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U.S. NUCLEAR STRATEGY AND NORTH KOREA'S ICBM CAPABILITY: CHANGING SOUTH KOREAN PERCEPTIONS OF U.S. EXTENDED DETERRENCE

by

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December 2018

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Over the past six decades, Washington has recognized that its own security is closely connected with that of its allies around the globe. As a part of this policy, U.S. leaders and policy makers have endeavored to protect South Korea by extending deterrence against North Korea. Despite its ongoing promises, U.S. security guarantees have occasionally shown signs of faltering credibility. Moreover, given North Korea's evolving nuclear capability, the credibility of U.S. security commitments, especially those tailored to the Korean Peninsula, still remain uncertain in the minds of some South Koreans.

This thesis explores South Koreans' recent perceptions of U.S. extended deterrence since 2010, and examines two key factors—U.S. nuclear strategy and North Korea's ICBM capability—that might affect South Koreans' confidence in U.S. extended deterrence. The thesis then reveals the correlation between South Koreans' perceptions and the two key factors. It argues that, contrary to the conventional wisdom, these two key factors do not significantly affect South Koreans' confidence, and the impact of those two factors on South Koreans' perceptions is not considerable. In fact, existing South Korean doubt about U.S. extended deterrence has been overestimated, and U.S. security guarantees have generally remained credible in South Korean eyes. Nonetheless, the U.S.-ROK alliance must continue to strive for the elimination of any lingering doubt about U.S. extended deterrence.

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ABSTRACT

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LIST OF ACRONYMS AND ABBREVIATIONS

4D	Detect, Defend, Disrupt, and Destroy
AFGSC	Air Force Global Strike Command
AIPS	Asan Institute for Policy Studies
APEC	Asia-Pacific Economic Cooperation
CFC	Combined Forces Command, Korea
CPIG	Concept and Principles Implementation Guidelines
CRS	Congressional Research Service
DIA	Defense Intelligence Agency
DNI	Director of National Intelligence
DoD	Department of Defense
DSC	Deterrence Strategy Committee
EDPC	Extended Deterrence Policy Committee
EDSCG	Extended Deterrence Strategy and Consultation Group
FAS	Federation of American Scientists
HEU	highly-enriched uranium
ICBM	intercontinental ballistic missile
ISIS	Institute for Science and International Security
KIDA	Korea Institute for Defense Analyses
KIDD	Korea-US Integrated Defense Dialogue
KINU	Korea Institute for National Unification
KIMS	Korea Institute for Maritime Strategy
KNDU	Korea National Defense University
KR/FE	Key Resolve and Foal Eagle
KRIS	Korea Research Institute for Strategy
LEP	life extension program
MND	Minister of National Defense
NASIC	National Air and Space Intelligence Center
NATO	North Atlantic Treaty Organization
NC3	command, control, and communication
NFU	non-first use

NIS	National intelligence Service
NORAD	North American Aerospace Defense Command
NPR	Nuclear Posture Review
NPT	Treaty on the Nonproliferation of Nuclear Weapons
NSA	negative security assurance
NSS	Nuclear Security Summit
POSP	Public Opinion Studies Program
SCM	Security Consultative Meeting
SLV	space-launch vehicle
TDS	Tailored Deterrence Strategy
TTX	table-top exercise
UFG	Ulchi-Freedom Guardian
UN	United Nations
USFK	United States Forces, Korea
WMD	weapons of mass destruction
(WT-)OPCON	(wartime) operational control

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I. INTRODUCTION

A. MAJOR RESEARCH QUESTION

Over the last 20 years, South Korea (formally known as the Republic of Korea, or ROK) and the international community have been trying to denuclearize North Korea within the framework of the U.S.-ROK alliance. These efforts have been unsuccessful and North Korea has emerged as a *de facto* nuclear state. On September 3, 2017, North Korea claimed to have successfully conducted a hydrogen bomb test (its sixth nuclear test).[1] On November 29, 2017, North Korea launched a missile called "Mars-15" or "Hwasong-15," and Kim Jong Un, the North Korean leader, proclaimed "the completion of nuclear armed forces."[2] North Korea is now threatening to attack South Korea and even the U.S. homeland with its nuclear missiles. As a result, South Koreans' doubts about U.S. extended deterrence credibility, which have existed at some level for a long time, have been amplified in recent years.

This thesis researches the factors that have influenced South Koreans' perceptions of the credibility of U.S. extended deterrence, especially with the evolving North Korean capability of an intercontinental ballistic missile (ICBM). Historically, U.S. extended deterrence has been the backbone of the U.S.-ROK alliance, which has been in place to thwart potential North Korean aggression since the end of the Korean War. This thesis hopes to deepen our understanding of the factors that may enhance the credibility of U.S. extended deterrence, thereby contributing to the solid U.S.-ROK alliance. Specifically, what factors influence South Koreans' perceptions of the credibility of U.S. extended deterrence commitments? And how might North Korea's development of an ICBM capable of reaching the continental United States change South Koreans' confidence in U.S. extended deterrence? The following underlying questions are addressed within the major research question.

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[1] Min-ho Noh, "North Korea's Announcement, Successful Hydrogen Bomb Test for ICBM," *New Daily*, September 3, 2017, http://www.newdaily.co.kr/site/data/html/2017/09/03/2017090300018.html.

[2] Byung-soo Park, "Kim Jong-un's Declaration, The Completion of Nuclear Armed Forces," *Hankyoreh*, November 29, 2017, http://www.hani.co.kr/arti/politics/defense/821244.html.

- First, what factors have generally or historically promoted or diminished the credibility of extended deterrence?
- Second, what conditions in particular make South Koreans trust or distrust the U.S. extended deterrence pledges on the Korean Peninsula?
- Third, does North Korea's nuclear capability development, especially the possibility of its nuclear-armed ICBMs reaching the U.S. homeland, alter the factors that make South Koreans suspicious of U.S. extended deterrence credibility within the U.S.-ROK alliance?

B. SIGNIFICANCE OF THE RESEARCH QUESTION

Over the past six decades, Washington has recognized that its own security is closely connected with that of its allies around the globe. As a part of this policy, U.S. leaders and policy makers have endeavored to protect South Korea by extending deterrence against North Korea. U.S. extended deterrence over South Korea has often been described as an "umbrella" analogy to signal U.S. commitments within its foreign policies and strategies protecting South Korea from the hostile North Korea.

Despite ongoing U.S. promises, these security guarantees have occasionally shown signs of faltering credibility. To meet these concerns, the United States initiated "tailored extended deterrence (or tailored assurance)" through the 2010 U.S. Nuclear Posture Review (NPR). Moreover, the United States announced in the 2018 NPR that it would use a "more tailored deterrent strategy" for the Asia-Pacific region, including South Korea.[3]

Nevertheless, given North Korea's evolving nuclear capability, the credibility of U.S. extended deterrence's commitments and implementation, especially those tailored to the Korean Peninsula, still remains uncertain in the minds of some South Koreans. In this regard, this thesis may contribute to identifying factors that shape South Koreans'

[3] U.S. Department of Defense, *Nuclear Posture Review Report* (Washington, DC: Government Printing Office, 2018): 25–37, https://media.defense.gov/2018/Feb/02/2001872886/-1/-1/1/2018-NUCLEAR-POSTURE-REVIEW-FINAL-REPORT.PDF.

perceptions of U.S. extended deterrence, inclusive of the dynamics in the Korean Peninsula, which takes into account the North Korean nuclear capability. This contribution may be valuable in two ways.

On the one hand, given U.S. security interests, the impact of North Korea's nuclear capabilities in Northeast Asia in terms of nonproliferation remains significant. If the U.S. policy of nuclear guarantee against North Korea's nuclear threat is not effective in this region, a so-called "nuclear domino phenomenon" may arise. South Korea, not to mention Japan and Taiwan, might reverse its intention to remain within the U.S. nuclear umbrella and consequently jump into proliferation, despite possible pressures and sanctions from the international community. Otherwise, at least, South Korean voices demanding relocation of the U.S. tactical nuclear weapons on their soil may become more intense. In this respect and appreciating the factors that ameliorate or diminish South Koreans' perceptions of U.S. extended deterrence, this study may contribute to understanding the dynamics of the U.S. nuclear guarantee's efficacy. Thereby, it can help U.S. policy makers to engage more efficiently in the problems surrounding extended deterrence and the nonproliferation regime.

On the other hand, considering South Korea's security interests, the implementation of a firmly accepted U.S. extended deterrence is paramount due to its security environment, directly facing North Korea's nuclear threat. Many South Koreans, however, still have both trust and distrust of the credibility of U.S. extended deterrence in the Korean Peninsula, and this perception tends to change over time with evolving security environments. Just as Western Europeans of the North Atlantic Treaty Organization (NATO) raised the question of whether the United States would sacrifice Washington to defend Berlin during the Cold War, some South Koreans may doubt whether the United States would sacrifice Los Angeles to protect Seoul. Doubts about U.S. credibility may also come from some influential figures inside the United States who advocate the withdrawal of U.S. troops from the Korean Peninsula to resolve North

Korea's nuclear problem.[4] Although all of their remarks were part of efforts to resolve that problem, those remarks were enough to trigger South Koreans' doubts about the U.S. commitment of extended deterrence.

The consequences of infringing on South Korea's vital interest—assuring its national security—may eventually become a vicious cycle that deepens Washington's concerns. If South Korea's security perceptions lead to an independent path to nuclear armament, this would likely, in turn, cause serious concerns for Washington. More precisely, if North Korean nuclear missile development drives many South Koreans to assert the need to nuclearize the ROK in reaction to the North,[5] this could ultimately drive other states' nuclear ambitions in Northeast Asia as well.

Before exploring existing literature, it is necessary to clarify the ambiguity of the term, "perception." Differences in perceptions of extended deterrence between allies and adversaries are normal. Former British secretary of state for defense Denis Healey said of extended deterrence in Europe that "It takes only five percent credibility of American retaliation to deter the Russians, but ninety-five percent credibility to reassure the Europeans."[6] This remark has two critical implications. First, making the allies believe in defenders' commitment is harder than making the adversaries do so. Second, adversaries nevertheless tend to view the circumstances of extended deterrence from the worst possible scenarios that the protectors would indeed respond to their hostile actions. Consequently, from adversaries' perspectives, the credibility of the protector's security promise may be higher than allies' perceptions. In other words, while the credibility of

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[4] Sang-hun Choe and David E. Sanger, "After North Korea Test, South Korea Pushes to Build Up Its Own Missiles," *New York Times*, July 29, 2017, https://www.nytimes.com/2017/07/29/world/asia/us-south-korea-north-korea-missile-test.html, in July 2017, former Secretary of State Henry Kissinger made the proposal to then-Secretary of State Rex Tillerson that the United States should promise to withdraw forces from South Korea to induce China's cooperation after North Korea's missile test called 'Mars-14'; and Jane Perlez and Sang-hun Choe, "Bannon and Dunford Remarks Muddle U.S. Strategy for North Korea," *New York Times*, August 16, 2017, https://www.nytimes.com/2017/08/16/world/asia/north-korea-trump-moon-jae-in-south.html, former White House chief strategist Steve Bannon, in an August 2017 media interview, claimed that the United States should consider withdrawal of its forces from South Korea in exchange for a moratorium of North Korea's nuclear programs.

[5] Seung-jun Lee, "Gallup, Holds Nuclear Weapons, 60% in Favor, 35% Against," *Hankyoreh*, September 8, 2017, http://www.hani.co.kr/arti/politics/politics_general/810212.html.

[6] Denis Healey, *The Time of My Life* (New York: W.W. Norton, 1989), 243.

extended deterrence may be questionable from the perspectives of allies, it may not be so from those of adversaries. At the same time, allies' confidence in the credibility of extended deterrence can also influence adversaries, through contribution to alliance strength.[7] Therefore, this thesis focuses only on the allies' perspectives—specifically, South Koreans' perceptions.

C. LITERATURE REVIEW

The literature review considers three areas of research in line with the components within the major research question: 1) factors generally affecting the credibility of extended deterrence; 2) factors specifically affecting South Koreans' perceptions of U.S. extended deterrence's credibility; 3) the impact of North Korea's nuclear ICBMs on South Koreans' perceptions of U.S. extended deterrence's credibility.

1. General Factors Affecting Credibility

What factors have generally and historically affected—promoted or diminished—the credibility of extended deterrence? An extensive body of research uncovers the key factors that may improve the credibility, if well managed, or otherwise may make it worse. Relevant scholars appear to consider political resolve and military capabilities to (re)assure defenders' commitment as crucial factors for the credibility of extended deterrence.

The deterrent effects of alliance commitments within the framework of extended deterrence have been the subject of much scholarly research. Studies on the theoretical mechanics of alliances show that signaling commitments appears to improve the credibility of extended deterrence. According to James Morrow, an alliance relationship itself could operate as a signal of the intention to come to the aid of a threatened ally, and such a signal has some credibility.[8] Matthew Fuhrmann's claim implies a formal alliance, with nuclear patrons within the framework of extended deterrence, carries significant

[7] Wade L. Huntley, "Speed Bump on the Road to Global Zero," *Nonproliferation Review* 20, no. 2 (2013): 309.

[8] James D. Morrow, "Alliances, Credibility, and Peacetime Costs," *Journal of Conflict Resolution* 38, no. 2 (1994): 270–97.

deterrence effects and, thus, enhances the credibility of U.S. extended deterrence.[9] The research incorporates relevant analyses that signaling public alliance commitments by (nuclear) allies significantly reduces the chances of "being targeted in a militarized dispute."[10]

Others, by extension, underline the ways and means of defenders' commitments as a significant factor concerning credible extended deterrence. Ways and means include not only official dialogue between protectors and protégés but also various elements related to security assurance commitments to transfer defenders' will to allies. Although defenders often have to go to great lengths to demonstrate their will and convince allies through various military exercises, in combination with allies or by defenders alone, these scholars do not regard direct military deployment or exercises in the allies' territories as the sole means of communication with allies. According to Bruce Russett, the most important indicators that a defender is committed to an ally are security treaty, alliance relationship, and trade relations, combined with economic and military aid.[11] Elaine Bunn also holds this standpoint by arguing that credible extended deterrence "rests on the overall health of the alliance relationship, including shared interests, dialogue, consultation, and coordinated defense planning and exercises."[12] Some scholars argue U.S. allies and partners indeed have considerable interests in U.S. diplomatic documents, including official announcements by U.S. leaders and senior officials and national strategic guidance.[13] Their claims denote that from the allies' and partners' eyes, the U.S.

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[9] Matthew Fuhrmann and Todd S. Sechser, "Signaling Alliance Commitments: Hand-Tying and Sunk Costs in Extended Nuclear Deterrence," *American Journal of Political Science* 58, no. 4 (2014): 919–35.

[10] Fuhrmann and Sechser, "Signaling Alliance Commitments: Hand-Tying and Sunk Costs in Extended Nuclear Deterrence," 920.

[11] Bruce M. Russett, "The Calculus of Deterrence," *Journal of Conflict Resolution* 7, no. 2 (1963): 103–109.

[12] Bruno Tertrais, et al., "Perspectives on Extended Deterrence" (paper presented at the seminar of the Foundation for Strategic Research, France, November 2009), 39.

[13] Gary L. Guertner, "European Views of Preemption in US National Security Strategy," *Parameters* 37, no. 2 (2007): 33–37; Scott Snyder, "Finding a Balance Between Assurances and Abolition: South Korean Views of the Nuclear Posture Review," *Nonproliferation Review* 18, No. 1 (2011): 150–54; and Lewis A. Dunn, Gregory Giles, Jeffrey Larsen, and Thomas Skypek, "Foreign Perspectives on U.S. Nuclear Policy and Posture: Insights, Issues, and Implications" (working paper, Defense Threat Reduction Agency, 2006), 250–55, http://www.dtic.mil/dtic/tr/fulltext/u2/a464784.pdf.

official statements or signals of the perspectives on the international security environment would be considered as imperatives directly linked to their own security.

Studies focusing on the protectors' nuclear strategies often consider the variations in those to be gravely influential in allies' perceptions of extended deterrence. In their research, "Extended Deterrence and Allied Assurance: Key Concepts and Current Challenges for U.S. Policy," Justin Anderson, Jeffrey Larsen, and Polly Holdorf state that the Obama administration's nuclear strategy issued in the 2010 NPR, which sought to "balance between reducing the U.S. nuclear arsenal and maintaining the ability to defend the United States and its allies from nuclear threats," increased allies' concerns about the possible effect on the U.S. capability.[14] They point out the potential possibility contained in this strategic change—that the United States "may have to turn down direct allied requests regarding the U.S. nuclear umbrella"—could cause serious concerns for allies.[15] In his article, "Rethinking Extended Deterrence in the Korean Peninsula," Jung-Sub Kim claims that the changes in the U.S. nuclear strategy seeking nuclear global-zero, with an antipathy toward using nuclear weapons, make U.S. commitments unreliable.[16] In his article, "Speed Bump on the Road to Global Zero," Wade Huntley examines how these reactions could in turn undermine the objectives U.S. nuclear reductions intend to advance.[17]

Existing studies also spend a lot of time discussing how credibility is affected by defenders' domestic—public or political—opinions. The key issue implied here is "convincing domestic public opinion that extending such protection—taking risks to ensure the security of a distant country—is necessary and in the national interest."[18] In

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[14] Justin V. Anderson, Jeffrey A. Larsen, and Polly M. Holdorf, "Extended Deterrence and Allied Assurance: Key Concepts and Current Challenges for US Policy" (Institute for National Security Studies Occasional Paper 69, US Air Force Academy, 2013), xi–xvi, http://www.usafa.edu/app/uploads/OCP69.pdf.

[15] Anderson, Larsen, and Holdorf, "Extended Deterrence and Allied Assurance: Key Concepts and Current Challenges for US Policy," xiv.

[16] Jung-Sub Kim, "Rethinking Extended Deterrence in the Korean Peninsula," *National Strategy* 21, no. 2 (2015): 5–40.

[17] Huntley, "Speed Bump on the Road to Global Zero," 305–38.

[18] Tertrais, et al., "Perspectives on Extended Deterrence," 16.

general, public opinion may be a tolerable element, whereas it could be a major factor in undermining the reliability of extended deterrence or making it unsustainable in a crisis situation.[19] Likewise, a firm conviction of and ongoing support from domestic political elites, equivalent to establishing consensus on a "bipartisan basis" in the United States, are significant if the security promises should be sustained.[20] Without such consensus, as generations change, it could become increasingly challenging to maintain domestic political support for extended deterrence.[21] Over time, legislators and government officials may become unaware of the foundational rationale for extended deterrence and related mechanisms or may be less aware of their correlation between allies and national security.[22]

The defender's capabilities to extend deterrence have also been a central topic of scholarly inquiry. Relevant scholars consider the U.S. capability sufficient to protect allies against (potential) adversaries as a crucial factor that promotes credibility. In other words, this school views the ability to inflict unacceptable damage to any challenger's threat as the most important and rudimentary element for convincing an ally. As noted by Bunn, "Of course, in order to extend deterrence, the United States must first be able to deter," and she considers the U.S. capabilities—both in terms of nuclear and conventional—for extending its deterrence as a basic, but most important, element.[23] Terence Roehrig argues possessing enough capability to cause unacceptable damage to a potential adversary is the principal condition for credibility of commitment.[24] His argument is that a defender's threat of punishment is fundamentally a bluff if the defender has no ability to inflict enormous damage to a challenger, especially with

[19] Tertrais, et al., "Perspectives on Extended Deterrence," 16.

