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Citation: Japan and the World, Japan Digital Library (March 2017),

http://www2.jiiia.or.jp/en/digital_library/world.php

The North Korean Nuclear Issue and Japan's Deterrence Posture^{*}

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Introduction

After Pyongyang's violation and subsequently abandonment of the US-North Korean "Leap Day Deal" in February 2012 by the North's test-flight of its long-range ballistic missile under the guise of launching a satellite for "peaceful" purposes, few clues for resolving the North Korean nuclear issue have been found. Since the first nuclear crisis in the early 1990s, Japan, the United States and South Korea have sought a diplomatic solution to this issue, through a policy of "engagement and pressure." However, North Korea, which has continued to develop nuclear weapons capabilities, has repeatedly reneged on pledges relating to dismantlement of its nuclear weapons program, inter alia, the US-North Korean Agreed Framework in 1994 and the Joint Statement of the Fourth Round of the Six-Party Talks with its Initial and Second-Phased Actions for Implementation agreed in 2005 and 2007. Furthermore, Pyongyang has repeatedly trumpeted its possession and reinforcement of nuclear deterrent capabilities. For instance, North Korea adopted the "Law on Consolidating Position of Self-Defensive Nuclear Weapons State"¹ in April 2013; in October 2015 First Secretary (at that time) Kim Jong-un stated, "We must turn out powerful cutting-edge military hardware of our own style in larger numbers, constantly reinforce self-defensive nuclear deterrent and perfect the preparedness for an all-people resistance";² and the North conducted its fourth nuclear test on January 6, 2016, and another "satellite launch" on the following February 7.

A country's acquiescence to give up its strong determination to acquire nuclear weapons has often been associated with a change of its regime (at least in character). The North's denuclearization might also need to follow the same pattern. However, any attempts to overthrow the Kim dynasty from outside would pose a tremendous risk, and regime change from inside seems unlikely at this moment. Needless to say, given the possibility of a fierce counterattack by North Korea, a disarming strike against that country would not be an easily achievable option. In the current situation, where any efforts to resolve the North Korean nuclear issue are facing serious deadlock and North Korea is all the while continuing to develop nuclear weapons and ballistic missiles, what Tokyo, Washington and Seoul could pursue is—as measures for "containment and crisis management" while "engagement and pressure" have not necessarily worked as expected—to reinforce their deterrence postures (respectively and/or collectively)

^{*} This article was originally published as Hirofumi Tosaki "Kitachosen no Kakumondai to Nihon no Yokushitaisei: Genjo to Kadai" in the Japan Institute of International Affairs' Report on the Korean Peninsula (March 2016), Chapter 13, 139-155, http://www2.jiiia.or.jp/pdf/research/H27_Korean_Peninsula/13-tosaki.pdf

against the North's use of, or threat to use, nuclear weapons.

In that sense, from the establishing of the “National Security Strategy” (December 2013) and the Cabinet Decision on “Development of Seamless Security Legislation to Ensure Japan's Survival and Protect its People” (July 2014), to the revision of the “Guidelines for Japan-U.S. Defense Cooperation” (April 2015) and the enactment of the Japan's Legislation for Peace and Security (September 2015), the implications of Japan's security policy reforms are significant. Since the end of the Cold War, in order to be able to respond to a variety of events that cause changes in the international and regional security situation, Japan has reformed and revised its security policy in a gradual or patchwork manner. Against this backdrop, the North Korean nuclear issue has been one of the most important factors, leading to, *inter alia*, the enactment of the “Act on Measures to Ensure the Peace and Security of Japan in Perilous Situations in Areas Surrounding Japan” and contingency legislation, as well as various decisions relating to ballistic missile defense (BMD). Since the start of 2010s, because of diversifying security risks that Japan has been facing, including rising China's provocations possibly aiming to revising regional and international orders, the importance of North Korean issues in Japan's security has been relativized. Nevertheless, at least in the short term, North Korea remains the country that poses the most serious and destructive threat to Japan. Therefore, the North's nuclear issue was included as one of the important items for contemplating Japan's security policy reforms from 2013 to 2015, whose main purposes are to construct a security system that bridges seamlessly from peacetime to military contingency, establish a policy framework tailored to the emerging security environment, and comprehensively reorganize the legal and political distortions that arose from post-Cold War gradualism.³

The challenge that Tokyo needs to address subsequently is to embody those reforms in a way that actually bolsters Japan's deterrence posture. However, it is by no means an easy task to construct an effective deterrence posture against North Korea. Furthermore, it needs to be taken into account the paradox that strengthening the deterrence posture might create additional instability for Japan's security. This paper will focus on Japan's deterrence posture vis-à-vis a North Korea that has been increasing its nuclear and missile capabilities, and discuss the challenges of maintaining and strengthening this posture from the perspectives of, firstly, opacity, uncertainty and fluidity regarding North Korea's deterrence posture; secondly, the possibility of escalation of a conflict to a nuclear level as a result of the stability-instability paradox; and thirdly, the constraints and limitations that pertain to Japan's capabilities and policies.

1. North Korea's capability, intention and perception

The basic requirements for a deterrent to work are for a deterrer to have the “capability” and “intention” to inflict cost and risk upon a deterree that outweigh benefits of any unacceptable actions, and for the deterree to be “perceived” such a situation. In addition, in order to construct an effective deterrence posture, it is necessary for the deterrer to understand, to as high a degree as possible, the deterree's “capability,” “intention” and “perception.”⁴ In any case, a perfect understanding of these elements could not be expected, and in the case of North Korea in particular, “capability,” “intention” and “perception” are highly opaque, uncertain and fluid. This is one of the important factors that makes it very difficult to construct an effective deterrence posture against North Korea.

(1) Nuclear and missile capabilities

North Korea's nuclear forces could present an actual threat to Japan's security over a wide spectrum, from peacetime to military contingency. The aspect and severity of the threat is defined by North Korea's nuclear weapons capability, nuclear strategy and policy, and by developments such as that country's domestic and foreign political and security situations. Among them, the most important variables is the North's

“capability.” While Pyongyang certainly possesses at least nuclear explosive devices, as evidenced by its four consecutive nuclear tests, the actual extent of its nuclear weapons capability is not necessarily clear.

With regard to the numerical aspect, because of a lack of accurate information on the amount of fissile material for nuclear weapons that North Korea has produced and will be able to produce, there are various estimates on the number of its current and future nuclear weapons. For example, the Stockholm International Peace Research Institute (SIPRI), based on the estimated amount of weapons-grade plutonium that the North has produced, estimated the number of its nuclear weapons at the end of 2014 to be between six to eight.⁵ On the other hand, David Albright, adding in factors such as the number of North Korean uranium enrichment plants and the number and capability of centrifuges and their operational status, estimated the number of nuclear weapons to be either 10 or 11, or around 15 to 16.⁶

