and make the deterrent threat far more credible.¹⁰⁰

Fifth, the United States and its allies should attempt to use China to shape North Korea's calculations about whether to pursue nuclear coercion. Despite differences between Beijing and Pyongyang over North Korea's nuclear weapons program and provocations, China is unlikely to completely abandon North Korea and will have significant interest in the outcome of any future conflict between North and South Korea.¹⁰¹ Indeed, convincing Beijing to enter the conflict on North Korea's behalf may be the most realistic way for the Kim regime to escape a conventional war with the United States and its allies intact. Therefore, the United States and its allies should, in peacetime, persuade Beijing to condemn any attempt by Pyongyang to use nuclear coercion during a conventional conflict, and in particular any first nuclear first use. China has long been an advocate of no-first-use of nuclear weapons and may be amenable to abandoning North Korea if Pyongyang were the first country to use a nuclear weapon since 1945. To convince China, the United States could offer to not use nuclear weapons in any future conflict between North and South Korea except to defend against or respond to a North Korea nuclear strike.¹⁰² If the United States secured such a commitment from China, it would gain two advantages. First, it would constrain North Korea. If Pyongyang knew that its two potential paths to survival—nuclear coercion and rescue by Beijing—were mutually exclusive, it would be more hesitant to risk nuclear brinkmanship. Second, if China made such a commitment and North Korea nonetheless broke the nuclear taboo, it would be politically easier for Beijing to abandon Pyongyang.

100. Issuing such a red line would not come without risk. If Pyongyang decided to challenge the threat, Washington would be left with the choice of either backing down and losing credibility or feeling compelled to escalate.

101. Z. Jiyong, "The North Korea Problem and China: Interests, Debates, and Roadmaps", in U. Vyas, C. C. Chen, and D. Roy (ed.), *The North Korea Crisis and Regional Responses*, Honolulu, HI, East-West Center, 2015.

102. In this formulation, the United States would still reserve the right to use nuclear weapons to preempt an imminent nuclear strike by North Korea. Another option would be for Washington to go further and offer to issue a reciprocal no-first-use pledge for conflicts on the Korean peninsula. Such a commitment, however, might weaken deterrence and unnerve U.S. allies.

The importance of coordinating among allies

The effectiveness of cooperation among the United States, South Korea, and Japan is likely to determine whether deterrence of a nuclear-armed North Korea succeeds or fails. Deterrence theorist Thérèse Delpech argues: “Not even knowing what oneself is willing to do, and being perceived in this way, is dangerous; such uncertainty in today’s Western leadership may generate new kinds of nuclear blackmail or surprise attack.”¹⁰³ This insight applies even more so to coalitions that rely on coordination before acting. To counter this perception, the United States must work with South Korea and Japan, individually and trilaterally, to develop a common strategy, supported by complementary capabilities and plans. In the last eight years, Washington has made significant progress on this front, establishing regular, formal mechanisms to discuss extended deterrence and assurance with both Seoul and Tokyo. The trilateral relationship also took an important step forward when Seoul and Tokyo signed a long-delayed intelligence-sharing agreement.¹⁰⁴ However, the task will be even more difficult as North Korea acquires a more sophisticated nuclear weapons arsenal.

There are areas of potential disagreement that could cause problems during a conflict with a nuclear-armed North Korea. First, Washington, Seoul, and Tokyo could disagree about war objectives. Seoul, particularly if North Korea is on the defensive, may have a stronger interest in pursuing unification than either Washington or Tokyo. Alternatively, if North Korea were to employ nuclear weapons, Washington might be interested in pursuing regime change in order to set a precedent, while Seoul and Tokyo might prefer to keep the conflict limited to avoid further destruction. Second, Washington, Seoul, and Tokyo could disagree about deterrence and escalation management strategies. Seoul, for example, has developed a military strategy that attempts to deter North Korean conventional and nuclear missile launches by threatening retaliatory attacks against North Korea’s leadership.¹⁰⁵ There have also been indications that Tokyo and

103. T. Delpech, *Nuclear Deterrence in the 21st Century: Lessons from the Cold War for a New Era of Strategic Piracy*, Santa Monica, CA, RAND Corporation, 2012, p. 16.

104. A. Fifield, “Japan and South Korea Sign Long-awaited Intelligence-sharing Deal,” *The Washington Post*, November 23, 2016, available at: www.washingtonpost.com.

105. South Korea has established a three stage approach to counter North Korean conventional and nuclear missile attacks and is developing the capabilities to implement it. First, the “Kill Chain” detects signs of a launch and preempts if possible. Second, the Korea Air and Missile Defense (KAMD) protects against incoming missiles. Third, the “Korea Massive Punishment & Retaliation” (KMPR) retaliates against North Korean leadership. See H. Minegishi, “South Korea

Seoul believe that a North Korean nuclear strike must be met with a U.S. nuclear response.¹⁰⁶ However, it is possible that under certain circumstances, the United States would prefer to respond to a North Korean conventional or limited nuclear missile strike with a calibrated, conventional response, avoiding nuclear use or strikes against leadership that could be interpreted as a prelude to regime change.