[20] Tertrais, et al., "Perspectives on Extended Deterrence," 16.

[21] Tertrais, et al., "Perspectives on Extended Deterrence," 16.

[22] Tertrais, et al., "Perspectives on Extended Deterrence," 16.

[23] Tertrais, et al., "Perspectives on Extended Deterrence," 38.

[24] Terence Roehrig, "The U.S. Nuclear Umbrella over South Korea: Nuclear Weapons and Extended Deterrence," *Political Science Quarterly* 132, no. 4 (2017): 656.

nuclear weapons.[25] Consequently, the crucial element here in extended deterrence is to clearly convince allies that the defender has enough capability to protect them.[26]

2. South Koreans' Perceptions of the Credibility

What conditions in particular make South Koreans trust or distrust the U.S. extended deterrence pledges on the Korean Peninsula? Growing relevant literature focusing on the specific factors confined to the Korean Peninsula almost accords with the general tendencies identified in the preceding section. As a result, South Koreans' perceptions are in line with the U.S. political resolve and the following assumptions of U.S. military capabilities. They are, accordingly, likely to be dependent on the variations in the alliance policies, U.S. nuclear strategies, and military capabilities. Ironically, however, even the factors analyzed as having adverse effects on South Koreans' perceptions may appear to have little negative consequences as a result of the ongoing U.S. commitments and supplementary policies for reassurance.

Studies on the "basing mode of alliance forces" imply forward presence of U.S. forces may ensure South Korea's security in part by enhancing the credibility of U.S. extended deterrence. In his book, *From Deterrence to Engagement: The U.S. Defense Commitment to South Korea*, Roehrig claims, as a way to demonstrate U.S. will, that U.S. combat troops stay in South Korea to serve as a tripwire to guarantee U.S. responses and to deter or, if needed, defeat North Korea.[27] According to Roehrig, ground forces deployed on the forefront are difficult to withdraw during a crisis situation with North Korea, signaling a firm U.S. commitment to South Korea.[28] Moreover, according to Park Chang-kwon, the degree of U.S. extended deterrence credibility is firmly underpinned by the mechanisms related to U.S. dedications to South Korea's defense—"the U.S.-ROK

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[25] Roehrig, "The U.S. Nuclear Umbrella over South Korea: Nuclear Weapons and Extended Deterrence," 656.

[26] Roehrig, "The U.S. Nuclear Umbrella over South Korea: Nuclear Weapons and Extended Deterrence," 656.

[27] Terence Roehrig, From Deterrence to Engagement: The U.S. Defense Commitment to South Korea (Lanham, MD: Lexington Books, 2006), 179–184.

[28] Roehrig, From Deterrence to Engagement: The U.S. Defense Commitment to South Korea, 179–184.

defense treaty, the existence of the United States Forces Korea (USFK), and the U.S.-ROK combined defense system."[29] Patrick Morgan supports these views by asserting, "Forward presence has been crucial for credibility because no state or group thinks it can defeat the United States outright."[30]

In this context, some argue that withdrawing U.S. forces from the Korean Peninsula may become a factor in South Koreans' deteriorating perceptions of U.S. extended deterrence credibility. Although the withdrawal or reduction in the size of U.S. troops does not necessarily mean the U.S. abandonment of South Korea, those actions may be enough to cause South Koreans' doubts about the credibility of U.S. extended deterrence. In the late 1960s, according to Mark Fitzpatrick, former President Park Chung-hee was concerned about the possibility of the U.S. abandonment of South Korea.[31] Fitzpatrick claims that Park's concern was exacerbated by then-president Richard Nixon's unexpected announcement of the so-called "Nixon doctrine," a new policy of shifting the burden of Asian allies' conventional defense to the countries themselves. Two years later, the United States abruptly withdrew its Seventh Infantry Division from South Korea amid calls in Congress for additional withdrawals, despite Park's strong objections to the move. From this point of view, South Koreans worried that Washington might begin a dialogue with Pyongyang behind Seoul's back or accept Beijing's demand that all U.S. troops be withdrawn from the Korean Peninsula.

South Koreans' fear of abandonment seems enduring. Richard Bush states that at the July 2009 meeting of the U.S.-ROK Strategic Dialogue, South Korean government officials and scholars discussed at length whether they could absolutely trust the United States in terms of implementing extended deterrence within the U.S.-ROK alliance.[32] He

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[29] Chang-kwon Park, "ROK-US Cooperation in Preparation for Hostile Actions by North Korea in Possession of Nuclear Weapons," *The Korean Journal of Defense Analysis* 22, no. 4 (2010): 506.

[30] Patrick M. Morgan, *Deterrence Now* (Cambridge, UK: Cambridge University Press, 2003), 256.

[31] Mark Fitzpatrick, "Republic of Korea," in *Asia's Latent Nuclear Powers: Japan, South Korea and Taiwan* (New York: Routledge, 2016), 18–20.

[32] Richard C. Bush, "The U.S. Policy of Extended Deterrence in East Asia: History, Current Views, and Implications" (Arms Control Series Paper 5, Foreign Policy at Brookings, 2011), 8, https://www.brookings.edu/wp content/uploads/2016/06/02_arms_control_bush.pdf.

views that South Koreans' fear of abandonment, in the end, "has fostered a strong desire for U.S. reassurance in words and deeds."[33]

Others focus on the changes in U.S. nuclear strategy as an indicator of political resolve, especially the Nuclear Posture Review. In his research, "Finding a Balance between Assurances and Abolition: South Korean Views of the Nuclear Posture Review," Scott Snyder at first thinks the 2010 U.S. NPR, which is characterized by nuclear arms control, disarmament, and nonproliferation, raised concerns among some South Korean specialists about the credibility.[34] Although he concludes that the 2010 NPR did not spark significant public debate in South Korea and was accepted by Seoul, South Koreans' anxieties about the changed or even reduced role of U.S. nuclear arms in extended deterrence indicated South Koreans' sensitivity to U.S. political changes. Roehrig states that the importance of the U.S. nuclear umbrella to South Korea's security interests has been consistently articulated by South Korean defense planners and analysts.[35] He thinks South Korean government officials made great efforts at the 2009 summit meeting between Presidents Barack Obama and Lee Myung-bak to obtain security commitments from Washington, including a plain statement on the nuclear umbrella.[36] Washington, according to Roehrig, was reluctant to do so because of the inconsistency with President Obama's speech in Prague, which emphasized reduction and ultimate elimination of nuclear weapons in international security environment.[37] This also demonstrates South Koreans' sensitivity to the changed U.S. political resolve and their concerns about the possibility of decreased U.S. nuclear capabilities.

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[33] Bush, "The U.S. Policy of Extended Deterrence in East Asia: History, Current Views, and Implications," 8.

[34] Snyder, "Finding a Balance between Assurances and Abolition: South Korean Views of the Nuclear Posture Review," 147–63.

[35] Roehrig, "The U.S. Nuclear Umbrella over South Korea: Nuclear Weapons and Extended Deterrence," 673.

[36] Roehrig, "The U.S. Nuclear Umbrella over South Korea: Nuclear Weapons and Extended Deterrence," 672.

[37] Roehrig, "The U.S. Nuclear Umbrella over South Korea: Nuclear Weapons and Extended Deterrence," 672.

Notably, some in this school of thought do not deny having suspicions about U.S. extended deterrence in South Korea, but they view that those questions may be offset by U.S. reassurance policy through regular consultations and high-level of meetings with counterparts of South Korea. In a Joint Vision Statement issued by the U.S.-ROK alliance on June 16, 2009, for example, the two presidents reaffirmed the solid U.S.-ROK alliance by stating that "the continuing commitment of extended deterrence, including the U.S. nuclear umbrella, reinforces this assurance."[38] Snyder observes that despite the concerns about U.S. nuclear strategic changes in the role of nuclear weapons, new political resolve and promises by the United States, which reflect South Korea's demands and requests, are enough to wipe out those concerns.[39] Similarly, Kim Tae-woo views the June 16 summit as "a success in both elevating the legal standing of the nuclear umbrella as well as expanding the scope of protection."[40]

Apart from the factors associated with U.S. political resolve and military capabilities, some experts point to the importance of the contexts of historical conflicts between the two Koreas. They think current extended deterrence has shown limitations in stopping North Korea's nuclear programs, rhetorical threats, or actual armed provocations and, thus, brought about South Koreans' doubts about the credibility. A former brigadier general of the ROK Army claimed that U.S. extended deterrence did not prevent North Korean small-scale conventional provocations, like the 2010 ROK Cheonan Sinking and the Bombardment of Yeonpyeong.[41] South Korea has empirically undergone numerous physical provocations by North Korea that have frequently violated the Armistice Agreement since 1953.[42] Despite the provisions of the Armistice

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[38] Snyder, "Finding a Balance between Assurances and Abolition: South Korean Views of the Nuclear Posture Review," 149–50.

[39] Snyder, "Finding a Balance between Assurances and Abolition: South Korean Views of the Nuclear Posture Review," 149.

[40] Tae-woo Kim, "ROK-US Defense Cooperation against the North Korean Nuclear Threat: Strengthening Extended Deterrence," in *The U.S.-ROK Alliance Relations for the 21st Century*, ed. Jung-Ho Bae and Abraham Denmark (Seoul: Korea Institute for National Unification, 2009), 203.

[41] Seung-taek Kim, *Rethinking Extended Deterrence* (Washington, DC: CSIS Office of the Korea Chair, 2010), https://my.csis.org/analysis/rethinking-extended-deterrence-korean.

[42] Se-jeong Jang, "North Korea, Violation of the Armistice Agreement, 430,000 Times," *Joongang Ilbo*, March 7, 2013, http://news.joins.com/article/10867822.

Agreement and the existence of U.S. extended deterrence commitments, the ongoing physical provocations by North Korea have often ended without appropriate retaliatory actions. Although no provisions exist that extended deterrence should cover small, regional, or low-intensity conflicts, a series of provocative acts by North Korea may have negative impacts on South Koreans' perceptions of U.S. extended deterrence credibility.

3. The Impact of the North Korean ICBMs

This last section of the literature review examines how North Korea's development of its ICBMs might be influencing South Koreans' perceptions of U.S. extended deterrence. Burgeoning literature agrees that the North Korean ICBM capability may become a factor influencing the credibility of U.S. extended deterrence and, by extension, the U.S.-ROK alliance, while a few assert that North Korea's ICBM capability has little such effect.

Most scholars who analyze the impact of evolving North Korea's nuclear ICBMs on South Koreans' perspectives think North Korea's capabilities could exacerbate South Koreans' concerns about extended deterrence credibility and, in turn, may undermine the U.S.-ROK alliance. In his article, "Rethinking the Extended Deterrence in the Korean Peninsula," Kim Seung-taek categorizes the conditions of successful extended deterrence against North Korea into three elements: credibility of U.S. threatening to retaliate, South Koreans' firm belief in the U.S. commitment to its security guarantee, and the U.S. will to implement the commitments.[43] He argues if any of three is not fulfilled, a decoupling within the U.S.-ROK alliance may occur.[44]

In this regard, some scholars believe that North Korea's ICBM capability can make it difficult for the United States to implement its extended deterrence commitments and, in turn, can diminish the strength of the U.S.-ROK alliance.[45] According to Brad Roberts, North Korea's nuclear capability may make the United States hesitate to counter

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[43] Kim, "Rethinking Extended Deterrence in the Korean Peninsula," 5–40.

[44] Kim, "Rethinking Extended Deterrence in the Korean Peninsula," 5–40.

[45] Roehrig, "The U.S. Nuclear Umbrella over South Korea: Nuclear Weapons and Extended Deterrence," 679.

the North Korean nuclear threat by increasing the potential costs of U.S. response.[46] Similarly, Bunn states, "The security concerns of U.S. allies will change as the capabilities of their potential adversaries evolve."[47] Their common assumption is that North Korea's nuclear missiles capable of reaching the U.S. homeland, like Los Angeles or New York, may significantly increase the potential risks of U.S. intervention, make Washington hesitate to execute retaliatory military actions, and cause the U.S.-ROK alliance to be decoupled.

Concerns about decoupling are also highly relevant to Andrew O'Neil's argument that the threat of punishment against attacks on a defender's homeland is highly reliable, while retaliation for allies depends on a number of contextual conditions.[48] His argument implies that the United States may not retaliate against North Korea's nuclear attacks on South Korean territory due to the possibility of North Korea's attacks on the U.S. homeland. In his article, "An Examination of the Probability of the U.S. Nuclear Extended Deterrence under the Advanced North Korean Nuclear Threat," Park Hwee-rhak concludes that the United States may not be able to assertively respond to North Korea's nuclear threat due to the risks of being attacked by the North. Accordingly, for the United States, the value of South Korea may not be enough to overcome the risks, and the support of U.S. public opinion may remain uncertain.[49] Lee Seok-soo also supports this view by stating that South Koreans' perceptions of U.S. extended deterrence dramatically changed after North Korea's nuclear tests and its development of delivery vehicles. He claims "North Korean delivery systems with nuclear weapons" appears to diminish U.S. nuclear deterrence over South Korea and Japan.[50]

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[46] Brad Roberts, *The Case for U.S. Nuclear Weapons in the Twenty-First Century* (Stanford, CA: Stanford University Press, 2016), 66–67.

[47] Tertrais, et al., "Perspectives on Extended Deterrence," 37.

[48] Andrew O'Neil, "Extended Nuclear Deterrence in East Asia: Redundant or Resurgent?" *International Affairs* 87, no. 6 (2011): 1439–1457.

[49] Hwee-Rhak Park, "An Examination of the Probability of the U.S. Nuclear Extended Deterrence under the Advanced North Korean Nuclear Threat," *Journal of International Politics* 22, no. 2 (2017): 85–114.

[50] Tertrais, et al., "Perspectives on extended Deterrence," 54–57.

Contrary to the preceding arguments, another view maintains that North Korea's nuclear capability, including its ICBMs, does not have much to do with extended deterrence credibility. As Roehrig states, the mistrust between Washington and Pyongyang regarding nuclear extended deterrence indeed "has an impact on North Korean leaders because they may not be convinced that the United States might *not* use nuclear weapons."[51] His perspective denotes that the development of North Korea's ICBM capability may not diminish the credibility of U.S. extended deterrence from the point of view of North Korean leaders: for them, the credibility of U.S. extended deterrence might be stronger than what South Koreans perceive.[52]

D. POTENTIAL EXPLANATIONS AND HYPOTHESES

Based on the preceding body of knowledge about how extended deterrence functions generally and, in particular, in the South Korean case, this thesis examines more deeply two main factors that might alternatively affect South Koreans' perceptions of the credibility of U.S. extended deterrence: 1) how variations in the U.S. NPR, which expresses U.S. nuclear strategy, political resolve, and its extended deterrence capability, affect South Koreans' perceptions; and 2) how North Korea's growing nuclear ICBM capability could lead to worsening South Koreans' perceptions, regardless of the U.S. enhanced extended deterrence strategy and capabilities. These outcomes might become causal factors affecting the U.S.-ROK alliance if South Koreans' perceptions, affected by either U.S. declared nuclear policy or the North's ICBM capability, lead to exacerbating the perceptions of the disutility of the U.S.-ROK alliance.

1. Hypothesis #1

If the NPR implies an intention to strengthen the nuclear weapons' role in extended deterrence while South Koreans' perceptions of extended deterrence credibility improve, this would indicate a specific factor that could continue to affect South

[51] Roehrig, "The U.S. Nuclear Umbrella over South Korea: Nuclear Weapons and Extended Deterrence," 681.

[52] Roehrig, "The U.S. Nuclear Umbrella over South Korea: Nuclear Weapons and Extended Deterrence," 681.

Koreans' perceptions in the future. The United States began using the term "tailored deterrence strategy" for the first time in the 2010 NPR, which implies that the globe will be segmented by the U.S. strategic interests to implement extended deterrence in conjunction with the security environment in each region, including the Asia Pacific. The United States also included the term again in the 2018 NPR. By contrasting the two NPRs and further analyzing the changes in South Koreans' perceptions, the thesis can identify how political decisions and changes in relation to the U.S. extended deterrence policies and force structure affect South Koreans' perceptions.

2. Hypothesis #2

If South Koreans' confidence in U.S. extended deterrence wanes while North Korea enhances its ability to mount a nuclear warhead on an ICBM and to deliver it to the continental United States, North Korea's ICBM capability could be an influential factor affecting South Koreans' perception of U.S. extended deterrence. If North Korea achieves its ultimate goal of having the ability to make its ICBM reach U.S. soil, the United States may become hesitant to actively intervene in a crisis situation between the two Koreas due to the increased possibility of North Korea's nuclear retaliation. South Koreans, who have been concerned about this possibility, could thus become more doubtful about the credibility of U.S. extended deterrence, including U.S. willingness to implement its commitments. By analyzing North Korea's ICBM capability, together with the changes in South Koreans' perceptions, the thesis can identify how North Korea's changing ICBM capability affects South Koreans' perceptions.

3. Hypothesis #3

If North Korea's growing nuclear ICBM capability increases South Koreans' concerns about the extended deterrence credibility even while the NPR is designed to expand the role of nuclear weapons and the relevant capability, North Korea's nuclear ICBMs could be the stronger factor affecting South Koreans' perceptions. This outcome would suggest that, regardless of the strengthening of U.S. nuclear capability and demonstrations of willingness to use that capability, North Korea's ICBM capability could be an independent variable functioning as a detrimental influence on South

Koreans' perceptions. Conversely, If South Koreans' confidence in U.S. extended deterrence is maintained or even rises while the NPR signals to increase U.S. nuclear capabilities, even though North Korea's ICBM capability is also a growing threat to the U.S. mainland, then U.S. nuclear strategy and its political intentions in relation to extended deterrence would be the more influential factor affecting South Koreans' perceptions.

E. METHODS AND SOURCES

In order to evaluate South Koreans' perceptions of the credibility of U.S. extended deterrence in the Korean Peninsula, this thesis measures South Korean perceptions using primary and secondary sources related to the following data: 1) ROK government statements and documents by high-level officials, including the Minister of National Defense (MND), MND spokespersons, military leaders, and the officials of the U.S.-ROK Security Consultative Meeting (SCM); 2) leading non-government experts' analyses, including academic journals, policy papers, and conference reports; and 3) public opinion gleaned from accredited survey institutions in South Korea. Combining these data, the thesis generates a full record of South Koreans' perceptions of the credibility of U.S. commitments to extended deterrence.

Utilizing this record of South Koreans' perceptions, this thesis analyzes the impact of changing U.S. nuclear strategy revealed through the 2010 and 2018 NPRs. Both reports include the concept of "tailored deterrent strategy" for regional extended deterrence, including in Northeast Asia and the Korean Peninsula. This thesis analyzes and contrasts the two NPRs and examines how U.S. nuclear strategy, including relevant policies and capabilities, changed. In addition, the thesis seeks to find how key issues concerning the reassurance of South Korea in each NPR were addressed and framed in U.S. extended deterrence. Because the U.S. NPR provides a solid basis to understand U.S. nuclear strategy, relevant policies, and future force structure, the comparative study of the two NPRs contributes to understanding U.S. political decisions and its nuclear capabilities, which have been generally considered to have influenced the perceptions of

allies, including South Korea. The thesis, in the end, aims to test whether this conventional wisdom—the analyses of existing literature—appears correct.