The pace of increase in the number of nuclear weapons will be significantly affected by the capacity to produce weapons-grade fissile material. Given that the 5MW graphite-moderated nuclear reactors used in the production of plutonium has operated sporadically,⁷ and that a 50MW experimental light water reactor has long been under construction, of immediate serious concern is the trend of uranium enrichment activity. The uranium enrichment facility to which North Korea invited US scientists in November 2010 was installed with around 2,000 centrifuges.⁸ The existence of other, clandestine facilities has been indicated, and in August 2015, Pyongyang reportedly commenced operational tests of a second uranium enrichment facility.⁹ However, enrichment plants can be built underground and the number of plants, and the number and capacity of the centrifuges, as well as their operational status are not hard to conceal, making it difficult to form an accurate estimate. With four million tons of uranium mine reserves (estimated), North Korea has seemed to expand its uranium enrichment capability at a rapid rate since 2013, including enhancing its capacity to mine and mill natural uranium.¹⁰ Based upon various estimates, Joel S. Wit and Sun Young Ahn predicted possible three scenarios on how many nuclear warheads North Korea could produce by 2020: the first is that it will possess approximately 20 warheads; the second is it will produce 50 warheads; and the third is a “worst case” scenario in which the number of nuclear warheads increases rapidly to 100, and North Korea becomes able to deploy both tactical and strategic nuclear weapons because of drastic advances in design technology. They concluded that the second scenario is the most likely.¹¹

In addition to the numerical aspect, the qualitative aspect of nuclear development is also of serious concern. In its announcement made immediately after the fourth nuclear test, North Korea claimed that “[t]hrough the test conducted with indigenous wisdom, technology and efforts the DPRK fully proved that the technological specifications of the newly developed H-bomb for the purpose of test were accurate and scientifically verified the power of smaller H-bomb.”¹² However, judging from the magnitude of the artificial seismic event detected by the International Monitoring System of the Comprehensive Nuclear-Test-Ban Treaty (CTBT), the estimated yield of this nuclear explosion was around 6.0 kilotons (that of the third nuclear test was 7.9 kilotons), the North’s claim of using a “hydrogen bomb” was widely doubted. Nevertheless, it has been pointed out that Pyongyang attempted to test a boosted fission weapon,¹³ or of components of a hydrogen bomb.¹⁴ While the details of the fourth test are as yet unclear, it must be considered that North Korea could make some qualitative improvement on its nuclear weapons capability through the test.

One of the grave concerns to Japan’s security is that North Korea achieves the capability to miniaturize nuclear warheads and mount them onto its ballistic missiles. A spokesman for the Policy Department of North Korea’s National Defense Commission stated that “It is long since North Korea’s nuclear striking means have entered the stage of producing smaller nukes and diversifying them,”¹⁵ which strongly suggested that they possess such capability. It is likely that North Korea, which has been

developing nuclear weapons for more than 20 years, already possesses nuclear warheads that can be mounted on the Nodong road-mobile medium-range ballistic missile (MRBM), which is capable of striking Japan's entire territory.¹⁶ While some officials in the US and South Korean governments view the North's nuclear capability cautiously,¹⁷ South Korea's 2014 Defense White Paper points out that the miniaturization of nuclear warheads "has reached a considerable level," and General Curtis Scaparrotti, commander of the US forces in South Korea, also commented in October 2014 that "I believe [North Korea has] the capability to miniaturize a device at this point, and they have the technology to actually deliver what they say they have."¹⁸ In addition, Japan, in its 2015 Defense White Paper, stated: "Over eight years have already passed since North Korea conducted its first nuclear test in October 2006. North Korea has conducted three nuclear tests to date. North Korea's duration of technology development and the number of tests are reaching levels that cannot be said to be inadequate in comparison with the processes of developing technologies to miniaturize and lighten nuclear weapons in the United States, Soviet Union, United Kingdom, France, and China".¹⁹ After the North's fourth nuclear test on January 19, 2016, according to its 2016 Defense White Paper, Tokyo contemplated that "[t]aking into account that North Korea has not changed its stance of continuing passage of time, there would be a greater risk of North Korea deploying a ballistic missile mounted with a nuclear warhead that includes Japan in its range."²⁰

As for the North Korean ballistic missiles capabilities²¹ whose exact figures and operational status have not been released, it is widely considered that Pyongyang possesses more than 200 missiles and approximately 50 mobile launchers, with a certain level of invulnerability and combat readiness. North Korea has also aggressively pursued development of ballistic missiles capable of reaching US territory. The Musudan mobile intermediate-range ballistic missile (IRBM), developed based on the Russian R-27 submarine-launched ballistic missile (SLBM), is considered to have the ability to reach Guam. In addition, the fixed ICBM Taepodong 2, launched as the space launch vehicle (SLV) named "Unha 3" in February 2016, is believed to be capable of reaching the US mainland and, albeit its low reliability, it has been analyzed as having emergency operational capability.²² Regarding the road-mobile ICBM KN-08s, in April 2015, Admiral Bill Gortney, then commander of North American Aerospace Defense Command (NORAD), indicated that they had already been deployed.²³ Furthermore, North Korea has also embarked on the development of an SLBM "Bukgeukseong" and has conducted repeated ejection tests since May 2015. South Korean military officials have reportedly said that the North will be ready to deploy a new submarine that can carry SLBM in as soon as two to three years, and will have developed the missile in four to five years.²⁴ North Korea's ICBM and SLBM capability is likely to be rudimentary and highly vulnerable, but if continued development and testing enable them to develop practical and invulnerable capabilities to attack the US homeland, this could well have considerable implications for the reliability of the extended deterrence that the United States has provided Japan.

The actual situation with regard to the both quantitative and qualitative capabilities of North Korea's nuclear weapons and ballistic missiles, as well as the figure and pace of their development, is not necessarily able to be ascertained accurately, leaving the deterrers in the difficult position of having to develop their deterrence posture, in consideration of the range of possibilities.

(2) Intention

In the consideration of developing and strengthening of a deterrent posture, a deterrer faces difficulty in apprehending correctly whether the purposes behind North Korea's acquiring and bolstering of its nuclear arsenal, as well as its "intention" on use of nuclear weapons, are defensive—such as for the survival of its regime—or aggressive—including for the unification of the Korean Peninsula by the North, or achievement of more limited objectives.²⁵ Moreover, it could be more complicated due to a possibility

that the North's purpose or intention would change at short notice.²⁶

North Korea has consistently maintained that the possession of a "nuclear deterrent power" is a defensive measure for the purposes of deterring US and South Korean attacks, and ensuring the regime survival. The abovementioned "Law on Consolidating Position of Nuclear Weapons State" stipulates: "The nuclear weapons of the DPRK are just means for defense as it was compelled to have access to them to cope with the ever-escalating hostile policy of the US and nuclear threat," and "They 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 of aggression until the world is denuclearized."²⁷

It is reasonable to consider that the North's nuclear strategy is defensive in nature at least at this moment should its ability to conduct nuclear strike (particularly vis-à-vis the United States) is extremely limited, which could be just served as existential deterrence—imposing cautious behaviors on a deterree by the fact of possessing nuclear weapons. However, this does not mean a "weakness" of its deterrence. If Pyongyang judges that its vital interest, in particular a survival of its regime, is seriously at risk in a contingency on the Korean Peninsula, it could reach a strong determination to use nuclear weapons. In contrast, US national interest in the Korean Peninsula is not necessarily as "vital" as that of the North. Such an "asymmetry of interest" could result in an "asymmetry of determination" with regard to the use of nuclear weapons, and that, as a result, the United States might end up being deterred by North Korea. In addition, North Korea is likely to expect that its nuclear deterrent would work as an "equalizer" for complementing its overwhelmingly inferior conventional forces, compared to those possessed by the United States and South Korea.