Whether the United States, South Korea, and Japan arrive at a deterrence strategy similar to the one described in this article or something different, it will be essential that they manage their differences. Washington should work with Seoul and Tokyo to establish decision criteria for limiting their objectives in a war with North Korea, as opposed to attempting to disarm North Korea's nuclear capability or pursuing regime change. Would all three countries commit to pursuing regime change in response to *any* North Korean nuclear use? At what level of risk and under what circumstances would a damage limitation strike against North Korea's nuclear forces be appropriate? The three countries must also reach a common understanding of what military activities would be included in limited war versus total war with a nuclear-armed North Korea. What military operations would Washington, Seoul, and Tokyo forgo in order to signal that they intend to restore the status quo rather than topple the Kim regime?

Lack of coordination among the United States and its allies would send mixed signals to North Korea and undermine deterrence. First, it would embolden North Korea. North Korea's most likely path to victory in a future conflict is to use nuclear coercion to drive wedges between the United States, South Korea, and Japan. If the three are perceived to be a triumvirate, united in their resolve to oppose any North Korean aggression, then North Korea will be less likely to challenge their collective resolve. But if cracks are visible, North Korea may see a more viable path. Second, lack of coordination would disrupt options for deescalation. If the United States, South Korea, and Japan are working at cross purposes then North Korea may miss signs that it is being offered an off-ramp, leading to costly and possibly unnecessary escalation.

to bolster defenses against North", *Nikkei Asian Review*, October 19, 2016, available at: <http://asia.nikkei.com>.

106. S. Takahashi, "How Might Nuclear Deterrence Fail in a Limited Way and What Should We Do About It If It Does?", U.S. Strategic Command Deterrence Symposium, La Vista, NE, August 14, 2014, available at: www.youtube.com.

Conclusion

While the United States has reduced the role of nuclear weapons in its national security strategy since the end of the Cold War, one would be foolish to reason by mirror image and underestimate a nuclear-armed North Korea's willingness to use or threaten to use nuclear weapons in an attempt to coerce South Korea, the United States, and Japan. Brad Roberts, a former U.S. Deputy Assistant Secretary of Defense for Nuclear and Missile Defense Policy, notes, "Our historical experience of nuclear war as unthinkable should not blind us to the possibility that it has been made thinkable for the leaders of countries with a different historical experience and a different strategic problem."¹⁰⁷ With few friends and a great-power adversary that is conventionally superior, a nuclear-armed North Korea is likely to rely on nuclear threats and possibly even limited nuclear use to achieve its objectives.

To strengthen deterrence of a nuclear-armed North Korea while attempting to manage escalation, the United States and its allies need to think long and hard about their strategy to discourage Pyongyang from attempting to use nuclear weapons to terminate a conventional conflict. The stakes for the United States could hardly be higher. As North Korea improves its nuclear arsenal, Japanese and South Korean anxiety about the sufficiency of U.S. extended deterrence will become more intense.¹⁰⁸ Seoul and Tokyo will seek assurance from Washington that the United States is willing and able to deter and if necessary fight a nuclear-armed North Korea. If allies lose confidence in U.S. strategy, plans, or capabilities, they may seek other ways to provide for their security, such as bandwagoning with U.S. competitors or developing their own nuclear weapons.

Moreover, if a conflict with a nuclear-armed North Korea does occur, the United States and its allies will be forced to balance the risk of escalating to nuclear war against the cost of capitulating to nuclear coercion. Effectively maintaining that balance is essential, as the U.S.-led global alliance system, which brings untold benefits to the United States and the world, may hang in the balance. If the United States fails to effectively counter North Korean nuclear coercion, the overall credibility of

107. B. Roberts, *The Case for U.S. Nuclear Weapons in the 21st Century*, *op. cit.*, p. 6.

108. D. Santoro and J. K. Warden, "Assuring Japan and South Korea in the Second Nuclear Age", *op. cit.*, p. 147-165.

U.S. extended deterrence will be in doubt, emboldening U.S. adversaries and unnerving U.S. allies around the world.

The challenge of a nuclear-armed North Korea is clear and troubling, and Washington, Seoul, and Tokyo should redouble efforts to contain or roll back North Korea's nuclear weapons development. But even if such efforts fail, the United States and its allies have options that, if pursued vigorously and carefully, will increase their chances of containing a nuclear-armed North Korea and avoiding nuclear war.



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