Furthermore, this thesis examines the influence of North Korea's ICBM capability on South Koreans' perceptions. North Korea's ICBM capability started to develop rapidly after the emergence of Kim Jong-un's regime. After the completion of North Korea's missile test in late 2017, the range of the "Mars-15" or "Hwasong-15" was estimated to reach the U.S. homeland.[53] This thesis concentrates on various secondary sources, such as expert analyses, associated with North Korea's ICBM capability since 2012. The thesis evaluates how North Korea's ICBM capability evolved and whether North Korea achieved its desired objectives.

Finally, this thesis applies the North Korean factor to the results of the NPR analysis and its impact on South Koreans' perceptions. It aims to find the effect of North Korea's ICBM capability on South Koreans' perceptions regarding U.S. nuclear strategy and extended deterrence. In doing so, the thesis can identify whether U.S. nuclear strategy or North Korea's ICBM capability is more influential in South Koreans' perceptions.

F. THESIS OVERVIEW AND CHAPTER OUTLINE

This thesis consists of five chapters. This first chapter has presented the main research question, reviewed the relevant literature, and described the hypotheses and methods of research.

Chapter II presents in more detail the data for understanding South Koreans' perceptions of the credibility of U.S. extended deterrence in the Korean Peninsula. To measure South Koreans' perceptions, this thesis identifies three groups—political, academic, and public—and examines each group's perceptions of U.S. extended deterrence since 2010. The thesis then measures each group's confidence and all the groups' average confidence in U.S. extended deterrence, and analyzes in more detail how these confidence levels have changed.

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[53] Young-nam Kim, "U.S. Missile Experts, NK's ICBM Is Able to Reach the U.S. and No Problem with Re-entry," *VOA Korea* , November 30, 2017, https://www.voakorea.com/a/4143085.html.

Chapter III identifies how U.S. nuclear strategy and North Korea's ICBM capability have changed. Through the comparison and contrast of the 2010 and 2018 NPRs, this thesis finds the key changes in U.S. political thinking concerning U.S. nuclear capabilities and extended deterrence, and estimates whether changed U.S. nuclear strategy implies the augment of its overall capabilities. The thesis then discerns the changes in North Korea's ICBM capability, focusing primarily on two key criteria—nuclear warhead standardization and the delivery range. To that end, this thesis summarizes the North Korean nuclear activities in chronological order related to these two key criteria since 2012, and based on expert analyses, estimates whether North Korea's ICBM capability has evolved.

Chapter IV first determines whether there are correlations between South Koreans' confidence in U.S. extended deterrence and the changes in U.S. nuclear strategy, including relevant policies and nuclear force structure. In the same way, this thesis examines the correlation between South Koreans' confidence and the recent emergence of North Korea's ICBM capability to target the U.S. mainland. During this process, this thesis also draws the relation between the two factors and determines which factor appears to be more influential in South Koreans' changing perceptions of U.S. extended deterrence.

Chapter V draws overarching conclusions from the research, addresses the key findings, and presents policy implications. This thesis then discusses the limitations of the research, which simultaneously illuminates the opportunities for future research.

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II. SOUTH KOREAN PERCEPTIONS

This chapter intends to identify South Koreans' perceptions of and their confidence in U.S. extended deterrence by using data from primary and secondary sources, including official and unofficial government statements and documents, academic experts' analyses, and public opinions in South Korea. To this end, this chapter seeks to explore how South Korean perceptions vary among the political, academic, and public spheres.

At a certain level, measuring the extent of South Koreans' confidence in U.S. extended deterrence becomes difficult. Simplifying the various degrees of perception into three levels only through referring to documents and remarks might create a generalization or an oversimplification. Nevertheless, simplifying the range of various South Koreans' perceptions helps to identify major changes in perceptions of U.S. extended deterrence. To determine the level of South Korean confidence in U.S. extended deterrence, this chapter divides South Koreans' perceptions into three levels of confidence as defined in the Figure 1.

	High Confidence	Neutral Position	Low Confidence
Signification	Strong belief in U.S. Extended Deterrence	Advocate current mechanism due to certain reasons, but no strong belief in U.S. Extended Deterrence	Strong distrust of U.S. Extended Deterrence
Level	2	1	0
Percent Limit	Greater than 60 %	Between 60 and 40 %	Less than 40 %

Figure 1. Three Levels of South Koreans' Perceptions.

In addition, this chapter considers only the data from 2010 to 2018, the period during which all of these variables are included. These data provide main targets to explore in the following chapters on the correlation between the 2010 and 2018 NPRs

and South Koreans' perceived confidence in U.S. extended deterrence, and between North Korea's ICBM development and South Koreans' confidence in the extended deterrence. Regarding 2018, this thesis limits the relevant data to the point before the relationship between the U.S.-ROK alliance and North Korea is transformed into a new phase of dialogue, mainly through the US-North Korea summit meeting.

A. PERCEPTIONS OF GOVERNMENT OFFICIALS AND POLITICIANS

To understand South Korean politicians' perceptions of U.S. extended deterrence, it is necessary to appreciate the legal basis of U.S. extended deterrence. U.S. extended deterrence is based on the Mutual Defense Treaty, signed on October 1, 1953 and enacted on November 18, 1954, between the United States and South Korea.[54] Hence, the Mutual Defense Treaty itself is a political symbol and legal basis for U.S. extended deterrence; the U.S.-ROK alliance is a framework within which U.S. extended deterrence works. If the treaty is the foundation on which the extended deterrence commitments are to be implemented, the official announcements and documents produced by ROK political leaders could be regarded as the South Korean politicians' official viewpoints on U.S. extended deterrence.

1. Official Perceptions of the ROK Government

Two types of official announcements—the joint statement of each U.S.-ROK summit meeting and the joint communique of each U.S.-ROK SCM—represent the South Korean government's official stance on U.S. extended deterrence. This section analyzes these key statements regarding U.S. extended deterrence and identifies how the South Koreans' official confidence in U.S. extended deterrence has changed.

a. U.S.-ROK Summit Meetings

Given the relationship between U.S. extended deterrence and the U.S.-ROK alliance based on the Mutual Defense Treaty, the data dealing with broader concepts and

[54] "Background and Significance of the ROK-US Alliance," Ministry of National Defense, accessed August 6, 2018, http://www.mnd.go.kr/mbshome/mbs/mnd/subview.jsp?id=mnd_010701010000.

commitments of extended deterrence would be the U.S.-ROK summit talks.[55] Hence, the joint statement after summit meeting is the most representative element to understand South Koreans' official political perceptions of U.S. extended deterrence. Figure 2 shows bilateral summit meetings held in the United States or South Korea in relation to the alliance relationship.

	Key Statement	Organizer: U.S. President / ROK President	Date / Venue
55th	☞ Strengthening the alliance to respond to North Korea's nuclear threat	Barack Obama / Lee, Myung-bak	10. 14. 2011. / Washington D.C.
57th	☞ Reassurance of US commitment to extend deterrence for ROK defense	Barack Obama / Park, Guen-hye	05. 08. 2013. / Seoul
58th	☞ Commitmemt to the strong and capable US-ROK alliance		04. 25. 2014. / Washington D.C.
60th	☞ Maintaining and improving the alliance to respond to North Korea		10. 17. 2015. / Washington D.C.
63th	☞ Reaffirmation to counter North Korea's nuclear threat	Donald J. Trump/ Moon, Jae-in	07. 01. 2017. / Washington D.C.
65th	☞ Reassurance of nuclear and conventional extended deterrence against North Korea		11. 08. 2017. / Seoul

Figure 2. Summit Meetings Overview since 2010.

From 2010 to 2018, the U.S.-ROK summit meetings were held 13 times during the presidency of former President Lee Myung-bak (2008–2013), former President Park Geun-hye (2013–2017), and current President Moon Jae-in (2017–). Of those 13 times, the summit talks, such as Asia-Pacific Economic Cooperation (APEC), Nuclear Security Summit (NSS) and G-20, were multilateral talks with special purposes, so they did not give priority to issues related to extended deterrence. Therefore, this section only

[55] During the presidency of Lee Myung-bak since 2010, summit meetings have been held with the United States three times. But the summit meetings held in 2010 and 2012 were Nuclear Security Summit (NSS). On the flipside, then President Park Geun-hye had summit meetings six times with then U.S. President Barack Obama, but the meetings held on September 11, 2014 and in 2016, were Asian-Pacific Economic Cooperation (APEC) and East Asia Summit (EAS), respectively. Following the four occasions of summit talks between Presidents Donald J. Trump and Moon Jae-in, two were held on September, 22, 2017 and two in 2018, no official joint statements were issued because they were only one-day meetings to discuss the urgent issues associated with North Korea's nuclear programs.

considers bilateral summit meetings held in the United States or South Korea concerning the bilateral alliance relationship.

(1) Joint Statement in 2011

In relation to cooperation for promoting mutual security, the former Presidents Barack Obama and Lee Myung-bak discussed in depth the ways to strengthen the U.S.-ROK alliance's capabilities and preparedness to respond more effectively and promptly to asymmetric threats and unexpected provocations posed by North Korea, especially its nuclear missile development.[56] President Obama reaffirmed the U.S. commitment to defend South Korea against the North's nuclear threat, and the two presidents decided to continue activating the Extended Deterrence Policy Committee (EDPC), which was newly established before the summit meeting.

(2) Joint Statement in 2013

The summit meeting between the United States and South Korea in 2013 was held with a monumental sense of the 60th anniversary of the alliance. Then Presidents Barack Obama and Park Geun-hye underlined that the two states would "continue to strengthen the alliance relationship to serve as a linchpin for peace and stability in the Asia-Pacific region and to respond to new security challenges in the 21st century."[57] President Obama reiterated a strong and firm commitment to extend the U.S. deterrent capability to the ROK, which meant the use of all categories of U.S. military capabilities, including nuclear and conventional forces.[58]

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[56] Sang-hyun Jin, "The Full Text, Joint Statement of The U.S.-ROK Summit," *Joongang Ilbo*, October 14, 2011, https://news.joins.com/article/6414992.

[57] Hong-wook Ahn, "The Full Text, Declaration Commemorating the 60th Anniversary of The Alliance," *Kyung-hyang News*, May 8, 2013, http://news.khan.co.kr/kh_news/khan_art_view.html?artid=201305080709071&code=910402.

[58] Ahn, "The Full Text, Declaration Commemorating the 60th Anniversary of The Alliance."

(3) Joint Statement in 2014

Then Presidents Obama and Park reaffirmed a "strong and capable alliance" relationship.[59] Considering the evolving security environment in the Korean Peninsula, the two presidents decided to further "develop interoperability and readiness through the use of annual joint and combined exercises, such as Ulchi Freedom Guardian (UFG), Key Resolve, and Foal Eagle (KR/FE)."[60] The two presidents also exchanged views on strengthening cooperation regarding the procurement of strategic military assets.[61] Notably, they stated that the transition of wartime operational control (WT-OPCON) could be reconsidered in response to enduring North Korea's nuclear missile threat.

(4) Joint Statement in 2015

Then Presidents Barack Obama and Park Geun-hye agreed to the "Joint Statement on North Korea."[62] Through the joint announcement after the summit meeting, they highlighted that the U.S.-ROK alliance has maintained its pledge to respond to North Korea's nuclear and ballistic missile programs.[63] The joint announcement stated, "we would maintain a firm deterrence posture, continue to modernize our alliance, and promote close coordination to better respond to all forms of provocations by North Korea."[64]

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[59] "Joint Fact Sheet: The United States-Republic of Korea Alliance: A Global Partnership," White House, President Barack Obama, accessed August 13, 2018, https://obamawhitehouse.archives.gov/the-press-office/2014/04/25/joint-fact-sheet-united-states-republic-korea-alliance-global-partnership.

[60] White House, President Barack Obama, "Joint Fact Sheet: The United States-Republic of Korea Alliance: A Global Partnership."

[61] White House, President Barack Obama, "Joint Fact Sheet: The United States-Republic of Korea Alliance: A Global Partnership."

[62] Yoon-sub Jung and Byoung-chul Kang, "The Full Text, Join Statement on North Korea," *Yonhap News*, October 17, 2015, http://www.yonhapnews.co.kr/bulletin/2015/10/16/0200000000AKR20151016201900001.HTML.

[63] Jung and Kang, "The Full Text, Join Statement on North Korea."

[64] Jung and Kang, "The Full Text, Join Statement on North Korea."

(5) Joint Statement in 2017

At the first summit meeting between Presidents Donald J. Trump and Moon Jae-in, the two presidents reaffirmed the U.S.-ROK alliance's commitment to deter North Korea's evolving nuclear threat to regional security and stability.[65] "To increase coordination on alliance relations," they committed the foreign and defense ministries of the two states "to regularize a '2+2' ministerial meeting" and directed the Extended Deterrence Strategy and Consultation Group (EDSCG) "to employ all elements of national power to strengthen extended deterrence."[66]

(6) Joint Press Release in 2017

During the third summit meeting between President Trump and Moon, President Trump highlighted that the U.S. top priority is "to protect the United States and allies against North Korean aggression" and "to remain prepared to use the full range of U.S. military capabilities."[67] In response to the North Korea's threat, the two summits resulted in agreement to further improve the U.S.-ROK alliance's combined capabilities "through the acquisition of advanced military equipment and the enhanced deployment of U.S. strategic military assets in and around the Korean Peninsula on a rotational basis."[68]

b. U.S.-ROK Security Consultative Meetings

Another representative element that helps to understand the official perceptions of South Korean politicians and government leaders is the SCM. Since 1978, when the United States agreed to provide South Korea with a so-called "nuclear umbrella" at the 11th SCM,[69] the United States has maintained its consistent commitments to provide

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[65] "Joint Statement between the United States and the Republic of Korea," White House, accessed August 13, 2018, https://www.whitehouse.gov/briefings-statements/joint-statement-united-states-republic-korea/.

[66] White House, "Joint Statement between the United States and the Republic of Korea."

[67] "Joint Press Release by the United States of America and the Republic of Korea," White House, accessed August 13, 2018, https://www.whitehouse.gov/briefings-statements/joint-press-release-united-states-america-republic-korea/.

[68] White House, "Joint Press Release by the United States of America and the Republic of Korea."

[69] In the 38th SCM Joint Statement held in October 2006 after the first nuclear test by North Korea, the phrase "extended deterrence," which incorporates the meaning of "nuclear umbrella," was first used.

extended deterrence through that meeting, in which a wide range of means based on the U.S.-ROK alliance are discussed in depth. This section examines statements in the official SCM documents and identifies key points of each SCM as well as changes in extended deterrence commitments. Figure 3 presents an overview of the key issues addressed in the SCMs held between 2010 and 2018.[70]

	Key Issue	Organizer: US Secretary of Defense / ROK Minister of National Defense	Date / Venue
42th	☞ Agreement to institutionalize EDPC	Robert M. Gates / Kim, Tae-young	10. 08. 2010. / Washington D.C.
43rd	☞ Agreement to establish KIDD ☞ Endorsement of EDPC Work Plan ☞ decision to develop TDS and TTX	Leon E. Panetta / Kim, Kwan-jin	10. 28. 2011. / Seoul
44th	☞ Approval of joint concepts and principles for implementing TDS		10. 24. 2012. / Washington D.C.
45th	☞ Endorsement of bilateral TDS ☞ decision to develop 4D counter-missile strategy	Chuck Hagel / Kim, Kwan-jin	10. 02. 2013. / Seoul
46th	☞ Decision to regular review of TDS implementation	Chuck Hagel / Han, Min-koo	10. 23. 2014. / Washington D.C.
47th	☞ Launching of DSC	Ashton Carter / Han, Min-Koo	11. 02 2015. / Seoul
48th	☞ Agreement to framework of 2+2 EDSCG		10. 20. 2016. / Washington D.C.
49th	☞ Agreement to improve capabilities of TDS, 4D CPIG	James Mattis / Song, Young-moo	10. 28. 2017. / Seoul

Figure 3. SCMs Overview since 2010.

(1) Joint Communique of the 42nd U.S.-ROK SCM

The U.S. Secretary of Defense and the ROK Defense Minister reaffirmed the commitment to the "fundamental mission of the U.S.-ROK alliance to defend South Korea," while maintaining a strong defense posture based on the Mutual Defense Treaty.[71] Both agreed to institutionalize the Extended Deterrence Policy Committee to

[70] From 2010 to 2018 (the 42nd to the 49th), alternating between the United States and South Korea, a total of eight SCMs were held.

[71] Jae-hong Kim, "National Defense Policy; The Full Text of Joint Communique of the 42nd U.S.-ROK SCM," Ministry of National Defense, last modified October, 11, 2010, http://www.mnd.go.kr/user/boardList.action?boardId=I_43915&siteId=mnd&id=mnd_010704010000.

improve the efficacy of extended deterrence through the use of the committee as a cooperation mechanism.[72]

(2) Joint Communique of the 43rd U.S.-ROK SCM

Both defense officials reaffirmed the commitment to continuously enhance the U.S.-ROK deterrence capability to stabilize the Korean Peninsula. To that end, the two ministers determined to initiate the "Korea-US Integrated Defense Dialogue (KIDD)," encompassing "various defense dialogue mechanisms."[73] Moreover, they decided to develop the "EDPC Multi-year Work Plan" and the "Tailored Deterrence Strategy (TDS)," including future mechanisms, such as the "table-top exercise (TTX)," to further enhance the extended deterrence against North Korea's weapons of mass destruction (WMD) threats.[74]

(3) Joint Communique of the 44th U.S.-ROK SCM

Both defense officials evaluated that the KIDD efforts have greatly contributed to developing and maintaining the common strategic goals of the alliance by arranging and harmonizing "various defense consultation mechanisms."[75] To this end, they agreed to further improve the "bilateral security consultations based on the KIDD" and develop the "TDS through utilizing the EDPC," particularly to deter the North Korean WMD threats.[76]

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[72] Kim, "National Defense Policy; The Full Text of Joint Communique of the 42nd U.S.-ROK SCM."

[73] Hyang-sub Lee, "The Full Text of Joint Communique of the 43rd U.S.-ROK SCM," Ministry of National Defense, last modified November, 2, 2011, http://www.mnd.go.kr/user/boardList.action?boardId=I_43915&siteId=mnd&id=mnd_010704010000.

[74] Lee, "The Full Text of Joint Communique of the 43rd U.S.-ROK SCM."

[75] Joo-man Lee, "National Defense Policy: The Full Text of Joint Communique of the 44th U.S.-ROK SCM," Ministry of National Defense, last modified February 25, 2013, http://www.mnd.go.kr/user/boardList.action?boardId=I_43915&siteId=mnd&id=mnd_010704010000.

[76] Lee, "National Defense Policy: The Full Text of Joint Communique of the 44th U.S.-ROK SCM."