On the other hand, it should not be ruled out as a possibility that North Korea intends to use nuclear weapons offensively for achieving unification of the Korean Peninsula, or other limited objectives. The latter cases have already become a reality in the form of the "stability-instability paradox."²⁸ The "stability-instability paradox," in the context of the North Korean issue, means that North Korea's possession of nuclear strike capability (particularly against the United States) leads the North to have confidence that a certain level of stability has been created in terms of a "higher end" deterrence relationship; therefore, North Korea may consider that it could safely decrease a threshold conducting a limited provocation in a "lower end" contingency or conflict, thus increasing instability. It has been analyzed that, behind North Korea's torpedo sinking of the South Korean corvette *Cheonan* in March 2010, and its artillery shelling of Yeonpyeong Island in the following November, Pyongyang may have considered these provocations effective in shifting the main axis of dialogues among countries concerned to the US-North Korean one, and urged the United States to resume bilateral talks.²⁹ At the same time, from the "stability-instability paradox" perspective, it can be posited from these contingencies that Pyongyang's self-confidence in "strengthening of the nuclear deterrent" after the second nuclear test in May 2009, as well as its calculations of the US and South Korean perceptions regarding North Korea's possession of nuclear weapons, influenced the process of decision-making to take such provocative military activities. The concern is that, as North Korea's nuclear strike capability, particularly against the United States, strengthens, the threshold of a military provocation in a lower-end contingency may decrease, the intensity of such provocation may increase; and North Korea's objectives may rise to a level that Tokyo, Washington and Seoul could no longer accept.

On the other hand, Robert Carlin and Robert Jervis argue that North Korea's provocations are not due to the "stability-instability paradox," but could be considered to stem rather from the dynamics of North Korea's internal affairs.³⁰ Ken Watman et al. also point out that regional hostile states in which the stability of their regimes is threatened by their internal political affairs, besides a threat from outside, are likely willing to take (or even create) risks for diverting attention to avoid increasing domestic

objections against their regimes; therefore, they tend to embark upon military actions, whether their purpose be offensive or defensive.³¹ North Korea's intentions of provocations cannot always be accurately apprehended.

The purposes of Pyongyang's options to use nuclear weapons are also difficult to accurately understand for outside actors. While North Korea's nuclear posture is not necessarily clear, one of the possibilities is to bring an end to a contingency in its term and before the collapse of its regime by denying a US/South Korean attempt to escalate (that is, de-escalation) or by forcing China to intervene in the contingency through a threat of using nuclear weapons, or their limited and/or demonstrative use. Such a nuclear posture could be applicable for either defensive or offensive purposes.

Moreover, in the initial phase of acquiring nuclear weapons, there are significant fluctuations in the quantitative and qualitative capabilities of the nuclear arsenal, including delivery vehicles. Under such a situation, while the motivation of a country to acquire nuclear weapons first of all defines components of its nuclear arsenal, what it achieves in nuclear capability development may bring about changes in the purpose of possessing nuclear weapons, or in its nuclear employment policy. The extent to which a deterrent could accurately apprehend changes in the deterree's intention would significantly affect the success or failure of deterrence. However, with additional factors of opacity and uncertainty as well as that of fluidity regarding the North's capability and intention, Japanese, US and South Korean strategic calculations should be more complicated, which would make establishment and adjustment of their deterrence posture more difficult. This means that a possibility and risk of deterrence failure may also increase.

For example, even if Pyongyang's nuclear strategy is directed by its defensive purpose, Tokyo, Washington and Seoul might misperceive the North's Korea's intention in an analysis based on inadequate or inaccurate information, and would adopt a more aggressive deterrence posture than needed. Then, should North Korea misperceive that their objectives in bolstering deterrence posture are preemption or regime change, increasing its threat perception unnecessarily, it might strengthen its nuclear arsenal or take offensive actions for countering vulnerability. In order to lessen the risk of deterrence failure that may be caused by this kind of security dilemma and encourage North Korea to act in accordance with the deterrents' intention, it is vital to provide North Korea with a certain level of reassurance and security guarantee, besides deterring it.³² On the contrary, if those three countries (over)emphasize the reassurance to a North Korea whose purposes of possessing and strengthening nuclear and missile capabilities are to achieve more aggressive objectives, the latter might perceive their behaviors as a sign of "weakness," and an opportunity to embark upon aggressive actions for achieving its objectives.

In a highly unclear, uncertain and fluid situation regarding the deterree's capability and intention, it is no easy task to strike a suitable balance between deterrence and reassurance. Furthermore, constructing and strengthening a deterrence posture under such a circumstances inevitably contains some factors that could bring into a failure of deterrence. Moreover, there is a significant possibility that misunderstanding and suspicion of each other could be amplified by taken "rational" practices in deterrence posture, such as: North Korea maintains opacity regarding its capability and intention for enhancing an effectiveness of its deterrence, on the one hand; and Japan, the United States and South Korea construct their deterrence posture with assuming even a worst case scenario, on the other hand.

In addition, communication between North Korea and other three countries on strategic issues is decisively lacking, meaning that they would force to take strategic responses under conditions where mutual perceptions on their deterrence posture, respectively, are extremely poor.³³ Risks of destabilizing deterrence relationship and failing deterrence are further increased by misunderstanding and miscalculation due to recognition bias as a result from, for instance, shutting out of inconvenient information, or (often mistakenly) positing from historical analogies.³⁴

2. Possibility of escalation to nuclear level

The structural challenges of the deterrence relationship, mentioned above, pose difficulties to Japan, the United States and South Korea in that the interactions of rational decisions made by each party might bring forth an irrational consequence in the form of North Korean escalation of a conflict to a nuclear level as well as a risk of failure of deterrence. In particular, during a transitional period when the North increases nuclear and missile capabilities for establishing a reliable deterrence posture, instability in the deterrence relationship would grow. Furthermore, with regard to developments since 2010, the possibility of a nuclear escalation by Pyongyang seems to increase due to a parallel build-up of asymmetric deterrence postures, in which: North Korea has bolstered nuclear and missile capabilities; and Japan, the United States and South Korea, concerned about North Korea's aggressive behaviors, strengthen conventional deterrence.

Against this backdrop, the focus of South Korea, and the US-South Korea alliance, has been the reconstruction of their deterrence posture in order to alleviate the “stability-instability paradox” in the wake of the North Korean military provocations in 2010 mentioned above. If they could have not taken an appropriate response against North Korea's provocations—aimed at, for instance, achieving fait accompli, probing, forcing its will on them, and demonstrating its power to and tightening its grip on the domestic audience—Pyongyang may have interpreted that as tolerance of and acquiescence to those actions, which would have led to repeated and increased provocations. Therefore, reconstruction of their deterrence postures was a proper response.