(4) Joint Communique of the 45th U.S.-ROK SCM

To enhance effective deterrence options, the two defense officials formally endorsed the bilateral TDS against the North Korean WMD threats.[77] This TDS aimed to establish a "strategic alliance framework for tailoring deterrence against North Korean nuclear threat" throughout armistice and wartime.[78] The two ministers committed to "maintaining close consultation on deterrence matters" to make sure that U.S. extended deterrence "remained credible, capable, and enduring."[79] In addition, the two decided to continue developing a "counter-missile strategy to detect, defend, disrupt, and destroy (4D) missile threats" from North Korea.[80]

(5) Joint Communique of the 46th U.S.-ROK SCM

The two defense officials decided to review the TDS implementation progress on a regular basis "to ensure that U.S. extended deterrence remains credible, capable, and enduring."[81] They noted that the U.S.-ROK alliance has been "committed to maintaining close consultation on deterrence matters to achieve tailored deterrence against North Korean threats and to maximize its deterrent effects."[82]

(6) Joint Communique of the 47th U.S.-ROK SCM

The two defense officials stated appreciation for the inauguration of "the U.S.-ROK Deterrence Strategy Committee (DSC)," which sought "to ensure that extended

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[77] Jin-kyung Hah, "National Defense Policy: The Full Text of Joint Communique of the 45th U.S.-ROK SCM," Ministry of National Defense, last modified January 27, 2014, http://www.mnd.go.kr/user/boardList.action?boardId=I_43915&siteId=mnd&id=mnd_010704010000.

[78] Hah, "National Defense Policy: The Full Text of Joint Communique of the 45th U.S.-ROK SCM."

[79] Hah, "National Defense Policy: The Full Text of Joint Communique of the 45th U.S.-ROK SCM."

[80] Hah, "National Defense Policy: The Full Text of Joint Communique of the 45th U.S.-ROK SCM."

[81] Seong-chul Shin, "National Defense Policy: The Full Text of Joint Communique of the 46th U.S.-ROK SCM," Ministry of National Defense, last modified October 24, 2014, http://www.mnd.go.kr/user/boardList.action?boardId=I_43915&siteId=mnd&id=mnd_010704010000.

[82] Shin, "National Defense Policy: The Full Text of Joint Communique of the 46th U.S.-ROK SCM."

deterrence for the ROK remained credible, capable and enduring."[83] The DSC was to improve the "deterrence and response capabilities" against North Korean nuclear missile threats and "to promote information-sharing and interoperability."[84]

(7) Joint Communique of the 48th U.S.-ROK SCM

Within the framework of the "2+2 Extended Deterrence Strategy and Consultation Group (EDSCG),"[85] the two defense officials agreed "to examine options to take additional steps," such as strengthening extended deterrence capabilities, to prevent North Korea from miscalculating.[86] They also agreed to improve information sharing and interoperability in response to the North Korean nuclear missile threats.[87]

(8) Joint Communique of the 49th U.S.-ROK SCM

The defense officials committed to "developing extended deterrence-related policies, procedures, and consultative mechanisms under the auspices of the DSC and the EDSCG."[88] They also pledged to "increase the execution capabilities of the TDS, 4D Concept and Principles Implementation Guidelines (CPIG)."[89] The two shared the understanding of the need "to enhance the alliance deterrence posture" and "to explore ways to expand the scope of cooperation."[90]

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[83] "Full Text of 47th ROL-US Joint Communique," United States Forces Korea, last modified November 1, 2015, http://www.usfk.mil/Media/News/Article/626859/full-text-of-47th-rok-us-joint-communique/.

[84] United States Forces Korea, "Full Text of 47th ROL-US Joint Communique."

[85] "2+2 EDSCG" consists of the U.S. Secretaries of State and Defense, and the ROK Ministers of Foreign Affairs and National Defense.

[86] Seong-chul Shin, "National Defense Policy: The Full Text of Joint Communique of the 48th U.S.-ROK SCM," Ministry of National Defense, last modified November 2, 2016, http://www.mnd.go.kr/user/boardList.action?boardId=I_43915&siteId=mnd&id=mnd_010704010000.

[87] Shin, "National Defense Policy: The Full Text of Joint Communique of the 48th U.S.-ROK SCM."

[88] "Joint Communique of the 49th ROK-US Security Consultative Meeting," US Department of Defense, last modified October 28, 2017, https://dod.defense.gov/Portals/1/Documents/pubs/20171028-Joint-Communique-OSD-MND-October-17-Final-version.pdf.

[89] U.S. Department of Defense, "Joint Communique of the 49th ROK-US Security Consultative Meeting."

[90] U.S. Department of Defense, "Joint Communique of the 49th ROK-US Security Consultative Meeting."

2. Analysis

The South Korean politicians' official perceptions have reflected strong confidence in U.S. extended deterrence. The official joint statements after the summit meetings and SCMs reflect a consistently supportive South Korean political stance on U.S. extended deterrence and do not vary in their positive perceptions of extended deterrence. The only variation in the joint statements has been the creation of new mechanisms to further improve the extended deterrence capability, and this variation has contributed to the ROK's improved confidence in U.S. extended deterrence.

Formally, the South Korean government may rarely express negative political positions on U.S. extended deterrence. The government's position tends to consistently show a strong and steadfast alliance relationship, and the U.S.-ROK alliance has made concerted efforts to reflect its solid relationship in the official statements and documents. Due to this nature of the South Korean government's political stance, research for identifying unofficial perceptions of U.S. extended deterrence in the political sphere—namely, politicians' personal perspectives—is needed.

3. Unofficial Perceptions among South Korean Politicians

Based on published news articles and interviews, this section examines South Korean politicians' and government leaders' unofficial perceptions of U.S. extended deterrence. It investigates the unofficial statements and remarks of government officials and political figures, including former and anonymous government officials. These informal statements will be more straightforward than the official statements and helpful to identify the strength of and the changes in political leaders' authentic confidence in U.S. extended deterrence.

a. In 2010

On November 22, then Defense Minister Kim Tae-young said that he would review the issue of redeploying the U.S. tactical nuclear weapons in South Korea at the

budget closing committee of the National Assembly.[91] The defense minister's statement that he would discuss the relocation of U.S. tactical nuclear weapons to South Korea through the EDPC came in response to a question from a lawmaker.[92]

b. In 2011

On February 25, the former chairman of the Hannara Party Jung Mong-joon said, "South Korean government must consider the reintroduction of U.S. tactical nuclear weapons because we cannot make North Korea abandon its nuclear weapons only by the U.S. nuclear umbrella," while suggesting a survey showed that 67 percent of South Koreans supported nuclear arming in response to the North's nuclear threat.[93]

On October 12, President Lee Myung-bak and his staff, who were visiting Washington, DC, for the 2011 U.S.-ROK summit meeting, received a briefing on the security situation at the U.S. Department of Defense (DoD). A spokesman of Cheong Wa Dae (the Blue House) at the time said, "It is very unusual for the U.S. military to conduct such a briefing on foreign leaders," adding, "This shows the importance and closeness of the U.S.-ROK alliance and U.S. favors toward South Korea."[94]

c. In 2012

On January 6, a government source voiced concern that major changes in the operation plan in case of a Korean Peninsula crisis appeared to be inevitable, regarding the revision of U.S. defense strategy. The source maintained that, in particular, the U.S. military's large-scale deployment in the Korean Peninsula could be impossible, given the fact that the United States had virtually abandoned its strategy of intervening

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[91] Kwi-keun Kim, "Controversy over Remarks by Defense Minister Kim on U.S. Tactical Nuclear Weapons Relocation," *Yonhap News*, November 22, 2010, https://news.naver.com/main/read.nhn?mode=LSD&mid=sec&sid1=100&oid=001&aid=0004779406.

[92] Kim, "Controversy over Remarks by Defense Minister Kim on U.S. Tactical Nuclear Weapons Relocation."

[93] Jong-woo Kim, "Jung Mong-joon Claimed the Need to Review the Reintroduction of Tactical Nuclear Weapons," *Yonhap News*, February 25, 2011, https://news.naver.com/main/read.nhn?mode=LSD&mid=sec&sid1=100&oid=001&aid=0004931122.

[94] Dae-yeol Kwon, "President Lee Got a Security Briefing from the Pentagon," *Chosun Ilbo*, October 13, 2011, http://news.chosun.com/site/data/html_dir/2011/10/13/2011101300182.html.

simultaneously in two major wars, and that it had reduced defense costs and the size of its armed forces.[95]

d. In 2013

On April 16 at the National Assembly's Legislation and Judicial Commission, with regard to the demand from some political circles for South Korea's nuclear arming, then Defense Minister Kim Kwan-jin is reported to have said, "In essence, South Korea is in compliance with the principle of denuclearization."[96] He added, "I understand the concerns of those who consider South Korea's nuclearization to cope with the North's nuclear threat. However, I believe that nuclear deterrence against North Korea is possible because U.S. extended deterrence and its tailored deterrence are in operation."[97]

On April 25, in response to a National Assembly question to the government, then prime minister Jung Hong-won responded to a voice calling for the redeployment of U.S. tactical nuclear weapons in South Korea by saying, "The Government has not changed the position of denuclearization in the Korean Peninsula."[98] He added, "The government will make full efforts to deter the North Korean nuclear threat through U.S. extended deterrence."[99]

e. In 2014

On January 12, an MND spokesman strongly responded to North Korea's condemnation of the U.S.-ROK alliance's regular exercise by saying, "The U.S.-ROK alliance will take over North Korea at once if North Korea provokes against our

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[95] Yong-won Yoo, "In Case of Crisis in the Korean Peninsula, Virtually Impossible to Deploy Large-Scale U.S. Troops in the Peninsula," *Chosun Ilbo*, January 6, 2012, http://news.chosun.com/site/data/html_dir/2012/01/06/2012010600241.html.

[96] Dae-il Oh, "Kim Kwan-jin Calls for Self-Denuclearization to Adhere to the Principle of Denuclearization," *Chosun Ilbo*, April 16, 2013, http://news.chosun.com/site/data/html_dir/2013/04/16/2013041602430.html.

[97] Oh, "Kim Kwan-jin Calls for Self-Denuclearization to Adhere to the Principle of Denuclearization."

[98] "North Korea's Third Nuclear Test, Unable to Know Raw Materials Used in Nuclear Test," *Chosun Ilbo*, April 25, 2013, http://news.chosun.com/site/data/html_dir/2013/04/25/2013042501202.html.

[99] "North Korea's Third Nuclear Test, Unable to Know Raw Materials Used in Nuclear Test."

defensive combined exercise."[100] The spokesman added, "We will hold the Extended Deterrence Policy Committee (EDPC) and the table-top exercise (TTX) to discuss the practical measure in response to North Korea's threat of WMD.[101]

f. In 2015

On March 27, Yoon Hwoo-deok, a member of the National Assembly's National Defense Committee, pointed out in a radio program interview with YTN that there is no sole agreement on a nuclear umbrella within the U.S.-ROK alliance, saying, "North Korea's nuclear weapons can only be countered by nuclear weapons provided by the United States." He continued that the core of the alliance is a nuclear umbrella, emphasizing the need for closer cooperation with the United States to ensure the provision of a nuclear umbrella.

g. In 2016

On January 7, the leadership of the Saenuri Party referred to the nuclearization in the top committee held in the National Assembly. Won Yoo-cheol, then head of the party, said, "South Korea needs to fully review its response measure to the North's nuclear threat in the face of the completion of the fourth nuclear test," adding, "South Korea should also have nuclear weapons for the sake of its self-defense."[102] Kim Jung-hoon, then chairman of the Policy Committee of the Saenuri Party, also insisted that "we should seriously recognize the situation that South Korea is surrounded by nuclear armed states and isolated in Northeast Asia."[103] Kim Ul-dong, a top delegation member of the Saenuri Party, said, "If the United States does not allow South Korea's nuclear development, we

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[100] Young-chul Oh, "The Ministry of Nation Defense, Immediate Suppression if North Korea Provokes," *KBS News*, January 12, 2014, http://news.kbs.co.kr/news/view.do?ref=A&ncd=2788159.

[101] Oh, "The Ministry of Nation Defense, Immediate Suppression if North Korea Provokes."

[102] Seul-ki Jeon and Sin-young Lee, "South Korea's Official Nuclear Armament, Possible or Impossible?," *Chosun Ilbo*, January 7, 2016, http://news.chosun.com/site/data/html_dir/2016/01/07/2016010701448.html.

[103] Jeon and Lee, "South Korea's Official Nuclear Armament, Possible or Impossible?"

should demand the deployment of U.S. tactical nuclear weapons in the Korean Peninsula for our security as a sovereign state."[104]

On September 13, as a result of confirming the position on the Korean Peninsula security issue to eight politicians, who were mentioned as candidates for the next presidential election, all eight opposed the independent development of nuclear weapons.[105] Regarding the issue of relocating U.S. tactical nuclear weapons in South Korea, three out of the eight were in favor, four were against, and one was neutral.[106]

On November 15, after the inauguration of Donald Trump to the U.S. presidency, the following analyses and evaluations appeared in political circles of South Korea regarding President Trump's remark that the United States could tolerate nuclear weapons development by South Korea and Japan. The former National Intelligence Service (NIS) Director Yoo Sung-ok insisted, "South Korea's own nuclearization would delegitimize the denuclearization of North Korea and undermine the international cooperation for North Korea's denuclearization." He also added, "The independent nuclear development of South Korea should be pursued only when the United States does not provide nuclear deterrence or the U.S.-ROK alliance actually collapses, even when North Korea actually develops and deploys its nuclear weapons."[107]

On the other hand, the Saenuri Party lawmaker Won Yoo-cheol, who has been leading the discussion in the political sphere on South Korea's nuclear arming, said, "Given the rapid development phase of North Korea's nuclear missile capabilities in recent years, U.S. extended deterrence has been relatively weakened. Thus, South Korea

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[104] Jeon and Lee, "South Korea's Official Nuclear Armament, Possible or Impossible?"

[105] Seung-sik Yang and Seon-woo Won, "Response to the Deployment of US Tactical Nuclear Weapons, 3 of Ruling Party Agreed, 4 of Opposite Party Disagreed," *Chosun Ilbo*, September 13, 2016, http://news.chosun.com/site/data/html_dir/2016/09/13/2016091300207.html.

[106] Yang and Won, "Response to the Deployment of US Tactical Nuclear Weapons, 3 of Ruling Party Agreed, 4 of Opposite Party Disagreed."

[107] Yong-soo Lee, "Trump Appears to be Unable to Reverse the U.S. Nonproliferation Norm," *Chosun Ilbo*, November 15, 2016, http://news.chosun.com/site/data/html_dir/2016/11/15/2016111500193.html.

should not rely solely on the United States to defend itself against North Korea and consider its own nuclear arsenal."[108]

h. In 2017

On January 13, the former Defense Minister Han Min-koo said that President Trump's remark on North Korea's nuclear weapons is a positive signal for the future cooperation in response to North Korea's nuclear threat and further improvement of the U.S.-ROK alliance relationship. Donald Trump, the new president of the United States, said earlier that North Korea will never reach the final stage of developing its nuclear weapons.[109]

i. In 2018

On February 14, Song Young-gil, the chairman of the Presidential Committee on Northern Economic Cooperation Committee, along with seven other lawmakers, expressed a concern about the U.S. 2018 NPR that the U.S. Department of Defense announced on February 2. They expressed concerns about the possibility of a nuclear strike by the United States, saying that a tailored extended deterrence policy against North Korea could further accelerate North Korea's nuclear development.[110]

4. Analysis

The South Korean politicians' unofficial perceptions of U.S. extended deterrence have been diverse, compared to the official perspectives. They encompass both a strong confidence in U.S. extended deterrence, as well as an opposite standpoint. A strong distrust of U.S. extended deterrence can be identified within the side advocating South Korea's nuclearization or the redeployment of U.S. tactical nuclear weapons. A neutral

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[108] Lee, "Trump Appears to be Unable to Reverse the U.S. Nonproliferation Norm."

[109] Jung-jin Lee, "Han Min-koo, Trump's Remark on the North Korean Nuclear, A Positive Sign for Cooperation," *Yonhap News*, January 13, 2017, http://www.yonhapnews.co.kr/bulletin/2017/01/13/0200000000AKR20170113050000014.HTML?input=1195m.

[110] Chi-kwan Kim, "Lawmakers, Statement on U.S. Nuclear Posture Review Report," *Tongil News*, February 14, 2018, http://www.tongilnews.com/news/articleView.html?idxno=123792.

viewpoint also exists that pursuing an alternative means, such as the development of independent nuclear weapons or the redeployment of U.S. tactical nuclear weapons, remains practically impossible, despite having no strong confidence in U.S. extended deterrence.

On the other hand, the existing diverse perceptions do not necessarily mean that the politicians' confidence in U.S. extended deterrence has constantly changed; the diversity may only reflect which politicians are voicing viewpoints at a given point in time. The various perceptions might imply that most political figures who have made an evaluation of U.S extended deterrence have not regularly reassessed the extended deterrence. The diversity of views may also be attributed to the fact that most political figures have a consistent political perception of U.S. extended deterrence, depending on the individuals' political leanings. For example, if one politician insists that South Korea should pursue independent nuclear weapons or relocate tactical nuclear weapons, that politician's perception tends to be almost consistent. Thus, a wide range of unofficial political perceptions does not mean a continual change of confidence in U.S. extended deterrence but rather implies the existence of different individual political stances on extended deterrence.

Taking the preceding consideration into account, politicians' expressed views may still be a measure of overall confidence in U.S. extended deterrence. Based on the definition of the three levels of South Koreans' perceptions, the results of coding politicians' official and unofficial confidence in U.S. extended deterrence are shown in Figure 4.

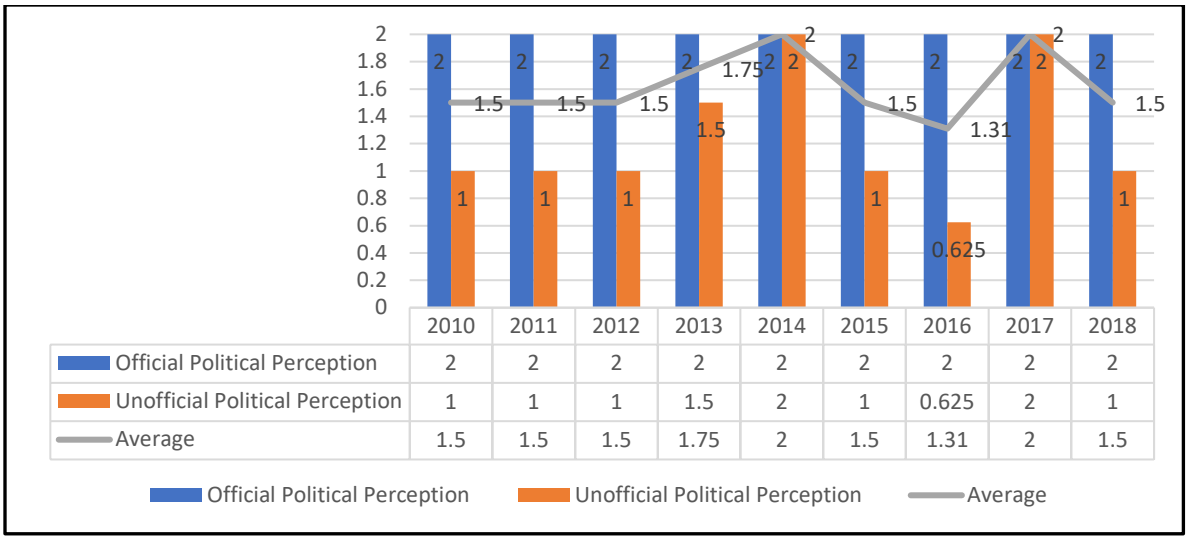

Figure 4. Three Levels of Political Confidence.