Immediately after the *Cheonan* incident, Seoul announced a “proactive deterrence” in May 2010, in which North Korean provocations would be not tolerated, and would be defeated by serious retaliation. In 2012, South Korea announced its plan to build a “Kill Chain” for detecting signs of an impending attack by North Korean nuclear forces, missiles and long-range artillery, and to destroy them preemptively. The system would comprise multi-purpose satellites, high-altitude unmanned surveillance aircraft, ballistic and cruise missiles,³⁵ and Korean Air and Missile Defense (KAMD). Furthermore, in the “National Defense Reform Basic Plan (2014 to 2030)” issued in March 2014, South Korea declared that its core military strategy would be “active deterrence,” under which the South attempts to effectively deter North Korea's diverse threats and to decisively cope with its provocations at the level of the right of self-defense.³⁶ In September 2015, in an attachment to an operating report submitted to the National Assembly audit by the National Defense Committee, the Army Special Operation Warfare Command reportedly addressed that it has promoted to form a special operation unit for striking the enemy's “strategic core targets,” which mean “military facilities with a strategic significance, such as those for nuclear weapons and long-range missile.”³⁷

Meanwhile, the US-South Korea alliance had already included plans for precision strikes against North Korea's nuclear facilities in the Operational Plan (OPLAN) 5026, formulated in the early 1990s. In March 2013, the “U.S.-ROK Counter Provocation Plan” was adopted to cope with local attacks by the North's conventional forces. At the US-South Korean Security Consultative Meeting in October 2014, the “Concept and Principles of ROK-U.S. Alliance Comprehensive Counter-missile Operation” was concluded, laying out the 4D (Detect, Defend, Disrupt and Destroy) policy against North Korean missile attacks.³⁸

The “test case” for their deterrence postures mentioned above came with the South-North clash in August 2015. In retaliation for the wounding of two South Korean soldiers by land mines that appear to have been laid by North Korea in the demilitarized zone in South Korean territory, the South Korean armed forces resumed propaganda broadcasts against the North for the first time in 11 years. North

Korea responded by firing one round from an anti-aircraft gun and several rounds from a 76.2 mm field gun. In addition, the General Staff Department of the North Korean Army sent notification to the South to the effect that “unless the psychological warfare broadcasts against North Korea stop within 48 hours from 17:00 on the 20th, military action will commence.”³⁹ North Korea reportedly declared a semi-state of war to its front line divisions, moved artillery units to the front line, deployed mobile launch vehicles carrying Nodong MRBMs and Scud short-range ballistic missiles (SRBMs), and put to sea around 50 submarines. South Korea, in response to the shelling by North Korea, fired several dozen 155 mm rounds into North Korean territory in the demilitarized zone, and President Park Geun-hye ordered high-ranking officials of the armed forces to “respond firmly” to North Korean provocation. However, even after the “48 hours” North Korea did not embark upon any military actions. On August 23, a meeting among high-ranking North and South Korean officials was held at Panmunjom, and the contingency came to an end with the release of the “Joint Press Release from the Inter-Korean High-Level Meeting.”⁴⁰

In this crisis situation, if North Korea had planned further military provocation for some offensive objectives, it could be concluded that the South Korean and the bilateral alliance’s deterrence postures have worked to a certain extent, in the sense that there was no additional escalatory military action, apart from the North’s initial firing of a few rounds. However, there is no guarantee that their deterrence will work in the same way in the future contingencies. As mentioned above, should Pyongyang bolster its nuclear and missile capabilities and has confidence in its deterrence at a higher-end conflict, it would attempt to achieve its objectives by limited provocations at a lower-end contingency, or re-retaliation in response to retaliation by South Korea or the US-South Korean alliance.⁴¹ Or, the North might re-retaliate for a defensive purpose of ensuring survival, with interpreting the US and South Korean retaliation as an attempt to change North Korean regime. In either case, if South Korea or the US-South Korean alliance, facing the threat of North Korean re-retaliation, continues military action for the purposes of repelling attacks and/or re-establishing the deterrence, the situation might deteriorate from a retaliation/re-retaliation spiral, to one where the scale and intensity of the conflict exceed initial expectations.

Beyond such retaliation/re-retaliation, two scenarios can be considered in nuclear escalation. First is the possibility that, in the process of the expansion of the scale of the conflict, North Korea—fearing a possibility of an attack by South Korea and/or the United States against the North’s nuclear and missile capability, command and control systems, or its leadership—might decide to use its nuclear and missile capability before destruction,⁴² or that the North Korean leadership seriously contemplate to conduct an early use of nuclear weapons if an attack on the command and control system makes it difficult for the North to fully comprehend the situation, or make them judge an attack against the regime. The second possibility is that North Korea would attempt a nuclear escalation for preventing US intervention in a contingency on the Korean Peninsula and bringing an armed conflict to an end in a form that is favorable to them. It should be noted that Pyongyang would decide on nuclear escalation at an early stage of a conflict or in one leap. Practically the one of few North Korean asymmetrical escalatory capabilities which could offset the overwhelming military superiority possessed by the United States and South Korea is its nuclear and missile forces; therefore, it has few options but rely on those capabilities for achieving to deter them. Furthermore, North Korea may consider that the impact of the threat to use nuclear weapons at an early stage could be a key for increasing a chance of success in deterring them.

Another point to be noted is that it may be Japan, rather than the United States or South Korea, that would be the first target of North Korea’s nuclear attacks. It is no doubt that Pyongyang’s first target in terms of deterrence is the United States since preventing an US intervention in a contingency on the Korean Peninsula should be vitally significant for the North. While the presence of the US forces in South Korea is expected to conduce almost automatically the US intervention in a Korean Peninsula

contingency, what North Korea expects from the threat of a nuclear use vis-à-vis the United States is to make Washington deter Seoul as well as itself for avoiding involvement: that is, to get the United States to strongly request the South to refrain from any actions that might lead a situation into a military conflict, or to have the US forces act with extreme restraint in order not to provoke North Korea into choosing to make a nuclear attack. However, North Korea's ability to conduct a nuclear attack against the United States is, at least for the time being, very limited and rudimentary; just possessing and threatening to use them would not be enough to deter the US intervention. Although North Korea may also have an option of using S/MRBMs against US forces in South Korea, they do not have the accuracy enough to achieve counterforce operations; nor is it highly likely that the North would use nuclear weapons in the territory of South Korea, where fellow Koreans reside.

Under such circumstances, a nuclear attack against Japan could be a more realistic option. Should a contingency on the Korean Peninsula escalate, Washington would need to send its troops stationed in the US homeland and Japan. In this case, the US bases in Japan and the Japan Self-Defense Forces (SDF) bases would be utilized as hubs for sending the troops to South Korea, and Japan would be expected to support these operations. In addition, as a result of the recent security policy reforms, among others, Japan's role in logistical or rear area support has been expanded; and the government modified the interpretation of Article 9 of Japan's Constitution to permit the exercise of the right of collective self-defense, albeit in a strictly limited manner. These reforms certainly increase Japan's role in the defense of South Korea in the event of a contingency on the Korean Peninsula. At the same time, however, these developments contain the paradox that, as a side effect of bolstering deterrence posture, North Korea would consider a nuclear attack or its threat vis-à-vis Japan more significant.

If a contingency on the Korean Peninsula were to escalate and become identified as a "situation that will have an important influence on Japan's peace and security," Tokyo would conduct operations under the "Act on the Peace and Independence of Japan and Maintenance of the Nation and the People's Security in Armed Attack Situations etc. and Situations Where an Armed Attack against a Foreign Country Results in Threatening Japan's Survival," which provides for logistical support for a wider range of countries, contents and regions than the "Law Concerning Measures to Ensure the Peace and Security of Japan in Situations in Areas Surrounding Japan" in 1999." Such operations include, for instance, rear area support and search and rescue activities for the US troops that conduct operations contributing to the achievement of the objectives of the Japan-US Security Treaty, and other foreign military troops that conduct operations contributing the achievement of the objectives of the UN Charter. In addition, under the new "Guidelines for Japan-U.S. Defense Cooperation," the "Responses to Emerging Threats to Japan's Peace and Security" cover operations for noncombatant evacuation, maritime security, measures to deal with refugees, search and rescue, protection of facilities and areas, logistic support, and use of facilities.