Analyzing the coding results in percentage terms, South Korean politicians' combined confidence in U.S. extended deterrence has been strong, with a total average of 80.8 percent, as shown in Figure 5.

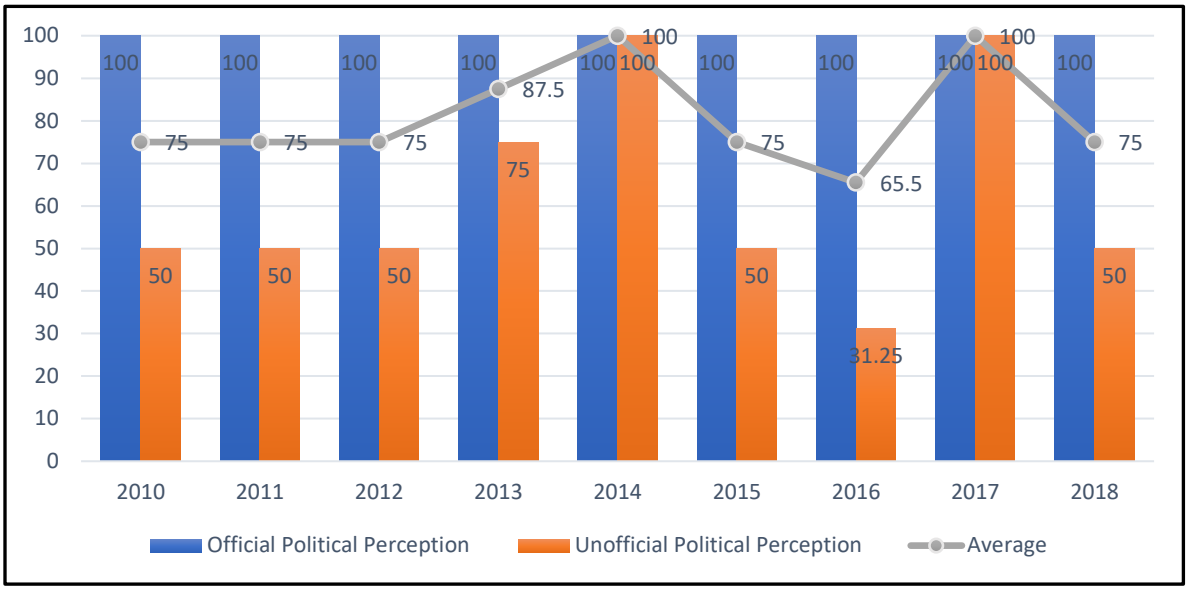

Figure 5. South Korean Politicians' Confidence in U.S. Extended Deterrence, by Percentage.

The official political voices have consistently demonstrated an extremely high degree of confidence in U.S. extended deterrence. On the other hand, three levels of perceptions—high confidence, neutral position, and strong distrust—have coexisted in politicians' unofficial perceptions. Although politicians' unofficial confidence has been relatively lower than the official one, the combined confidence level of the two has been high. As presumed earlier, however, political confidence officially expressed by the South Korean government would be hard to deviate from the very strong confidence in U.S. extended deterrence. Therefore, in order to examine the actual changes in South Koreans' overall perceptions, subsequent analysis in this thesis utilizes only unofficial perceptions that reflect more straightforward confidence than official ones. Figure 6 indicates these changes in South Korean politicians' confidence.

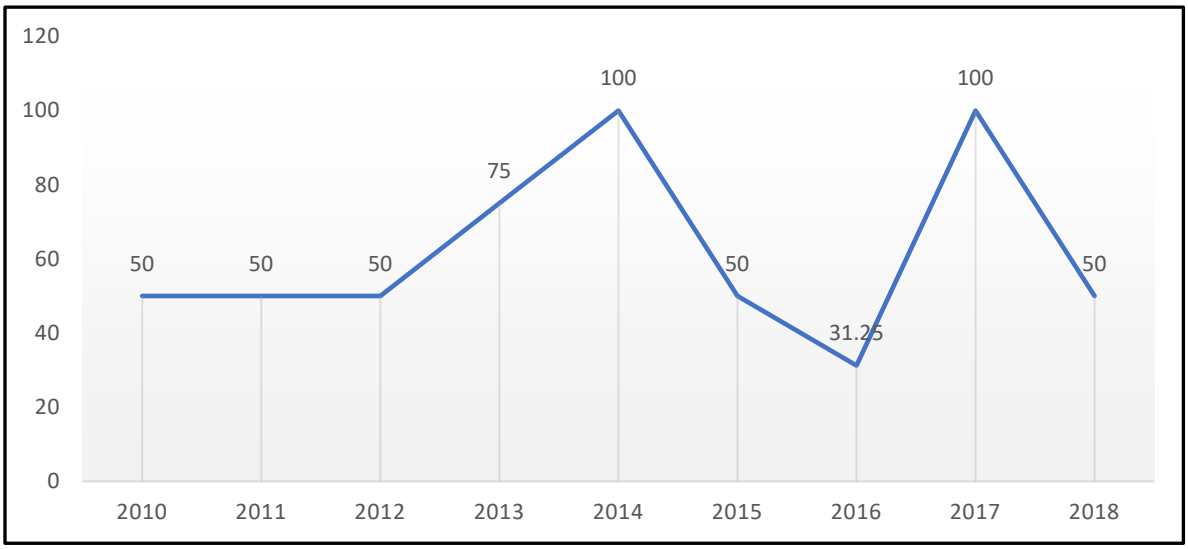

Figure 6. South Korean Politicians' Confidence in U.S. Extended Deterrence (Unofficially Expressed Only).

As revealed through a comparison between Figure 5 and 6, the propensity of changes in political confidence remains invariable even if the official confidence is excluded. The only thing that changes with the elimination of official expression of politicians' confidence is the percentage, which shows the degree of confidence. This outcome clearly shows that the official element has little effect on changes in South

Korean politicians' confidence. Nevertheless, South Korean political confidence without the official component has generally shown a high degree of confidence, with an overall average of 61.8 percent. Although annual figures did not always indicate high confidence, it was only in 2016 that the data show meaningful distrust of the United States' extended deterrence.

B. ACADEMIC PERCEPTIONS

The academics' perceptions tend to be based on a more in-depth analysis of the changes in U.S. extended deterrence derived from the U.S. nuclear strategy, compared to the politicians' perceptions.

1. Academic Perceptions in Journals and Policy Papers

This section examines South Korean academic and military experts' published analyses, concerned with perceptions of U.S. extended deterrence, from sources such as journals, policy papers, conference reports, and editorials.

a. In 2010

Kim Yong-ho, a professor of the Korea National Defense University (KNDU), views that the U.S.'s nuclear arms reduction would not weaken its capability to extend deterrent forces to its allies and partners, including South Korea.[111] In other words, despite the internal and external concerns that the reductions in the role of nuclear weapons, the number of nuclear warheads, and delivery means could diminish the U.S. extended deterrence capability, according to Kim, the United States could maintain its deterrent effects through the enhanced willingness of providing deterrence and modified methods.[112] In addition, he maintains that the United States could also strengthen its moral position by taking the initiative for nuclear arms reductions and increasing pressure to promote North Korea's nuclear abandonment.[113]

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[111] Young-ho Kim, "The Obama Administration's Nuclear Policy and South Korean Security," *Journal of National Defense Studies* 53 no. 1 (2010): 47–69.

[112] Kim, "The Obama Administration's Nuclear Policy and South Korean Security," 47–69.

[113] Kim, "The Obama Administration's Nuclear Policy and South Korean Security," 47–69.

Han In-taek, a member of the Jeju Peace Institute, has a different view on the United States' nuclear arms reduction. He evaluates that the reductions in the role of nuclear weapons, the number of nuclear warheads, and delivery means would diminish the credibility of U.S. extended deterrence. He perceives that while the United States' nuclear arms reduction was designed to adapt to a new security environment that deviates from the Cold War mindset, in which massive nuclear arsenals were stockpiled, the security situation of the Korean Peninsula is still the same as it was during the Cold War.[114] The key logic behind this view is that the decreased nuclear forces' role in U.S. extended deterrence, combined with the increased conventional weapons' role, leaves little confidence in substantive deterrent effects on North Korea's nuclear threat.

Park Chang-kwon, a senior research fellow and a director of Korea Institute for Defense Analyses (KIDA) sees the execution conditions of U.S. extended deterrence as unclear.[115] He raises questions about what constitutes a condition for operating the nuclear extended deterrence.[116] Conversely, according to Park, under what circumstances the United States would use its nuclear capability remains ambiguous. He maintains that the possible situation for nuclear retaliation could rarely be identified and that this uncertainty would lead South Koreans to be doubtful about U.S. intentions.[117]

b. In 2011

Cheon Seong-whun, a senior researcher of the Korea Institute for National Unification (KINU), claims that the U.S. security guarantees for South Korea "in an attempt to denuclearize North Korea," ironically, "weakened U.S. nuclear umbrella."[118] As a result, according to Cheon, the U.S. security guarantees for South Korea resulted in

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[114] In-taek Han, "The World without Nuclear Weapons and the Nuclear Umbrella," *JPI PeaceNet*, no. 10 (2010), http://www.jpi.or.kr/kor/regular/policy_view.sky?code=papermorgue&id=2642.

[115] Park, "ROK-US Cooperation in Preparation for Hostile Actions by North Korea in Possession of Nuclear Weapons," 499–513.

[116] Park, "ROK-US Cooperation in Preparation for Hostile Actions by North Korea in Possession of Nuclear Weapons," 499–513.

[117] Park, "ROK-US Cooperation in Preparation for Hostile Actions by North Korea in Possession of Nuclear Weapons," 499–513.

[118] Seong-whun Cheon, "Changing Dynamics of U.S. Extended Nuclear Deterrence on the Korean Peninsula," *Inha Journal of International Studies* 26 no. 1 (2011): 37–64.

supporting the North's argument that North Korea's nuclear development was due to the U.S.'s nuclear threat.[119] He suggests a supplementary measure—namely, redeployment of U.S. tactical nuclear weapons in South Korea—to improve the credibility of nuclear extended deterrence and simultaneously induce North Korea to abandon its nuclear capability through leveraging the redeployed nuclear weapons.[120]

c. In 2012

In his research, "South Korea and the U.S. Nuclear Umbrella," Cheon argues that various policy options should be developed and applied to compensate for extended deterrence. According to Cheon, a range of options are under consideration from launching an indigenous nuclear weapons program to redeploying American tactical nuclear weapons to the Korean Peninsula. He maintains that domestic debates on these matters should be seriously considered to provide sound alternative policies.

d. In 2013

Park Young-ho, a senior researcher at KINU, argues that South Korea's pursuit of reintroducing U.S. tactical nuclear weapons or developing its own nuclear weapons in response to North Korea's nuclear threat is not a responsible alternative as a member state of the Treaty on the Nonproliferation of Nuclear Weapons (NPT).[121] He adds that South Korea should be in compliance with the obligations of the NPT and the principle of denuclearization of the Korean Peninsula.[122]

e. In 2014

Moon Seong-mook, a research fellow of the Korea Research Institute for Strategy (KRIS), states that South Korea's nuclearization might be an alternative to consider as a

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[119] Cheon, "Changing Dynamics of U.S. Extended Nuclear Deterrence on the Korean Peninsula," 37–64.

[120] Cheon, "Changing Dynamics of U.S. Extended Nuclear Deterrence on the Korean Peninsula," 54–60.

[121] Young-ho Park, "South Korea's Perception on and Responses to North Korea's Nuclear Weapons Development after Its Third Nuclear Test," *Journal of Peace and Unification Studies* 5, no. 1 (2013): 3–38.

[122] Park, "South Korea's Perception on and Responses to North Korea's Nuclear Weapons Development After Its Third Nuclear Test," 3–38.

bargaining chip for North Korea's nuclear abandonment, as well as an option for strengthening U.S. nuclear deterrence within the framework of the U.S.-ROK alliance.[123] At the same time, he also argues that the strong opposition of the nonproliferation regime led by the United States could cause a decoupling of the U.S.-ROK alliance.[124]

An honorary professor at Yonsei University Moon Chung-in insists that South Korea should not develop its own nuclear weapons.[125] He argues that South Korea's pursuit of its own nuclear arsenal would not only undermine the credibility of U.S. extended deterrence but would also create a huge crack in the U.S.-ROK alliance.[126] He maintains that strengthening the defense capabilities of the U.S.-ROK alliance is the most effective way to deter North Korean nuclear threats.[127]

f. In 2015

Kim Jung-sub, a director of the MND, points out that nuclear weapons as a component of U.S. extended deterrence have little efficacy and credibility in terms of practical use against North Korea's nuclear threat.[128] Rather, he argues, considering the precision strike capability of advanced conventional weapons, increasing the role of conventional weapons in U.S. extended deterrence is more effective and credible in curbing North Korea's nuclear threat.[129]

g. In 2016

Kim Jae-yeop, a professor at the National Defense Strategy Postgraduate School of Hannam University, argues that institutional and physical mechanisms to guarantee the

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[123] Seong-mook Moon, "Republic of Korea's Policy Alternative Regarding North Korea's Nuclear Problem," *The Journal of Strategic Studies* no. 62 (2014): 91–121.

[124] Moon, "Republic of Korea's Policy Alternative Regarding North Korea's Nuclear Problem," 91–121.

[125] Peter Hayes and Chung-in Moon, "Should South Korea Go Nuclear?" NAPSNet Policy Forum, July 28, 2014, https://nautilus.org/napsnet/napsnet-policy-forum/should-south-korea-go-nuclear/.

[126] Hayes and Moon, "Should South Korea Go Nuclear?"

[127] Hayes and Moon, "Should South Korea Go Nuclear?"

[128] Kim, "Rethinking Extended Deterrence in the Korean Peninsula," 5–40.

[129] Kim, "Rethinking Extended Deterrence in the Korean Peninsula," 5–40.

effectiveness of the U.S. commitment to the nuclear umbrella should be developed in order to respond to North Korea's nuclear posture and strategy.[130] As a practical measure, he proposes that South Korea should establish a plan to acquire its own nuclear arsenal as leverage over securing further advanced U.S. extended deterrence.[131]

h. In 2017

Park Hwee-rhak estimates that the probability of U.S. execution of extended deterrence is low. Above all, according to Park, the United States would not consider the value of Seoul as important enough to risk North Korea's nuclear attack on U.S. soil. He maintains that considering pressure from China and Russia and U.S. domestic opposition, the possibility of extending U.S. deterrence would be uncertain.[132]

In his assessment of the necessity and feasibility of deploying tactical nuclear weapons, Park argues that South Korea must pursue deploying tactical nuclear weapons, even if some disadvantages exist.[133] He points out that the strategic benefits from introducing tactical nuclear weapons are far greater than the disadvantages that might arise from doing so. He regards as major strategic benefits that South Korea could substantially improve deterrent effects against North Korea's nuclear threat and facilitate the negotiation of inter-Korean denuclearization.

Song Seung-jong thinks the ROK-US alliance should fundamentally modify its security paradigm in reaction to North Korea's nuclear threat. He argues that an alternative to supplement the limitations of U.S. nuclear extended deterrence's credibility

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[130] Jae-yeop Kim, "Military Security in the Korean Peninsula and Nuclear Strategy: Focused on Countering North Korea's Nuclear Armament Threat," *National Defense Studies* 59, no. 2 (2016): 27–55.

[131] Kim, "Military Security in the Korean Peninsula and Nuclear Strategy: Focused on Countering North Korea's Nuclear Armament Threat," 49.

[132] Park, "An Examination of the Probability of U.S. Extended Deterrence under the Advanced North Korean Nuclear Threat," 85–114.

[133] Hwee-rhak Park, "An Analysis on the Necessity and Feasibility of the Redeployment of U.S. Tactical Nuclear Weapons in South Korea," *Military Development Research* 11, no. 2 (2017): 1–24.

is to restore the balance of terror in the Korean Peninsula through the introduction of U.S. tactical nuclear weapons.[134]

i. In 2018

Cheon Seong-whun, a visiting research fellow at the Asan Institute for Policy Studies, evaluates the United States' emphasis on the importance of tactical nuclear weapons as a positive signal for South Korea. The modernization and utilization of tactical nuclear weapons, according to Cheon, considerably improves the credibility of U.S. extended deterrence because those actions regarding tactical nuclear weapons imply the United States' willingness to retaliate against North Korea.[135]

j. Summary

Figure 7 presents a result of coding the confidence of South Korean academics in U.S. extended deterrence, as revealed in journals and policy papers.

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[134] Seung-jong Song, "The Root Causes of North Korean Nuclear Crisis and Problems of Extended Deterrence Strategy," *Review of Korean Military Studies* 6, no. 2 (2017): 3–31.

[135] Seong-whun Cheon, "Trump Administration's NPR and the Redeployment of Tactical Nuclear Weapons in the Korean Peninsula," *Asan Institute for Policy Studies Issue Brief* 7 (2018), http://www.asaninst.org/contents/trump-%ED%96%89%EC%A0%95%EB%B6%80%EC%9D%98-npr%EA%B3%BC-%ED%95%9C%EB%B0%98%EB%8F%84-%EC%A0%84%EC%88%A0%ED%95%B5-%EC%9E%AC%EB%B0%B0%EC%B9%98/.

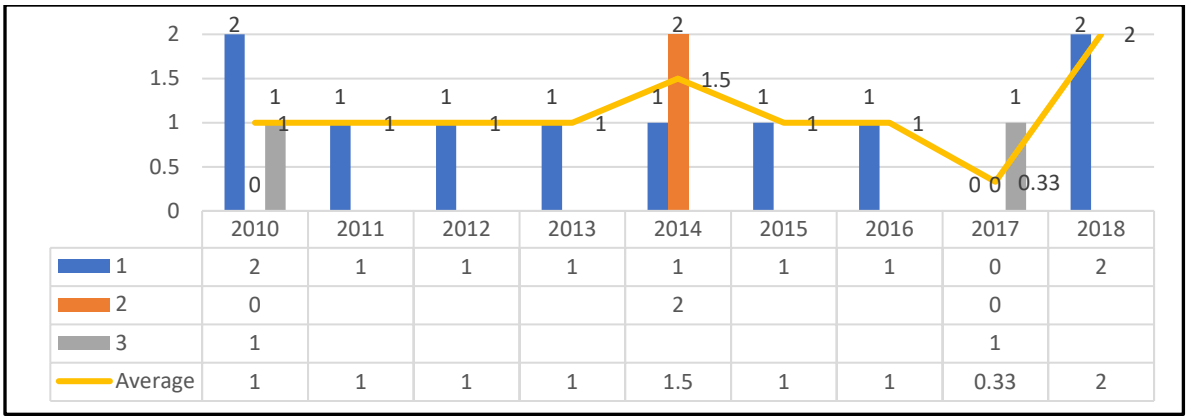

Figure 7. Three Levels of Academic Confidence in Extended Deterrence, as Expressed in Journals and Policy Papers.[136]

2. Academic Perceptions in Media

This section contemplates the newspaper and media interviews, reporting relevant experts' remarks and perspectives.

a. In 2010

A military journalist, Yoo Yong-won, raised concerns about the U.S. "strategic flexibility" concept of deploying USFK forces outside the Korean Peninsula. His perception is that when and if the USFK is brought to another region by urgent strategic necessities, a huge loophole in providing U.S. extended deterrence to South Korea could occur.[137]

b. In 2011

On August 4, Sejong Research Institute and Sejong University National Strategy Institute held a conference on "What could be a counter-measure for North Korea's nuclear threat." Through a topic presentation, then United Nations (UN) ambassador Park

[136] The different color bars indicate how many opinions scholars and experts expressed in each year. For example, in 2010, a total of three in academia expressed their perceptions of U.S. extended deterrence. Each color represents a distinct scholar or a military expert. The order of color is a simple list of investigated journals or policy papers and there is no other special meaning.