If an armed conflict on the Korean Peninsula were to escalate, Japan would identify it as "certain situation, an armed attack against a foreign country could threaten Japan's survival," which means "when an armed attack against Japan occurs or when an armed attack against a foreign country that is in a close relationship with Japan occurs and as a result threatens Japan's survival and poses a clear danger to fundamentally overturn people's right to life, liberty and pursuit of happiness". (If the armed attack were directly against Japan, this would be an "armed attack situation.") The "Three New Conditions for 'Use of Force' as Measures for Self-Defense,"⁴³ adopted by the Cabinet in July 2014, mentions a new interpretation that the Constitution permits not only individual self-defense, but also collective self-defense, with strict limitations on its exercise. According to this reinterpretation, if a contingency or armed conflict on the Korean Peninsula is identified as the "situation threatening Japan's survival," in accordance with the Armed Attack Situations Response Act and the Self-Defense Forces Act, Japan can conduct operations

for, inter alia, interception of ballistic missiles aiming targeting the United States, “assets protection” to protect US ships engaging in BMD operations or evacuation of Japanese people, minesweeping; and combat search and rescue.

Considering the probability that North Korean use of, or threat to use, nuclear weapons would occur as a result of an escalation of armed clash, Japan’s roles and efforts mentioned above are to contribute in complementing the reinforcement of deterrent postures led by the United States and South Korea, for deterring North Korea from conducting military actions at an even much lower level, maintaining escalation superiority against the North Korea at each stage of an armed conflict, and developing a posture that adequately denies any North Korean attempt at asymmetric escalation. In particular, should Japan’s efforts result in an improvement in US damage limitation, then the possibility that the United States will be deterred will be lessened, and the reliability of the extended deterrence that the United States provides Japan (and South Korea) will be further improved.

At the same time, therefore, it could be considered that Pyongyang would have a strong incentive to decouple Tokyo from Washington and Seoul, and to prevent any Japanese involvement in a contingency on the Korean Peninsula. One of North Korea’s means for this would be a nuclear attack, or threat of nuclear attack, against Japan. If, in the event of a contingency on the Korean Peninsula, the North is able to compel Tokyo to refuse to permit US forces to use bases in Japan or provide rear area support for them or other countries’ forces, or not to exercise the right of collective self-defense, the situation could be tilted favorably toward North Korea. A nuclear attack against Japan or threat of such an attack would also demonstrate North Korea’s strong determination with regard to nuclear escalation to the United States and South Korea. Needless to say, Japan is under the US nuclear umbrella, but the possibility cannot be excluded that North Korea might come to the conclusion that the United States is unlikely to conduct a nuclear retaliation against the North’s nuclear attack on Japan, depending on the character of such a nuclear attack, or concerns over a nuclear re-retaliation against the United States.⁴⁴ In addition, North Korea might conclude that Japan, having experienced the atomic bombings of Hiroshima and Nagasaki, is vulnerable to the threat of nuclear attack, or that that it could justify the nuclear attack against Japan under the guise of Japan’s pre-war colonial rule. It is no wonder that North Korea consider Japan a more “appropriate” target for a nuclear attack than the United States and South Korea.

While less frequent than the nuclear threats made against the United States, North Korea has also implied the threat of nuclear attacks against Japan. In March 2013, the North Korean *Rodong Sinmun* carried an article that listed Okinawa along with the Andersen Air Force Base (Guam) as being within “the striking distance of the DPRK’s precision strike means.”⁴⁵ The following month, it stated: “If the Japanese reactionaries join in the U.S. imperialists’ reckless moves for a war against the DPRK, failing to face up to the present situation, they are bound to meet a miserable end.”⁴⁶ Furthermore, in July, the North referred to the possibility of an attack against Okinawa.⁴⁷

Assuming that North Korea is a “rational” actor (in the light of Western standards), it would likely be very cautious about the actual use of nuclear weapons, which would increase the probability of bringing down the end of the Kim dynasty. Whatever the reasons, however, if an armed conflict on the Korean Peninsula escalates and the United States is highly likely to become fully involved in it, the meaning of the conflict for North Korea would likely to transform into one where its vital interest of regime survival would be seriously at stake. At this stage, the probability of its threat to use nuclear weapons would rapidly rise. In contrast, a contingency on the Korean Peninsula would not be directly linked to the Japanese and US vital interests of national survival. This is part of the reason that the United States might be deterred from protecting Japan that is under the US extended deterrence, due to the asymmetry in interest and determination between the United States and North Korea.⁴⁸

Various options of nuclear attacks against Japan can be anticipated. For example, North Korea might conduct very limited nuclear attacks on Japanese territory (excluding US military bases in Japan) or in the sea close to Japan, or conduct nuclear attacks on Japanese territory (excluding US military bases in Japan) in a manner minimizing damage. The purpose of such attacks would be to demonstrate Pyongyang's determination to escalate a conflict to the nuclear level, with the aim of compelling Japan to stop providing support to the United States (and South Korea), or force Tokyo, Washington and Seoul to terminate the war in terms favorable to the North. Similar outcomes would also likely result if North Korea were to detonate a nuclear weapon at a high altitude to generate an electromagnetic pulse (EMP). Unless its demands were accepted, North Korea might further escalate the conflict by conducting additional nuclear attacks.

Needless to say, it is essential for Japan to make continuous efforts to develop an effective deterrence posture based on its security policy reforms from 2013 to 2015, from the standpoint of responding to North Korea's nuclear and missile threat. However, such effort alone will not linearly strengthen Japan's security. As has been mentioned, bolstering the deterrence posture may bring about a "paradox" of creating new instabilities and security challenges.

Assuming that there is little probability of a direct armed conflict breaking out between Japan and North Korea irrespective of the actions of any other countries, it is likely that a nuclear crisis that North Korea poses to Japan would occur as the result of "dual involvements"—that is, Japan is involved in a contingency on the Korean Peninsula because of its alliance with the United States, which itself is involved because of the alliance with South Korea. Of course, Japan has the right to refuse to be involved in the contingency to avoid an immediate risk. However, such an attitude would soon present Japan with the dilemma of inviting US "abandonment" in a future contingency with which Japan would have to contend. With Japan facing multiple, serious security risks that Japan could hardly address by itself, it is no doubt that the significance of the Japan-US alliance is increasing. The question for Japan is how to find the right balance between the strengthening the deterrence posture and avoiding the abovementioned "paradox" or "dilemma," or how to manage such a difficult situation. As long as the North Korean nuclear issue continues, Japan cannot avoid addressing these questions.

3. Challenges in Japan's deterrence posture

(1) Deterrence by denial

When contemplating the future of the Japan's deterrence posture vis-à-vis North Korea, it is imperative to take into account the current statuses and limitations of the policy and capacity aspects, in addition to the abovementioned challenges. After the security policy reforms of 2013 to 2015, Tokyo reaffirmed its basic deterrence posture that it continues to maintain and bolster a posture of deterrence by denial,⁴⁹ and to rely on US extended deterrence as a form of deterrence by punishment.

Deterrence by denial—deterring an adversary by possessing capabilities for preventing and defeating its attack, and denying an achievement of its objectives—is generally more credible than deterrence by punishment—through a threat of massive retaliation, deterring by imposing costs overwhelming gains that an adversary expects—because a deterrer has less room for choosing to invoke military activities for denying than punishing.⁵⁰ As argued above, the development of an effective deterrence posture against North Korea is no easy task. Therefore, the role of denial posture, which also functions as a capability for damage limitation in the event of deterrence failure, is significant for Japan's security, particularly in this context.