[137] Yong-won Yoo, "Withdrawal of Part of USFK and Deployment in Other Region," *Chosun Ilbo*, February 3, 2010, http://news.chosun.com/site/data/html_dir/2010/02/03/2010020300154.html.

Geun claimed, "The attempt to denuclearize North Korea through negotiations has failed. South Korea has no choice but to develop its own nuclear weapons to balance against the North, or the U.S.-ROK alliance should remove the North Korean nuclear weapons by force."[138]

An opposite argument was also suggested that the pursuit of nuclear weapons against the US-led nuclear nonproliferation would be difficult and undesirable for South Korea. Kim Hee-sang, a former defense secretary for the presidential office and a retired Army lieutenant general, said, "If South Korea is going to develop nuclear weapons, it would hurt the U.S.-ROK alliance." He further argued, "It is more effective to maintain U.S. extended deterrence based on the current U.S.-ROK Combined Forces Command (CFC) system rather than develop an independent nuclear weapon."[139]

c. In 2012

Kim Yong-ho, a professor at KNDU, argued that U.S. commitment to providing extended deterrence became more visible through an agreement to develop a tailored deterrence strategy for North Korea determined at the 44th ROK-US Security Council.[140] He maintained that the preexisting repetition of security commitment created a void in credibility, but this agreement would contribute to strengthen the credibility of the U.S. commitment.[141]

d. In 2013

Park Hwee-rhak, an associate professor at Kookmin University's Political Science Postgraduate School, stated that an uncertainty about the deployment of U.S. troops may

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[138] Kyung-woon Choi, "ROK Should Also Start Developing Nuclear Weapons vs. The Maintenance of the CFC Is More Effective," *Chosun Ilbo*, http://news.chosun.com/site/data/html_dir/2011/08/05/2011080500098.html.

[139] Choi, "ROK Should Also Start Developing Nuclear Weapons vs. The Maintenance of the CFC Is More Effective."

[140] Young-ho Kim, "Challenges after the Dismantling of the Combined Forces Command (CFC)," *Chosun Ilbo*, October, 31, 2012, http://news.chosun.com/site/data/html_dir/2012/10/31/2012103103464.html?Dep0=twitter&d=2012103103464.

[141] Kim, "Challenges After the Dismantling of the Combined Forces Command (CFC)."

increase in connection with the dismantling of the current U.S.-ROK CFC and the creation of a new command system.[142] He added that South Korea should prepare for the loophole of U.S. extended deterrence that could result from the dismantling of existing system.[143]

e. In 2014

Kim Tae-woo, a professor at Dongguk University and a nuclear strategy expert, stated the United States must provide extended deterrence to NATO as a requirement of that treaty, while the U.S. has no legal obligation to provide extended deterrence to South Korea.[144] He continued that the provision of U.S. extended deterrence to South Korea was not, in fact, guaranteed.[145]

f. In 2015

A senior researcher of the Korea Institute for Maritime Strategy (KIMS), Lee Chun-keun, claimed that South Korea's sole way to escape North Korea's nuclear threat is to develop its own nuclear weapons. He asserts that a state's nuclearization depends on whether or not the state has a willingness to possess nuclear weapons. Accordingly, he maintains, South Korea should have the strong will to pursue its own nuclear capability.[146]

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[142] Hwee-rhak Park, "The Establishment of The U.S.-ROK Combined Theater Command, Extended Deterrence Should Be Strengthened," *Tongil Hankook*, July 1, 2013, http://unikorea21.com/?p=7773.

[143] Park, "The Establishment of The U.S.-ROK Combined Theater Command, Extended Deterrence Should Be Strengthened."

[144] Hyun-oh Lee, "The Difference Between US-NATO and U.S.-ROK Alliance in the Case of the North Korean Nuclear Threat," *New Daily*, July 7, 2014, http://www.newdaily.co.kr/site/data/html/2014/07/07/2014070700011.html.

[145] Lee, "The Difference between US-NATO and U.S.-ROK Alliance in the Case of the North Korean Nuclear Threat."

[146] Choon-keun Lee, "Acquiring Nuclear Weapons Depends on Our Will," *Premium Chosun*, May 18, 2015, http://premium.chosun.com/site/data/html_dir/2015/05/17/2015051700856.html; Lee, "Security Crisis Has Never Been Desperate as Current South Korea," *Premium Chosun*, May 18, 2015, http://premium.chosun.com/site/data/html_dir/2015/05/17/2015051700858.html; Lee, "The U.S. Has Almost Tolerated Nuclearization of the States that Were Friendly to the U.S.," *Premium Chosun*, May 18, 2015, http://premium.chosun.com/site/data/html_dir/2015/05/17/2015051700867.html.

g. In 2016

"If South Korea challenges the long-standing principle of nonproliferation and goes beyond nuclear threshold, it would have to take the U.S.'s non-military retaliations," said Cha Doo-hyun, a research fellow at KIDA and the Korea Institute for National Unification. It has been reported, for instance, that if the United States stops uranium sales to South Korea, 40 percent of the domestic electricity production of South Korea would be lost.[147]

With regard to the deployment of tactical nuclear weapons, Park Hwee-rhak, the chairman of the Kookmin University's Political Science Postgraduate School, insisted that South Korea should consider a joint measure with Japan to request deploying the U.S. tactical nuclear weapons in both states.[148]

h. In 2017

Kim Seong-han, the chairman of the Korea University's International Studies Postgraduate School, stated, "No matter how high the credibility of the extended deterrence the United States provides for the protection of its allies, the credibility is useless if the allies' citizens become agitated."[149] He added, "South Koreans now do not think that U.S. extended deterrence will completely deter North Korea with nuclear forces deployed in U.S. homeland and Guam."[150] Kim also argued that either South Korea's nuclear arming or redeployment of U.S. nuclear weapons should be done as a response to North Korea's nuclear threat.[151]

i. In 2018

Yang Wook, a senior research fellow at the Korea Defense and Security Forum, pointed out that if the WT-OPCON transition proceeded without thorough preparations,

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[147] Lee, "Trump Appears to be Unable to Reverse the US Nonproliferation Norm."

[148] Lee, "Trump Appears to be Unable to Reverse the US Nonproliferation Norm."

[149] Seong-han Kim, "Persuade Washington to Redeploy Tactical Nuclear Weapons," *Chosun Ilbo*, September 7, 2017, http://news.chosun.com/site/data/html_dir/2017/09/06/2017090603592.html.

[150] Kim, "Persuade Washington to Redeploy Tactical Nuclear Weapons."

[151] Kim, "Persuade Washington to Redeploy Tactical Nuclear Weapons."

the provision of U.S. extended deterrence would hardly be possible.[152] He indicated that if the USFK commander conducts operations under the command of the ROK military, U.S. strategic nuclear assets could not be deployed in a timely manner.[153]

j. Summary

Figure 8 presents a result of coding South Korean academics' confidence in U.S. extended deterrence, as revealed in media.

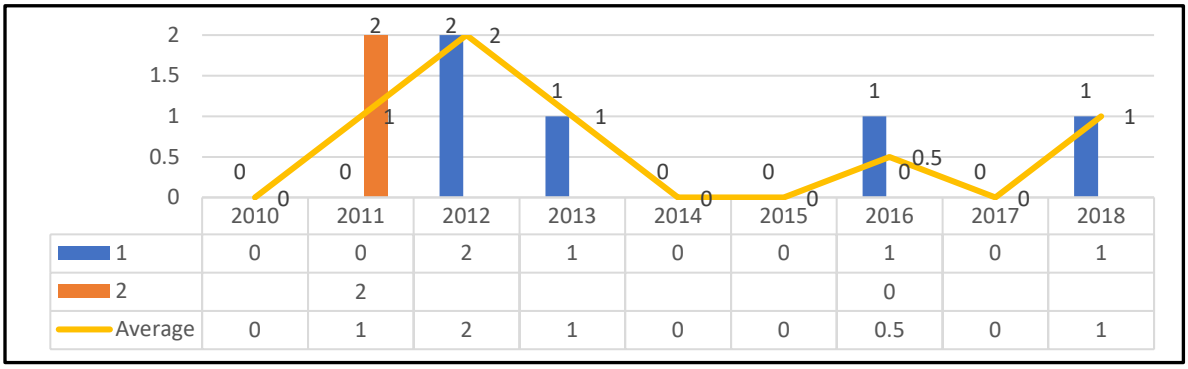

Figure 8. Three Levels of Academic Confidence in Extended Deterrence, as Expressed in the Media.[154]

3. Analysis

The coding result of South Korean academics' combined confidence in U.S. extended deterrence is shown in Figure 9.

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[152] Wook Yang, "The Unprepared Transition of WT-OPCON Is a Disaster," *Sisapress*, January 3, 2018, http://www.sisapress.com/journal/article/173074.

[153] Yang, "The Unprepared Transition of WT-OPCON Is a Disaster."

[154] The different color bars indicate how many opinions scholars and experts expressed in each year. For example, in 2010, a total of three in academia expressed their perceptions of U.S. extended deterrence. Each color represents a distinct scholar or a military expert. The order of color is a simple list of investigated journals or policy papers and there is no other special meaning.

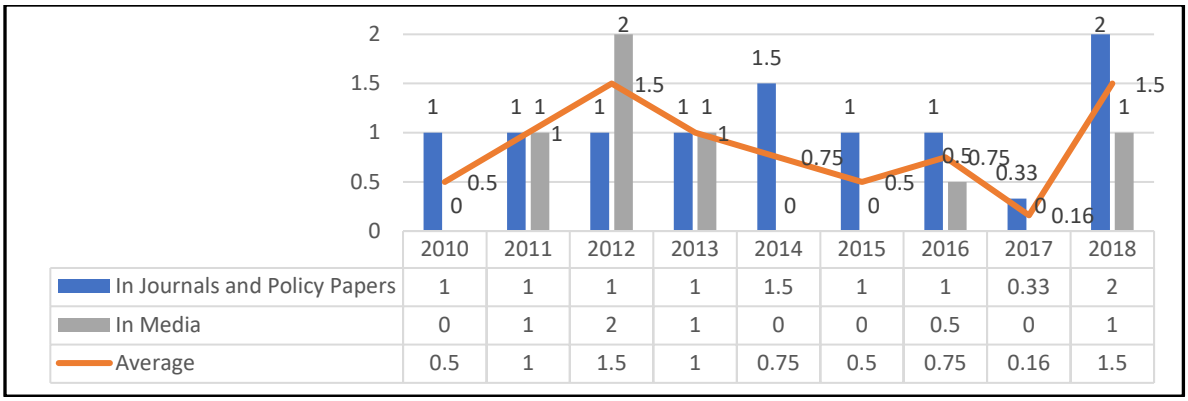

Figure 9. Three Levels of Academics' Combined Confidence in U.S. Extended Deterrence.

Analyzing the coding results in percentage terms, South Korean academics' confidence in U.S. extended deterrence has been moderate, with an average of 42.5 percent, as shown in Figure 10.

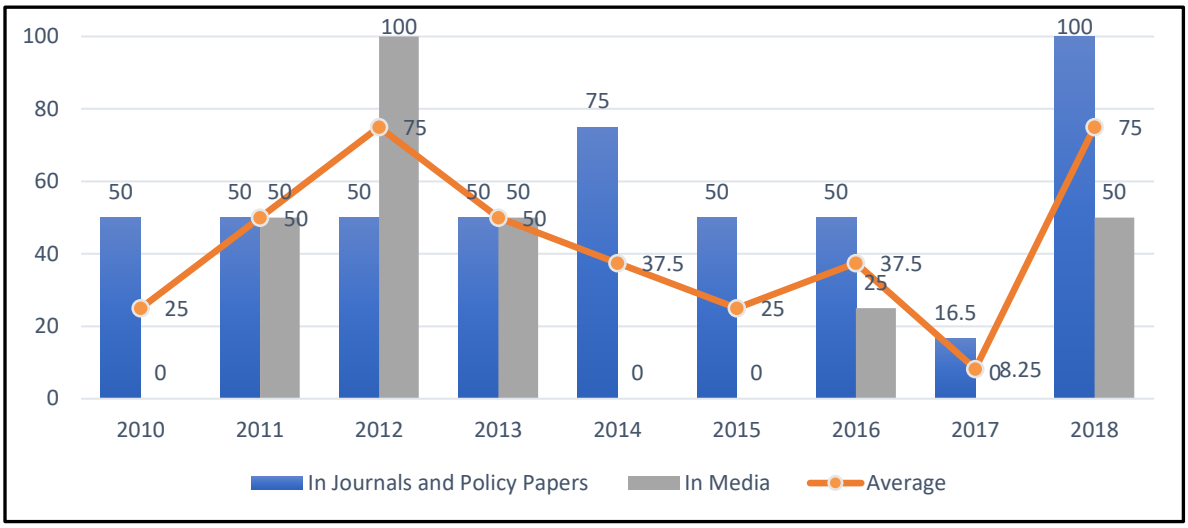

Figure 10. Academics' Confidence in U.S. Extended Deterrence, by Percentage.

Overall, South Korean academics' confidence has been lower than that of politicians. Moreover, academics' perceptions have shown a relatively lower confidence level than the neutral position for over more than half of the survey period. Notably, academic perceptions, similar to political perceptions, have been diverse and,

accordingly, can be categorized into three levels—a strong confidence, a strong distrust, and a neutral stance.

The existence of various perceptions does not necessarily mean that scholars' and experts' confidence in U.S. extended deterrence has constantly changed. These various perceptions might imply that most academic experts have not regularly reassessed U.S. extended deterrence. Even if some scholars, such as Park Hwee-rhak and Cheon Seong-whun, have sometimes commented on U.S. extended deterrence, their perceptions have changed little over time.

One difference in the basis of political perceptions is that the academic group tends to analyze variations in circumstances surrounding U.S. extended deterrence in more detail than politicians do. Yet, given the role of academic experts or scholars in advising on the decision of national strategies and relevant policies, the academics' perceptions still seem to be in line with the politicians' perceptions of U.S. extended deterrence. The most vigorously debated issues related to U.S. extended deterrence among scholars and experts have been the relocation of tactical nuclear weapons and the pursuit of South Korea's own nuclear weapons.

The inability to completely identify changes in all individual experts' perceptions and the lack of a broadly representative number of experts qualify the preceding data, which show changes in academics' perceptions of U.S. extended deterrence. Although not many scholars frequently analyze the credibility of U.S. extended deterrence, the various perceptions examined in this section remain valuable to identify the existing academic group's confidence in U.S. extended deterrence.

C. PUBLIC PERCEPTIONS

This section explores the South Korean public's perceptions of U.S. extended deterrence. Due to the lack of polling directly related to extended deterrence by survey institutions, this section utilizes the results of polls about the U.S.-ROK alliance-related issues as *approximation* data. An appreciation for changes in public perceptions of the U.S.-ROK alliance can stand in because U.S. extended deterrence operates within the framework of the alliance. The thesis utilizes polls concerning the U.S.-ROK alliance

conducted by the Public Opinion Studies Program (POSP) of the AIPS as the primary data.

1. Future U.S.-ROK Alliance

Prospects of the future U.S.-ROK alliance can be a valuable source for identifying the South Korean public's confidence in the current alliance relationship, as well as the future one. If South Koreans currently perceive the U.S.-ROK alliance as negative, their evaluation of future relations will also remain pessimistic. Conversely, support for the current U.S.-ROK alliance will reflect positive perceptions of the future U.S.-ROK alliance.

According to the 2013 PSOP of the AIPS, since 2011, more than 90% of South Koreans have viewed the U.S.-ROK alliance as imperative in the future.[155] Notably, even if South Korea's primary threat from the North disappeared after reunification, a clear majority of the South Korean public perceived the alliance as a necessary mechanism.[156] From 2011 to 2013, 75.3%, 84.0%, and 71.2% of respondents, respectively, supported the maintenance of the U.S.-ROK alliance after reunification.[157] Figure 11 shows perceptions of the necessity of the future U.S.-ROK alliance.

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[155] "South Korean Perceptions of ROK-US Relations and Foreign Affairs," The Asan Institute for Policy Studies, June 20, 2013, http://en.asaninst.org/contents/south-korean-perceptions-of-rok-us-relations-and-foreign-affairs/.

[156] The Asan Institute for Policy Studies, "South Korean Perceptions of ROK-US Relations and Foreign Affairs."

[157] The Asan Institute for Policy Studies, "South Korean Perceptions of ROK-US Relations and Foreign Affairs."

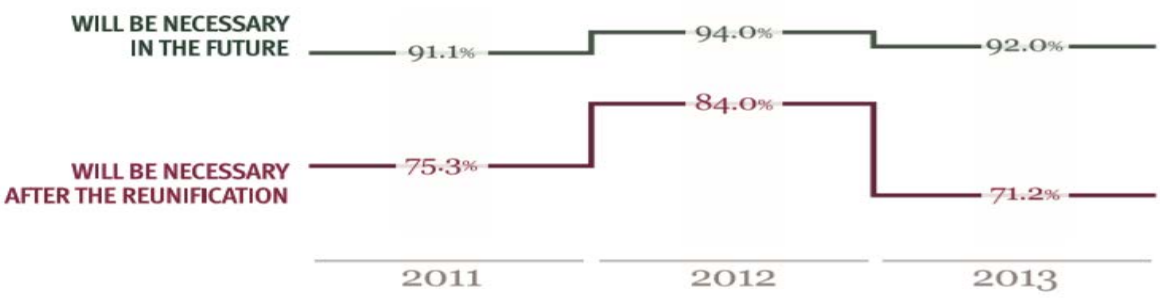

Figure 11. Necessity of the Future U.S.-ROK Alliance.[158]

In relation to the necessity of the U.S.-ROK alliance, public perceptions in 2013 favored the U.S. military presence in South Korea. The South Korean public appeared to support the presence of U.S. troops in South Korea fairly broadly, with 68% overall support, due to the perceptions that the U.S.-ROK alliance has been effective in deterring the North Korean threats.[159]

In 2014, positive perceptions of the U.S.-ROK alliance were also robust, with 93.3% perceiving the alliance as essential.[160] When asked whether the U.S.-ROK alliance should be maintained if the economic burden on the South Korean economy increased, 82.6% remained in favor.[161] This outcome implies that the scope of the U.S.-ROK alliance is perceived to extend beyond the North Korean threat. When asked about a post-reunification situation, 66.0% favored maintaining the alliance.[162] Figure 12 presents the South Korean public's perceptions of the necessity of the future U.S.-ROK alliance.

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[158] The Asan Institute for Policy Studies, "South Korean Perceptions of ROK-US Relations and Foreign Affairs."

[159] The Asan Institute for Policy Studies, "South Korean Perceptions of ROK-US Relations and Foreign Affairs."

[160] "South Koreans and Their Neighbors 2014," The Asan Institute for Policy Studies, April 19, 2014, http://en.asaninst.org/contents/south-koreans-and-their-neighbors-2014/.