In addition, strengthening Japan's deterrence by denial contributes to improvement of the credibility of US extended deterrence. The important factors affecting the credibility of extended deterrence include the level of political relationships between the allies, as well as that of the damage limitation

capabilities of the countries providing extended deterrence. If Japan is able to maintain and actually exercise security cooperation, including the exercise of the right to collective self-defense of the United States and others, despite North Korea's coercion, by developing a denial posture, then the political relationship with the United States will be further solidified. Also, as Japan's capabilities for deterrence by denial complements damage limitation for the United States, the possibility that the invocation of US expanded deterrence is deterred by North Korea decreases.

Furthermore, capabilities for deterrence by denial are also essential as a means of addressing the use of nuclear weapons in a situation where deterrence does not inherently work. For example, there is no guarantee that the North Korean leadership knows its own nuclear and missile capability accurately—under a dictatorship, exaggerated “successes” are likely reported to the leadership—and its false self-confidence might lead it to decide to use nuclear weapons. In addition, while North Korea's actual management and operation systems for its nuclear arsenal are not clear, as the number of nuclear forces increases at the very least, the risk of the accidental or inadvertent use of nuclear weapons would increase. In a situation of tension, the possibility of unauthorized use cannot be ruled out. Were the North's leadership become desperate from the realization that its regime is close to demise, it might decide to launch nuclear attacks to embroil other countries in a devastating situation. Moreover, in the event of internal instability within North Korea, another risk would be that dissidents or a new administration seize control of nuclear weapons and attempt to use them.

It goes without saying that bolstering Japan's posture of deterrence by denial is extremely important in responding to the North Korean nuclear issue. However, there also exist several challenges associated with this effort, which will be contemplated in the following sections, with the examples of ballistic missile defense (BMD) and counterforce operations.

(2) BMD

Under the current security policy and posture, the BMD is the only means for Japan to directly defend itself against North Korea's missile attacks. Although the intercept rate of the BMD cannot be perfect, the “value” of the threat of missile attacks is weakened, and Japan could decide to deny North Korea's coercions if Japan possessed a highly capable BMD system. Strengthening the BMD capability that is still under development continues to be very significant task for Japan.

Meanwhile, the first challenge is how to handle the mismatch between the offensive and defensive sides. The number of interceptors that Japan possesses, and the number that can be deployed in Northeast Asia by Japan and the United States in the event of a crisis have not been declassified. Assuming that eight Standard Missile (SM)-3 Block IA interceptors for the Aegis BMD system are carried on one Aegis ship and that Japan and the United States can deploy totally up to a maximum of 10 Aegis ships, then up to 80 interceptors can be launched. However, since North Korea has approximately 200 Nodong MRBMs, the numerical gap between offensive and defensive capabilities is significant. North Korea does not have that many nuclear warheads. However, the BMD system cannot distinguish between nuclear and non-nuclear warheads when intercepting, so the question of how to address a North Korean saturation attack using Nodong missiles is a tremendous challenge. North Korea may also employ countermeasures against BMD, including decoys and chaff. The continued both qualitative and quantitative improvement of intercept capability, including the research, development and deployment of new BMD systems, is indispensable.

The second challenge is to cope with surprise missile attacks. Because a Nodong missile could reach Japan within seven to ten minutes of being fired, the latter needs to maintain an immediate interception posture (quasi) permanently. However, the probability of a North Korea's “out of the blue” ballistic missile attack is low. Such a situation places a significant burden on the deployed units. To date, pursuant to

Article 82-3 of the Self-Defense Forces Act, Japan has publicly announced the “order to intercept” ballistic missiles five times, and has issued a classified order once.⁵¹ All were done in response to North Korean announcements of “SLV” launches, or clear signs of imminent ballistic missile test launches. However, ballistic missiles are not always launched under the same circumstances. Therefore, it is essential to constantly monitor the movements of North Korea’s ballistic missile units, and to detect any extraordinary activity at as early a stage as possible. Strengthening intelligence, surveillance and reconnaissance (ISR) activities and capabilities is one of the top priorities for Japan and the Japan-US alliance.

The third challenge is the defense against ballistic missile attacks on the United States and its troops. In a situation of “an armed attack against Japan(’s existence)” or of “an armed attack against a foreign country resulting in threatening Japan’s survival,” it is no doubt that interception of North Korean ballistic missiles aimed at US forces or territory, conducted by Japan or Japan-US alliance, will contribute to enhancing the Japan-US alliance as a whole, and the credibility of extended deterrence in particular. On the other hand, Tokyo and Washington should contemplate how their interceptors are to be allocated among Japan and the US forces and territory, and how they can build a flexible BMD operational posture. In addition, in a situation before an “an armed attack against Japan(’s existence),” according to Article 82-3 of the Self-Defense Forces Act, it could be interpreted that Japan cannot intercept a ballistic missile unless it is aimed at Japan⁵² while North Korea would conduct ballistic missile attacks on US troops or territory in such a situation. In order to prevent cracks from occurring in the Japan-US alliance over Japan’s response to the North’s ballistic missile attacks, Japan and the United States should communicate sufficiently on this issue, and contemplate, if needed, how to fill the gap of responding to attacks in the sequence of evolving a contingency on the Korean Peninsula.

(3) Counterforce operations

Since BMD cannot intercept ballistic missiles perfectly, it is imperative to develop a comprehensive and integrated posture for alleviating a threat from North Korean nuclear and/or ballistic missile attacks, which includes measures other than BMD.⁵³ For instance, regarding passive defense, one of the important measures is to improve the resiliency of bases of the Self-Defense Forces and the US forces in Japan. The new “Guidelines for Japan-U.S. Defense Cooperation” state: “In order to expand interoperability and improve flexibility and resiliency of the Self-Defense Forces and the United States Armed Forces, the two governments will enhance joint/shared use and cooperate in ensuring the security of facilities and areas.”

Regarding active defense, it has been discussed whether Japan should acquire a counterforce capability for striking military-related targets in an adversary’s territory. If one can, at least, reduce the number of the opponent’s ballistic missiles by attacking them, their launchers or bases before launching, or by forcing the enemy to launch them under a certain pressure, this can be expected to minimize damage caused by ballistic missile attacks, and produce a synergistic effect of a relative improvement in the BMD’s intercept rate. Tokyo has interpreted that if the three conditions for the exercise of self-defense—an imminent and illegitimate act of aggression against Japan, no appropriate means to deal with such aggression other than by resorting to that right, and the use of armed force is confined to the minimum necessary level—are met, attacks on enemy bases by Japan would be permitted under the Constitution.⁵⁴

However, Japan does not possess much of the capabilities both qualitatively and quantitatively which are needed to conduct counterforce operations in the opponent’s territory, such as a platform (or delivery vehicle) which can reach and attack such targets; the assets to continuously monitor enemy’s bases and mobile launchers; and the networks to process and transmit information in real time. It would take considerable time and expense for Japan to get to acquire its own counterforce capability for attacking the adversary’s ballistic missiles and its related assets. As Sugio Takahashi argues, it is not realistic to

construct its own counterforce capabilities against a ballistic missile threats; rather Japan needs to consider what sorts of components for counterforce operations it should possess within its cooperation with the United States under the bilateral alliance.⁵⁵ Furthermore, it should also be taken into account that South Korea would strongly oppose an attack by Japan on North Korean territory.