[161] The Asan Institute for Policy Studies, "South Koreans and Their Neighbors 2014."

[162] The Asan Institute for Policy Studies, "South Koreans and Their Neighbors 2014."

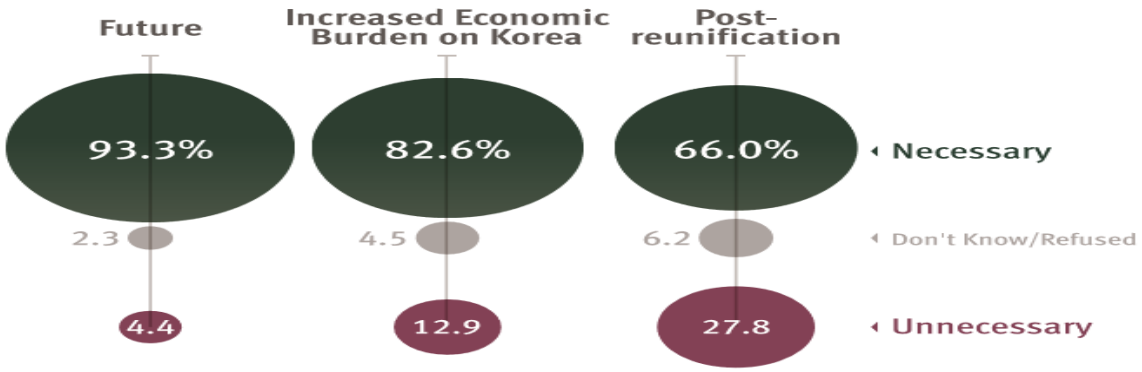

Figure 12. Necessity of the Future U.S.-ROK Alliance (as of 2014).[163]

2. Current and Future Relationship with the United States

Like views on the future of the U.S.-ROK alliance, the South Korean public's perceptions of the United States more broadly might approximate their perception of the U.S.-ROK alliance and, by extension, of extended deterrence operating within the alliance mechanism. As argued earlier, the South Korean public's support for the current relationship with the United States would also involve favorability toward extended deterrence, or vice versa.

In 2016, an overwhelming 86.1% of the ROK public responded that South Korea's relationship with the United States is cooperative, up nearly 5% from the previous year, as shown in Figure 13.[164]

[163] The Asan Institute for Policy Studies, "South Koreans and Their Neighbors 2014."

[164] "South Koreans and Their Neighbors 2016," The Asan Institute for Policy Studies, May 3, 2016, http://en.asaninst.org/contents/south-koreans-and-their-neighbors-2016/.

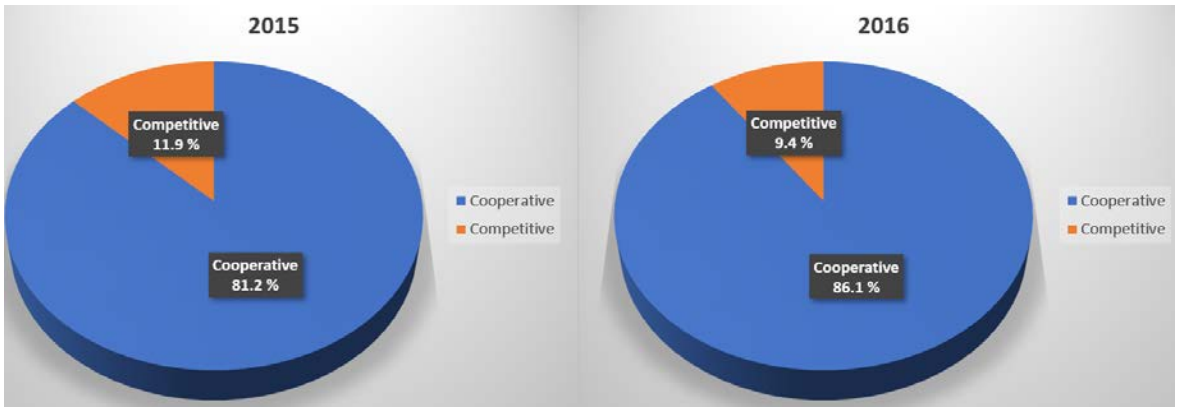

Figure 13. South Korean Public's Perception of the Current U.S.-ROK Relationship.[165]

Regarding South Korea's future relationship with the United States, an average of 72.8% of South Korean public perceived that relationship between the two countries will improve, as shown in Figure 14.[166]

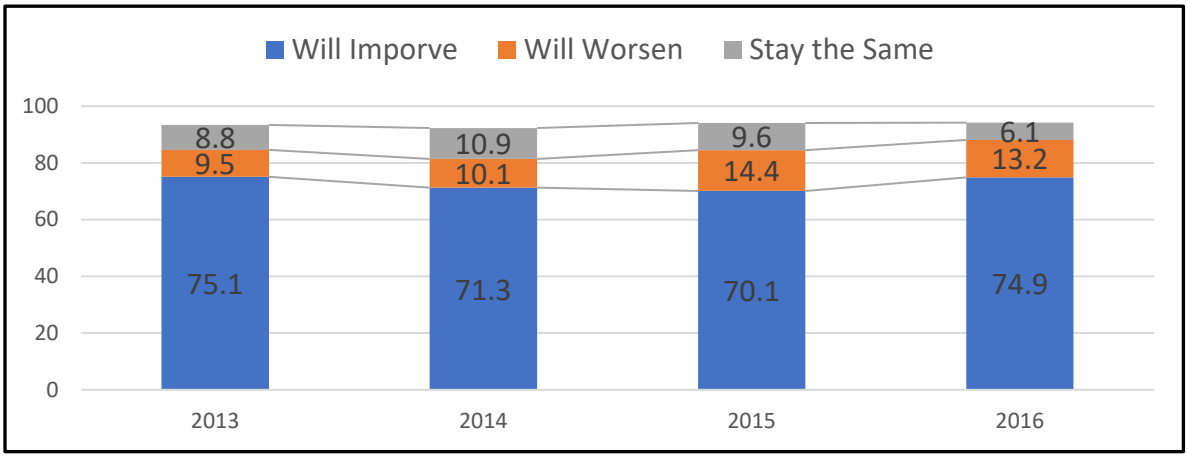

Figure 14. South Korean Public's Perception of the Future U.S.-ROK Relationship.[167]

[165] Adapted from The Asan Institute for Policy Studies, "South Koreans and Their Neighbors 2016."

[166] "South Koreans and Their Neighbors 2018," The Asan Institute for Policy Studies, May 2, 2018, http://en.asaninst.org/contents/south-koreans-and-their-neighbors-2018/.

[167] Adapted from The Asan Institute for Policy Studies, "South Koreans and Their Neighbors 2018."

3. Most Important Security Partner

Because the South Korean public recognizes the United States as the most important security partner, this recognition could also be a measure for estimating the public's degree of confidence in U.S. extended deterrence, as a function of the U.S.-ROK alliance. In particular, because U.S. extended deterrence is a representative means of the U.S.-ROK security alliance, the South Korean public's perceptions of the most important security partners would be directly linked to those of U.S. extended deterrence.

In a 2018 poll on security partners, 65% of the South Korean public considered the United States to be the most important security partner.[168] A majority of the South Korean public has maintained this view since 2014 and the degree of confidence has gradually increased, as shown in Figure 15.[169]

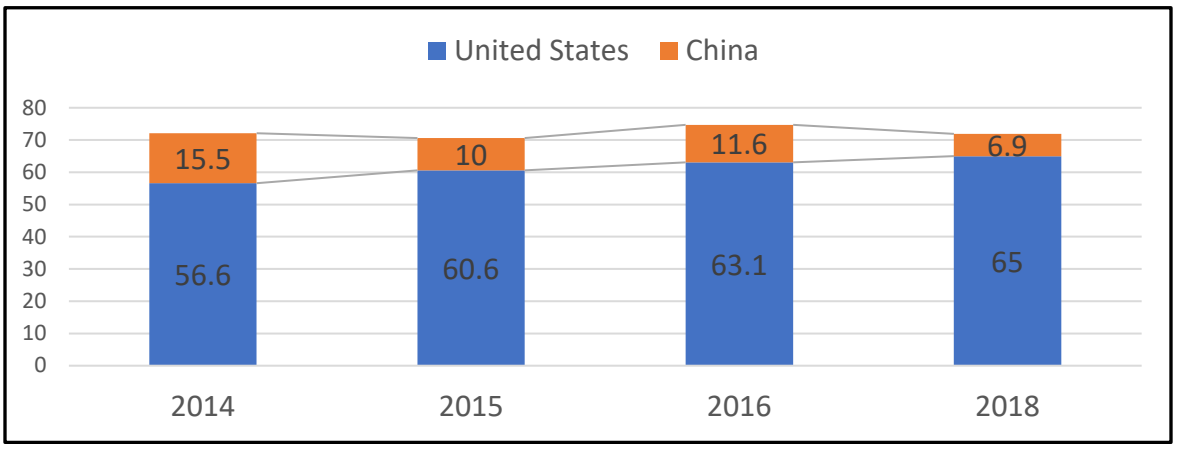

Figure 15. South Korean Public's Perception of the United States as ROK's Most Important Security Partner, by Percentage.[170]

In response to another question about the country with which South Korea must strengthen its relationship if the United States and China maintain their rivalry, a vast

[168] The Asan Institute for Policy Studies, "South Koreans and Their Neighbors 2018."

[169] The Asan Institute for Policy Studies, "South Koreans and Their Neighbors 2018."

[170] Adapted from The Asan Institute for Policy Studies, "South Koreans and Their Neighbors 2018."

majority of the South Korean public chose the United States over China.[171] Moreover, from 2014 onward, a majority of respondents has consistently perceived the United States as a state with which South Korea should strengthen its ties.[172] Figure 16 presents the South Korean public's opinion about future security partners.

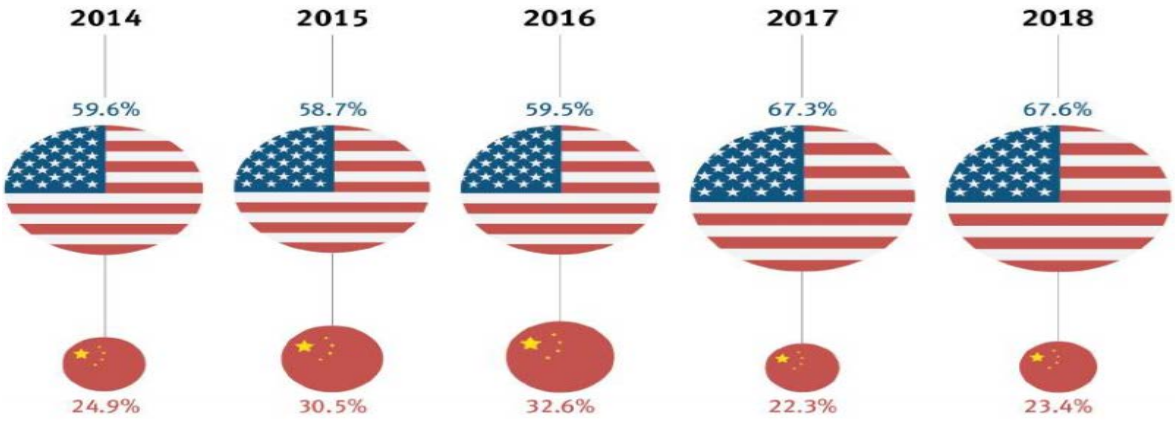

Figure 16. South Korean Public's Preferred Future Security Partner, 2014–2018.[173]

4. South Korea's Possession of Nuclear Weapons

The POSP released data from surveys conducted from 2010 to 2016 on the public's perceptions of South Korea's nuclearization. Interestingly, when respondents were asked if they supported the ROK's pursuit of its own nuclear weapons, the majority of respondents appeared to favor South Korea's possession of nuclear weapons.[174] Despite the South Korean public's overall high confidence in U.S. extended deterrence as identified so far, the public also largely supported the ROK's possession of its own nuclear weapons, as shown in Figure 17.[175]

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[171] The Asan Institute for Policy Studies, "South Koreans and Their Neighbors 2018."

[172] The Asan Institute for Policy Studies, "South Koreans and Their Neighbors 2018."

[173] The Asan Institute for Policy Studies, "South Koreans and Their Neighbors 2018."

[174] The Asan Institute for Policy Studies, "South Koreans and Their Neighbors 2016."

[175] The Asan Institute for Policy Studies, "South Koreans and Their Neighbors 2016."

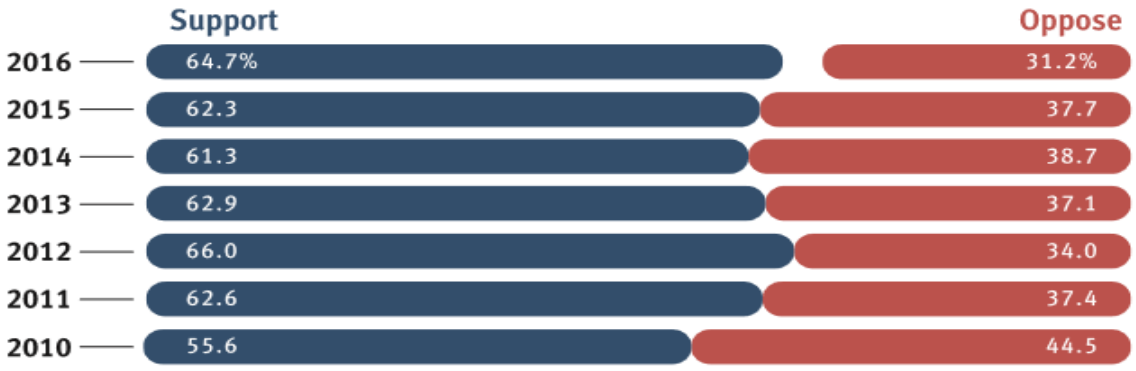

Figure 17. South Korean Public Opinion on Developing Nuclear Weapons in South Korea, by Percentage.[176]

This phenomenon is in stark contrast to conventional wisdom that the greater the confidence in U.S. extended deterrence, the weaker the support for South Korea's nuclearization. This contradictory perception may be attributed to a lack of understanding of exactly how U.S. extended deterrence operates within the larger framework of the U.S.-ROK alliance. The South Korean public may only have a rough idea of U.S. extended deterrence, compared to experts engaging in national or military strategy concerning the extended deterrence. The tendency of most of the South Korean public is not to delve into the details of U.S. extended deterrence, but just consider the U.S.-ROK alliance itself, which is the reason most polls in South Korea rarely address a specific area concerning U.S. extended deterrence. They instead largely deal with the South Korean public's perceptions of the larger framework of the U.S.-ROK alliance.

5. Analysis

The results of the polling just discussed can be combined to show a general picture of the South Korean public's confidence in U.S. extended deterrence. This confidence has generally been strong, with an average of 74.1% supporting extended deterrence, as shown in Figure 18.

[176] The Asan Institute for Policy Studies, "South Koreans and Their Neighbors 2016."

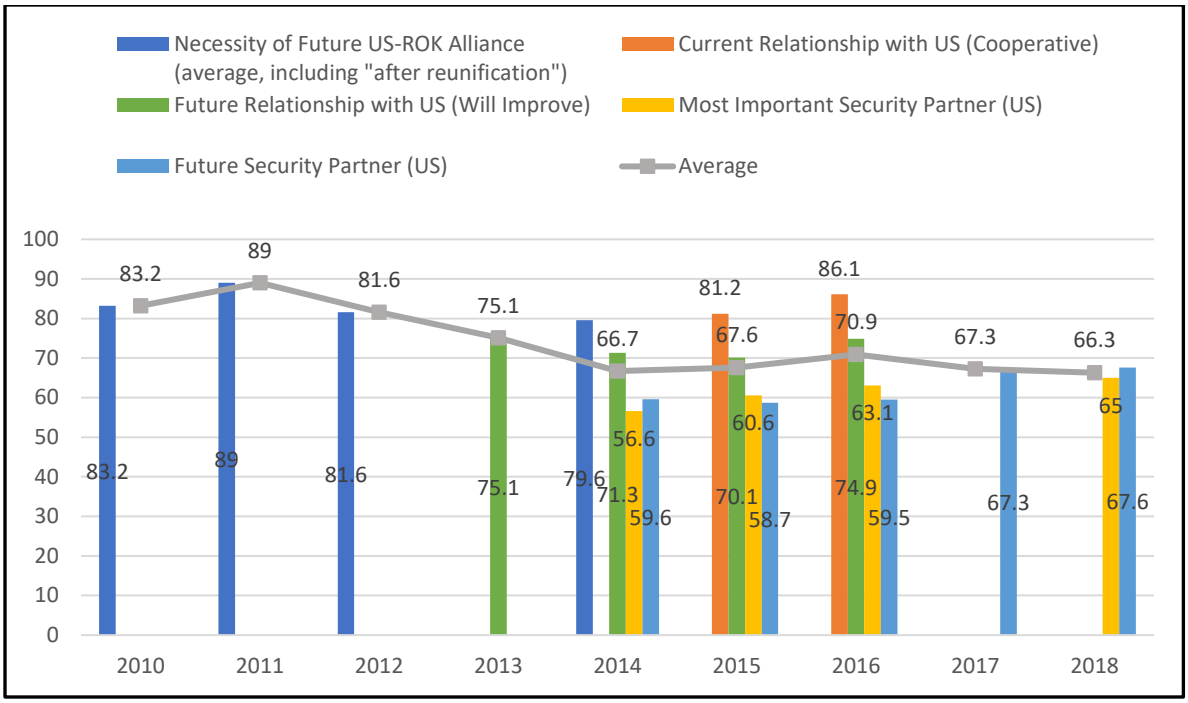

Figure 18. South Korean Public's Level of Confidence in U.S. Extended Deterrence, 2010–2018.

The South Korean public has been supportive of the current U.S.-ROK alliance, as well as the general relationship with the United States. They also have been optimistic about the future relationship of the U.S.-ROK alliance. In particular, the South Korean public has not expressed a neutral opinion or distrust of the U.S.-ROK alliance since 2010, and a majority has clearly recognized the U.S.-ROK alliance as the most important mechanism for South Korea's security. Accordingly, overall public confidence in U.S. extended deterrence, based on the approximation of the confidence level the South Korean public has in the U.S.-ROK alliance, can be evaluated as strong.

But to equate the perception of the U.S.-ROK alliance with that of U.S. extended deterrence may be tenuous. If the South Korean public is clearly aware of and has a lot of interest in U.S. extended deterrence, surveys conducted in South Korea should directly address public perceptions of U.S. extended deterrence. Yet, no direct relevant data has been developed in South Korea. This trend might denote that the South Korean public has little interest in U.S. extended deterrence or is not much aware of it. Conversely, the

existence of data about perceptions of the U.S.-ROK alliance could mean the South Korean public largely cares about the alliance relationship. As previously argued, the South Korean public's confidence in the U.S.-ROK alliance involves their confidence in U.S. extended deterrence because U.S. extended deterrence operates as part of the U.S.-ROK alliance. This fact underpins the rationale for approximating the public confidence in U.S. extended deterrence through identifying public perceptions of the U.S.-ROK alliance.