Therefore, at least for the foreseeable future, Japan will have no other options but to depend on South Korea, which has been developing a “Kill Chain,” and the United States to attack North Korea’s ballistic missiles, launchers, and related targets. That is why the extent to which the United States and South Korea can reduce the North’s missile threat should be an important concern for Japan. In particular, the issue directly affecting Japan’s security is how many US and South Korean forces and capabilities would be allocated for addressing ballistic missile attack against Japan since their top priority must be to remove threats to themselves.

Another problem is that North Korea has endeavored to reduce the vulnerability of its ballistic missiles by, inter alia, expanding its arsenal of mobile ballistic missiles, and enhancing the resiliency of missile bases. This could raise the question of whether conventional forces are enough to disarm the North’s ballistic missile capabilities. In the United States, some have strongly argued that: even with precision strikes, the earth penetration and explosive capabilities of the US conventional forces are insufficient to eliminate the North’s missile threats; the United States needs low-yield and/or earth-penetrating nuclear weapons; and possessing such capability results in bolstering deterrence against North Korea. Under the Barack Obama administration, the United States adopted a policy not to develop any nuclear weapons with new capabilities,⁵⁶ but a new US administration, inaugurated in 2017, may consider a policy change to acquire such capabilities and adopt a more aggressive nuclear posture. Strengthening the US nuclear deterrence could contribute to Japan’s security, on the one hand, but increasing the role of nuclear weapons is a step that runs counter to nuclear arms control and disarmament, on the other hand. Tokyo should contemplate carefully how to evolve a policy on counterforce in its overall foreign and security policies, including nuclear arms control and nonproliferation.

(4) Trilateral consultation and cooperation

Japan alone cannot construct its own deterrence posture necessary to defend the country against the North Korean nuclear and missile threat. Japan relies on the United States for deterrence by punishment, and needs, close cooperation of the United States and South Korea on deterrence by punishment. Albeit no perfect deterrence, for deterring North Korea from using and threatening to use nuclear weapons as much as possible, it is essential for Tokyo, Washington and Seoul to collaborate in strengthening a deterrence posture against North Korea across the full spectrum from lower to higher end of a contingency; and to maintain close security cooperation among three countries in peacetime as well.

Therefore, it is quite significant that the new “Guidelines for Japan-U.S. Defense Cooperation” stated that “the two governments will establish a new, standing Alliance Coordination Mechanism, enhance operational coordination, and strengthen bilateral planning.” In addition, security cooperation and close communication with South Korea are also essential for coping with the North Korean problem. In a contingency on the Korean Peninsula, the US and South Korean response against North Korean nuclear and missile forces would have vital implications for Japan’s security. It could also be pointed out that an offensive deterrence posture by South Korea carries the risk of provoking an unintended escalation of the crisis. On the other hand, in the event of such a contingency, Japan’s involvement and cooperation under the Japan-US alliance will play an important role for continuing to conduct operations by the US-South Korea alliance. Trilateral security cooperation is imperative for both Tokyo and Seoul.

The three countries need to discuss more about, for instance, coordination in peacetime on

operational plans and their employment as well as establishment of a mechanism for coordination and liaison in a contingency regarding the BMD, as trilateral sharing of sensor information will contribute to the improvement of their capabilities for intercepting ballistic missiles. While the Japan-South Korean General Security of Military Information Agreement (GSOMIA) is expected to promote such information sharing, they have yet to conclude it.⁵⁷ However, in December 2014, Japan, the United States and South Korea signed a memorandum of understanding concerning the sharing of defense information related to North Korea's nuclear missiles, enabling Japan and South Korea to share information via the United States.⁵⁸ On January 22, 2016, after North Korea's fourth nuclear test, South Korea is reportedly close to deciding to connect its military information transmission system to the US military's "Link 16" system within 2016, by which the three countries will be able to share information in (near) real time. Trilateral consultation by defense ministries and officials has been becoming closer. Such the trilateral security cooperation should be a continuous one, not a temporary development in the wake of North Korean nuclear and missile tests.⁵⁹ Conclusion of a Japan-South Korea GSOMIA and an Acquisition and Cross-Servicing Agreement (ACSA) should be the starting point of the trilateral close cooperation on deterrence postures.

Conclusion

North Korea has entirely abandoned all agreements and pledges regarding its denuclearization, and has continued to develop nuclear and missiles capabilities, including their repeated tests in 2016. There seems to be few clues towards resolving the North Korean nuclear issue; moreover, its nuclear and missile developments have increased the threat to Japan, the United States and South Korea. Therefore, strengthening their effective deterrence postures, respectively and/or collectively, vis-à-vis North Korea has been the top priority. The key for this effort is how they could ensure adaptability and flexibility for their deterrence posture since their development needs to be carried out with taking into consideration the possibility of deterrence failure that could result from the opacity, uncertainty and fluidity of North Korea's capability, intention and perception. In the case of a nuclear escalation of a conflict, particularly as a consequence of the "stability-instability paradox," Japan might be the first target for the North's use or its threat of nuclear weapons. It is no doubt that Tokyo should strengthen its deterrence by denial in accordance with its security policy, and trilateral, full-spectrum (from lower- to higher-end contingencies) deterrence posture against the North by further development and enhancement of the bilateral alliances and the trilateral security cooperation.

At the same time, the three countries have to grapple with the issue of what and how they should send messages to North Korea. They have to repeatedly send a clear and strong message that neither provocations by North Korea nor its nuclear escalation will be tolerated, and that any such actions will be met with a serious response, along with activities underpinning those messages. It should also bear in mind, however, that such messages and activities might cause deterrence failure, contrary to their intentions. Bolstering their deterrence posture is extremely important; the problem is how to alleviate or prevent security dilemmas. The three countries need to make it clear that, while provocations by North Korea will be defeated resolutely, the first option of Tokyo, Washington and Seoul is a diplomatic solution of the North Korean issues, and that they have no intention of military attacks unless the North engages in provocations. However, excessive reassurance for Pyongyang is also problematic because such an attitude might be interpreted by the latter as appeasement, or be interpreted by states under US extended deterrence that Washington would decrease its defense commitments. It is vital to continuously adjust the balance between deterrence and reassurance in accordance with changes in the situation, which is a challenge that cannot be avoided in the efforts for strengthening deterrence postures.

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39. “Kita Chosen Hogeiki Chohatsu Kim Yoken ‘Shushu Shiyo’ So Sanbobu Ha ‘Gunji Kodo’: Kita Chosen No Ryoumen Senjutsu,” [Kim Yang-gon: ‘Let’s settle this’; General Staff Department ‘Military action’—North Korea’s double-sided strategy] *Chuo Nippo* [JoongAng Ilbo] August 21, 2015, <http://japanese.joins.com/article/706/204706.html/>.
 40. “Joint Press Release from the Inter-Korean High-Level Meeting,” August 25, 2015, http://english1.president.go.kr/activity/briefing.php?srh%5Bboard_no%5D=21&srh%5Bview_mode%5D=detail&srh%5Bseq%5D=11845&srh%5Bdetail_no%5D=365.
 41. Kim Jong-un claimed that it was not negotiating skill that brought about the “epoch-making” agreement that averted a military conflict with the South on August 25, but North Korea’s possession of nuclear weapons. “Kim Jong Un Guides Enlarged Meeting of WPK Central Military Commission,” *KCNA*, August 28, 2015, <http://www.kcna.co.jp/item/2015/201508/news28/20150828-01ee.html>.
 42. As an argument that leaders under attack by precision guided weapons may panic and opt to use their nuclear capability rather than lose it, and that the superiority of conventional forces over weak nuclear weapons possessors would lowers the nuclear threshold, see Michel Fortmann and Stefanie von Hlatky, “The Revolution in Military Affairs: Impact of Emerging Technologies on Deterrence,” Paul, Morgan and Wirtz, eds., *Complex Deterrence*, pp. 316-317.
 43. “Cabinet Decision on Development of Seamless Security Legislation to Ensure Japan’s Survival and Protect its People,” *Prime Minister of Japan and his Cabinet*, July 1, 2014, http://japan.kantei.go.jp/96_abe/decisions/2014/_icsFiles/afieldfile/2014/07/03/anpohosei_eng.pdf. The three conditions are: “when an armed attack against Japan occurs or when an armed attack against a foreign country that is in a close relationship with Japan occurs and as a result threatens Japan’s *survival* and poses a clear danger to fundamentally overturn people’s right to life, liberty and pursuit of happiness”; “when there is no other appropriate means available to repel the attack and ensure Japan’s survival and protects its people”; and “use of force should be limited to the minimum extent necessary.”
 44. There is also an argument that the US restraint on using nuclear weapons against regional nuclear armed states would contribute to its national interest. See Adam Mount, “The Strategic Logic of Nuclear Restraint,” *Survival*, Vol. 57, No. 4 (August-September 2015), pp. 53-76.
 45. “Provokers Will Meet Miserable End: Rodong Sinmun,” *KCNA*, March 31, 2013, <http://www.kcna.co.jp/item/2013/201303/news31/20130331-13ee.html>.
 46. “Rodong Sinmun Denounces Japan’s Hostile Moves against DPRK,” *KCNA*, April 10, 2013, <http://www.kcna.co.jp/item/2013/201304/news10/20130410-14ee.html>.
 47. “Why Does U.S. Attaches So Great Importance to Okinawa,” *KCNA*, July 3, 2013, <http://www.kcna.co.jp/item/2013/201307/news03/20130703-13ee.html>.
 48. For an argument that the issue of intra-war deterrence is the most important deterrence challenge facing the United States, see Keir A. Lieber and Daryl G. Press, “Coercive Nuclear Campaigns in the 21st Century: Understanding Adversary Incentives and Options for Nuclear Escalation,” *PASCC Report*, March 2013.
 49. In the three conditions for the exercise of the right of self-defense, the condition of “[U]se of force should be limited to the minimum extent necessary” has not been changed. According to interpretation of the constitution, though there may be changes to the international situation and levels of military technology, “the possession of weapons purely to inflict catastrophic destruction on an opponent’s territory from a performance perspective would immediately exceed the boundaries of the minimum necessary level, and could not be permitted under any circumstances, so that, for example, the possession by the Self-Defense Forces of ICBM, long-range strategic bombers or attack type carriers cannot be permitted.” (Response by Souichirou Ito, Director General of the Defense Agency to the House of Representatives Budget Committee, March 20, 1982; http://kokkai.ndl.go.jp/cgi-bin/KENSAKU/swk_dispdoc.cgi?SESSION=36673&SAVED_RID=3&PAGE=0&POS=0&TOTAL=0&SRV_ID=5&DOC_ID=10649&DPAGE=1&DTOTAL=1&DPOS=1&SORT_DIR=1&SORT_TYPE=0&MODE=1&DMY=39618), so the possession of a punitive *deterrence* would not be constitutionally acceptable.
 50. Lawrence Freedman, *Deterrence* (Cambridge: Polity Press, 2004), p. 39.
 51. The orders given in March 2009, March 2012, December 2012, and April 2013 were all publicly announced, but not in April 2014. The order given in January 2016 was initially classified, but the order was reissued and announced in February.
 52. Ken Jimbo, “Abe Seikenka de no Shimuresu na Anzen Hosho Taisei no Mosaku—Boei Keikaku no Taiko / Nichibei Boei Kyoryoku no Gaidorain / Anzen Hosho Hosei” [In Search of a Seamless Security Posture under the Abe Administration: National Defense Program Guidelines, US-Japan Defense Cooperation Guidelines, and Security Legislation], *Mondai to Kenkyu* [Issues and Studies], Vol. 44, No. 2 (April, May, June 2015), p. 53. (in Japanese)

53. Hideaki Kaneda, Kazumasa Kobayashi, Hiroshi Tajima, Hirofumi Tosaki “Nihon no Misairu Boei—Henbo suru Senryaku Kankyoka no Gaiko / Anzen Hoshō Seisaku” [Japan’s Missile Defense—Diplomacy and Security Policy in a Changing Strategic Environment], *Nihon Kokusai Mondai Kenkyūjo* [Japan Institute of International Affairs], 2006. (in Japanese)
54. See Yuichiro Hitoshi, “Senshu Boei Rongi no Gendankai—Kenpo Dai Kyūjō, Nichibei Domei, soshite Kokusai Anzen Hoshō no Aida ni Yureru Gensoku” [Current State of Debate on Non-aggressive Defense—Principles That Sway Between Article Nine of the Constitution, the Japan-US Alliance and International Security], *Rifarensu* [Reference] No. 664 (May 2006), pp. 31-34.
55. Sugio Takahashi, “Senshu Boeika no Tekichi Kogeki Noryoku wo Megutte: Dando Misairu Kyōi e no Hitotsu no Taio” [Coping with a Ballistic Missile Threat: Strike Capability under an Exclusively Defense-Oriented Policy], *Boei Kenkyūjo Kiyo* [NIDS Security Reports], *National Institute of Defense and Security Journal*, Vol. 8, No. 1 (October 2005), p. 118. (in Japanese)
56. However, it has been argued that the B61-12, currently being developed as a consolidation and replacement of the existing B61 series of gravity nuclear bombs, might have earth-penetrating capability. See Hans Kristensen, “Video Shows Earth-Penetrating Capability of B61-12 Nuclear Bomb,” *Federation of American Scientists*, January 14, 2016, https://fas.org/blogs/security/2016/01/b61-12_earth-penetration/.
57. See Takashi Hayashi, “Nikkan Gunji Joho Hokatsu Hogo Kyotei (Nikkan GSOMIA) Teiketsu Enki no Yoin Bunseki — Shomei 1-Jikan Mae no Dotanba de Seisaku Henko Sareta Haikei ni Atta Mono” [Analysis of Factors for Adjournment of the Japan-South Korea General Security of Military Information Agreement (GSOMIA): Factors for the Policy Change Made at the Last Moment, just an Hour Prior to Reaching the Agreement], *Kaikankō Senryaku Kenkyū* [JMSDF Staff College Review], Vol. 4, No. 2 (December 2014), pp. 76-98. (in Japanese)
58. “S. Korea, U.S., Japan Sign Pact on Sharing N.K. Intel,” *Yonhap News Agency*, December 29, 2014, <http://english.yonhap-news.co.kr/national/2014/12/29/59/0301000000 AEN20141229004300315F.html>.
59. In addition to the issue of a US deployment of the Theater High Altitude Area Defense (THAAD) system on South Korean soil, Seoul prioritized its deepening relationship with China, and was not positively inclined towards BMD cooperation with Japan and the United States. However, after the North Korea nuclear tests, the South has changed its stance on the THAAD deployment.