D. CONCLUSION

Combining the three measures developed in this chapter can provide an overall picture of South Koreans' perception of U.S. extended deterrence. As shown in Figure 19, overall, South Koreans (i.e., politicians, academics, and the general public) have shown moderate confidence in U.S. extended deterrence, with a total average of 59.4 percent.

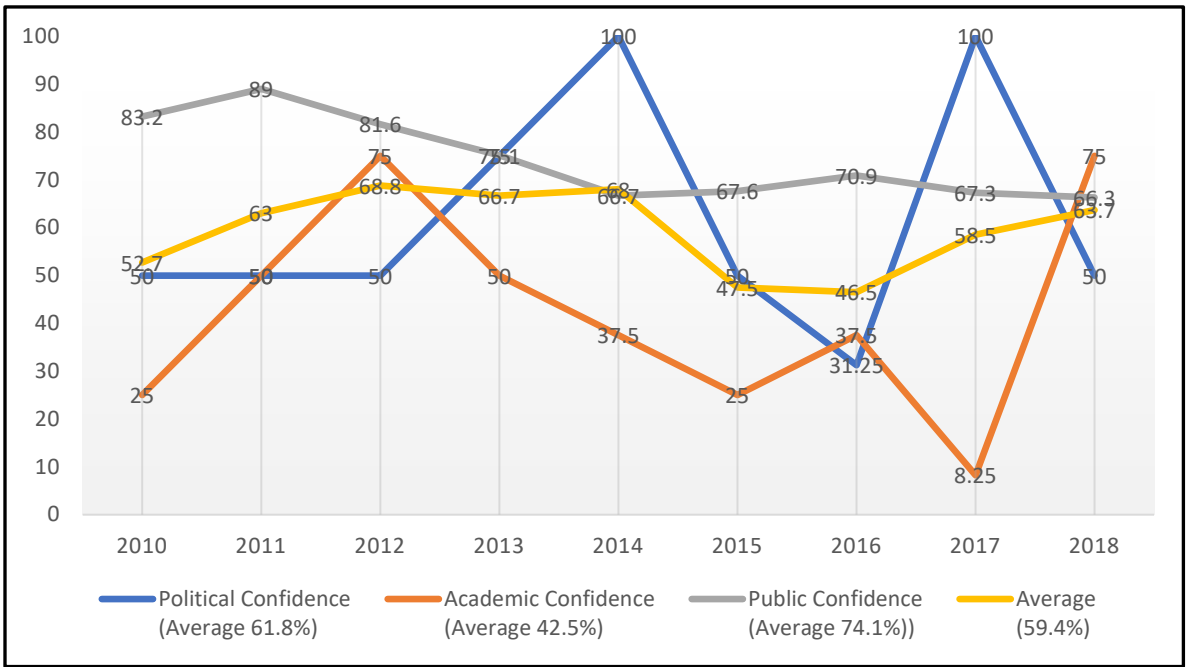

Figure 19. South Koreans' Overall Confidence in U.S. Extended Deterrence, 2010–2018.

Each group's confidence in U.S. extended deterrence has changed with differing aspects in terms of the degree of confidence and fluctuations. Public perceptions appear to have reflected a relatively strong and solid confidence in U.S. extended deterrence over time, with an average of 74.1% and small fluctuations. Politicians' perceptions, on the other hand, seem to have varied in their degrees of confidence, from high confidence to strong distrust, although overall confidence has remained high, with an average of 61.8%. Academics' perceptions also appear to have ranged across various degrees of confidence in U.S. extended deterrence, but with more acute fluctuations than politicians' confidence and an average of 42.1 percent of moderate confidence.

These three differing measures indicate little correlation with each other. First, the correlation between perceptions of the academic group and those of the political group appears minimal. The degree of confidence fluctuations in U.S. extended deterrence varies acutely from year to year, but with little relationship between the two groups. In particular, given the significant role of scholars and experts in advising on policy decisions, this lack of correlation suggests that the impact of academics' perceptions on politicians' confidence in U.S. extended deterrence is modest: while academics' confidence had risen since 2010, politicians' confidence had remained the same; while academics' level of confidence in U.S. extended deterrence has dropped since 2012, politicians' confidence has moved in opposite direction. These opposing trends in the changing levels of confidence have persisted since then.

Second, the respective confidence levels of academics and public opinion seem to have little correlation to each other: compared to the academic group, the public one reflects little variation in the level of confidence in U.S. extended deterrence. Not only has public opinion had small confidence fluctuations, but it also has consistently reflected a high confidence in U.S. extended deterrence. When academics' confidence continued to increase in 2011, public confidence started to decrease in the same year. Meanwhile, the academic group has exhibited acute variations in its confidence level since 2014, but public opinion has posted relatively little change in its high level of confidence in U.S. extended deterrence.

The correlation between the politicians' and the public's confidence levels also appears insignificant, contradicting the possibility of direct or indirect influence of political decisions on public perceptions. While the political group has consistently displayed varying degrees of confidence, public opinion has shown a high confidence in U.S. extended deterrence, with little variation in degrees and no correspondence to the political group. When politicians' confidence moved toward a higher degree after 2012, public opinion moved marginally in the opposite direction, and when politicians' confidence started to decrease in 2014, public confidence moved slightly again in an opposite trajectory. Since 2016, public confidence has decreased, albeit by very small degrees, while politicians' level of confidence greatly increased and then decreased again.

Overall, South Koreans' perceptions of U.S. extended deterrence appear to have changed somewhat over time, while overall reflecting a high degree of moderate confidence (59.4%) rather than a strong distrust of U.S. extended deterrence. Indeed, within moderate confidence, South Koreans' perceptions remain closer to high levels of confidence. This result may imply that politicians and the public, with generally high confidence in U.S. extended deterrence, may occupy a larger share of the overall South Korean outlook than the academic group, which expresses lower confidence relative to those other two groups. The likelihood of the academic group's small role could also indicate the limited influence of academic perceptions on political and public confidence in U.S. extended deterrence.

A debatable point remains: some could say that individual perceptions of U.S. extended deterrence have varied in accordance with individuals' personal political tendencies or beliefs. However, because such differences in political tendencies are also part of the South Koreans' perceptions, this thesis accepts the differences as they are.

The preceding survey of South Koreans' perceptions of U.S. extended deterrence leaves unanswered the most important question: why have these perceptions changed over time? The following chapters, therefore, identify what specific factors have influenced South Koreans' perceptions of U.S. extended deterrence.

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III. CHANGES IN U.S. NUCLEAR STRATEGY AND NORTH KOREA'S ICBM CAPABILITY

Two factors in particular may shape South Korean viewpoints on the credibility of U.S. extended deterrence. U.S. nuclear strategy establishes relevant policies and nuclear force structure relating to extended deterrence. Hence, the U.S. NPR, which directly reflects U.S. political decisions and nuclear capabilities, is crucial to understanding changes in U.S. nuclear strategy, including U.S. extended deterrence. Of North Korea's various nuclear capabilities—for example, producing fissile material through plutonium or highly enriched uranium (HEU)—ICBM capability particularly has a significant impact on the probability of the United States executing extended deterrence. As the North's ICBM capability advances, especially as its missiles equipped with nuclear warheads become capable of reaching the U.S. mainland, the United States might have less inclination to extend its deterrence to South Korea, due to the possibility of a nuclear attack from North Korea.

This chapter first explores differences between the 2010 and 2018 NPRs with the aim of identifying how U.S. extended deterrence capability has changed: has U.S. nuclear capability been strengthened or weakened? The chapter then examines how North Korea's ICBM capability has changed since 2012: has North Korea's ICBM capability advanced or been downgraded?

A. CHANGES BETWEEN THE 2010 AND 2018 NPRS

This section identifies key policy decisions directly related to extending U.S. nuclear deterrence to South Korea, through the NPRs published in 2010 and 2018. It also examines the variations in U.S. nuclear capabilities reflected in each NPR. This section then contrasts the differences and changes in key policy decisions and nuclear capabilities, and concludes with key findings that might affect South Koreans' confidence in U.S. extended deterrence.

1. The 2010 NPR

The 2010 NPR is the third comprehensive review of U.S. nuclear strategy, policies, and force structure following the two reviews in 1994 and 2001.

a. Key Policy Decisions

The 2010 NPR has as its main context, "putting an end to the Cold War thinking, adapting to a changed security environment, and committing to a world without nuclear weapons."[177] The 2010 NPR was based on the assumption that, unlike the past when sharp conflicts were prevalent, the contemporary security environment was capable of seeking strategic cooperation for common security interests among major powers, like China and Russia.

(1) Top Priority and Negative Security Assurance

The United States placed its top priority on preventing rogue states and terrorist groups from proliferating WMD and responding to nuclear terrorism.[178] The United States evaluated that the possibility of nuclear war between states is much lower than in the past, including the Cold War era, based on the continuous trend of US-Russia nuclear disarmament and US-China cooperation for common security threats.[179] Instead, the United States voiced concerns about the high probability of illicit nuclear proliferation and accidental nuclear war initiated by terrorist groups and rogue states, such as Iran and North Korea, which have rejected the obligations of the NPT and continued to pursue nuclear ambitions.[180] Accordingly, the United States recognized the spread of WMD by terrorists and rogue states as a major threat.

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[177] U.S. Department of Defense, *2010 Nuclear Posture Review Report* (Washington, DC: Government Printing Office, 2010), iv–v, https://dod.defense.gov/Portals/1/features/defenseReviews/NPR/2010_Nuclear_Posture_Review_Report.pdf.

[178] U.S. Department of Defense, *2010 Nuclear Posture Review Report*, 9–13.

[179] U.S. Department of Defense, *2010 Nuclear Posture Review Report*, iv–v.

[180] U.S. Department of Defense, *2010 Nuclear Posture Review Report*, iv.

(2) Declaratory Policy for Nuclear Weapons Use

The U.S. top priority on nuclear nonproliferation, in turn, affected its Negative Security Assurance (NSA) policy in a way that encourages non-nuclear states to comply with the obligations of the NPT regime: if non-nuclear states follow the WMD nonproliferation values and do not develop their own nuclear weapons or illegally proliferate nuclear materials, the United States would not use its nuclear weapons against them.[181] This revised NSA policy acknowledged that the United States still had the possibility to deter WMD attacks with nuclear weapons under certain conditions, and reserved the right to adjust the policy based on future proliferation or technology change.[182]

(3) Role of U.S. Nuclear Weapons

The United States decided to reduce the role of nuclear weapons and instead strengthen that of conventional weapons through the 2010 NPR, although it still considered "the fundamental role of nuclear weapons" as deterring "nuclear attacks on the United States, its allies, and partners."[183] In relation to protection and defense of the United States and its allies, the 2010 NPR stipulated that the United States would use nuclear weapons only under "extreme circumstances" and that the nuclear weapons may play a role in a narrow range of contingencies to deter conventional, chemical, and biological weapons attacks on the United States and its allies.[184]

(4) Strategic Stability with Reduced Nuclear Force Levels

The United States determined to maintain its nuclear triad system—sea-based, ground-based, and air-based nuclear forces—while adapting to a decreased number of nuclear warheads and delivery vehicles within its strategic balance with China and Russia. The 2010 NPR aimed to offset a potential loophole that might arise from the reduced

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[181] U.S. Department of Defense, *2010 Nuclear Posture Review Report*, viii.

[182] U.S. Department of Defense, *2010 Nuclear Posture Review Report*, viii.

[183] U.S. Department of Defense, *2010 Nuclear Posture Review Report*, 15–17.

[184] U.S. Department of Defense, *2010 Nuclear Posture Review Report*, vii–ix.

nuclear weapons' role by improving missile defense capability and converting existing strategic nuclear systems into conventional roles.[185]

The reduction of nuclear weapons in the future represents another key decision. In addition to a nuclear disarmament treaty with Russia,[186] the United States decided to consider further reductions in the number of nuclear weapons.[187] The NPR noted that U.S. strategic balance between both Russia and China, deterrence against potential regional adversaries, and investments in nuclear management programs are the crucial factors to consider when further reducing U.S. nuclear weapons.[188]

(5) Strengthening Regional Deterrence and Reassuring Allies and Partners

The United States announced that it will continue to "work with its allies and partners to strengthen regional deterrence through enhancing conventional capability, missile defense, and counter-WMD capability."[189] Notably, while the U.S. security guarantees to its allies and partners have long been backed fundamentally by its nuclear capabilities, non-nuclear means have also played an important role in U.S. extended deterrence.[190] Regarding the nuclear component in U.S. extended deterrence, the United States pointed out that as long as nuclear threats to itself and its allies remain, it would retain nuclear weapons, and that it would nevertheless retire nuclear-armed (or equipped) sea-launched cruise missiles (TLAM-N).[191]

b. Nuclear Capability

Revealed through the 2010 NPR, the U.S. nuclear capabilities can be inferred from policies and plans related to nuclear force structure: U.S. nuclear force structure

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[185] U.S. Department of Defense, *2010 Nuclear Posture Review Report*, ix–x.

[186] New START means New Strategic Arms Reduction Treaty, signed on April 8, 2010, and entered into force on February 5, 2011.

[187] U.S. Department of Defense, *2010 Nuclear Posture Review Report*, xi.

[188] U.S. Department of Defense, *2010 Nuclear Posture Review Report*, xi.

[189] U.S. Department of Defense, *2010 Nuclear Posture Review Report*, xii.

[190] U.S. Department of Defense, *2010 Nuclear Posture Review Report*, xii–xiii.

[191] U.S. Department of Defense, *2010 Nuclear Posture Review Report*, xii–xiii.

consists of the number of nuclear warheads and delivery means, development of new capabilities, and modernization of existing nuclear weapons systems. First, the number of U.S. nuclear warheads and delivery vehicles was slated to shrink significantly. Following the renewed nuclear disarmament negotiations with Russia, the United States indicated that it would reduce the number of strategic nuclear warheads, delivery vehicles, and launchers.[192] The United States also pointed out that the Tomahawk—TLAM-N—would be eliminated.

Second, development of new nuclear capabilities and modernization of existing nuclear weapons systems were not part of U.S. nuclear strategy revealed through the 2010 NPR. The United States will "de-MIRV"[193] all of its ICBMs so the U.S. Minuteman III ICBM will include only one nuclear warhead.[194] Moreover, according to U.S. stockpile management principles, the United States will develop no new nuclear warheads and only run prolonged life extension programs (LEPs) on existing nuclear warheads, such as the B-61 bomb.[195] Further, the United States "will not support new military missions or provide for new military capabilities."[196] It will instead retain a "capability to forward-deploy nuclear weapons on tactical fighter and heavy bombers."[197] On the other hand, the United States decided to increase various "investments in nuclear weapons complex."[198] A new investment in command and control systems was chosen to "maximize presidential decision time in a nuclear crisis."[199] The United States also planned to implement another investment in stockpile management and infrastructure in terms of both physical and human capital, "to ensure a safe, secure, and effective nuclear

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[192] U.S. Department of Defense, *2010 Nuclear Posture Review Report*, 19–21.

[193] "MIRV" is the acronym for "multiple independently targetable reentry vehicle." "De-MIRV" can be regarded as meaning that the function of MIRV is eliminated.

[194] U.S. Department of Defense, *2010 Nuclear Posture Review Report*, 23.

[195] US Department of Defense, *2010 Nuclear Posture Review Report*, 37-40.

[196] U.S. Department of Defense, *2010 Nuclear Posture Review Report*, 39.

[197] U.S. Department of Defense, *2010 Nuclear Posture Review Report*, 24–28.

[198] U.S. Department of Defense, *2010 Nuclear Posture Review Report*, 40–43.

[199] U.S. Department of Defense, *2010 Nuclear Posture Review Report*, 25–27.

stockpile."[200] An investment in leadership and expertise of U.S. nuclear deterrence was also included in investment subjects.[201]

c. Analysis

The 2010 NPR implies several signals of weakening U.S. extended deterrence. The role of U.S. nuclear weapons and their share in U.S. extended deterrence would decrease, while those of conventional forces increase. Although the United States would still retain many of its strategic nuclear forces to ensure regional security for allies and partners, it would also gradually decrease the role and proportion of nuclear forces in extended deterrence. The United States would instead replace the gap with advanced conventional capability, combined with missile defense systems.

The circumstances under which the United States would use its nuclear weapons to deter opponents' WMD attack, particularly a nuclear one, remain ambiguous. Also, the policy under which the United States would utilize its nuclear weapons for deterrence purpose is unclear. More specifically, whether the United States will retaliate against nuclear attacks with its nuclear weapons and how it will deter nuclear attacks are not explicitly stated in the 2010 NPR. To a certain extent, this ambiguity is intentional (as a deterrent tactic), and not a change from the past. Yet, this uncertainty may increase concerns about whether the United States has a strong will for nuclear retaliation when and if its allies are attacked by nuclear opponents.

U.S. nuclear capabilities would be weakened in terms of their absolute power. The United States will implement considerable reductions in delivery means, nuclear warheads, and additional reduction plans, as presented in the 2010 NPR. Dismantling some existing systems related to nuclear capabilities and holding no plans to develop new systems and modernize nuclear weapons also could mean a weakening of U.S. nuclear capabilities. The investments in nuclear command and control systems, stockpile management and infrastructure, and leadership and expertise of nuclear deterrence may

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[200] U.S. Department of Defense, *2010 Nuclear Posture Review Report*, 40–43.

[201] U.S. Department of Defense, *2010 Nuclear Posture Review Report*, 43.

be more associated with U.S priority for nonproliferation and safeguards, rather than a substantial improvement of U.S. nuclear capabilities.

Conversely, an opposite assessment of the 2010 NPR is possible. Potential U.S. nuclear capabilities might not significantly weaken its extended deterrence because the United States would pursue its nuclear disarmament in parallel with Russia's nuclear capability and with sufficient considerations of other potential opponents, like North Korea. This analysis implies that, compared to major nuclear powers, such as Russia, and minor nuclear states in the world, the 2010 NPR might not have resulted in a substantial downgrade of U.S. nuclear capabilities and extended deterrence.

Diminished U.S. nuclear capabilities may not necessarily equate with weakened U.S. extended deterrence. If the loophole possibly created by the reduced role and number of nuclear weapons is filled by combining remaining strategic nuclear assets and advanced conventional capabilities, this transformed extended deterrence may not be significantly different from the previous deterrence or may remain equal. The U.S. use of advanced conventional capabilities as a more key element of extended deterrence could make deterrence more credible by increasing the likelihood of actual retaliation, from an adversary's perspective.

Nonetheless, from the perspective of allies protected by U.S. extended deterrence, including the nuclear umbrella, objective data related to reduced U.S. nuclear forces and their role could easily have been perceived as a weakening signal of U.S. extended deterrence capability. What remains certain to U.S. allies is that in the 2010 NPR the role and share of nuclear weapons diminished in U.S. extended deterrence. Furthermore, no weapon system exists yet to completely replace nuclear weapons.

2. The 2018 NPR

The United States released a new and fourth NPR eight years after the 2010 NPR.

a. Key Policy Decisions

The 2018 NPR is based on the assumption that strategic security environments have rapidly deteriorated since the 2010 NPR release, such as the return of competitive

international relations among major powers, increased possibility of armed conflicts, and rapidly growing nuclear threats from rogue states, like North Korea.[202]

(1) Top Priority

The United States places its highest priority in the 2018 NPR on deterring any form of nuclear attack from potential adversaries. The United States recognizes its nuclear forces as a key means for deterring nuclear and non-nuclear attacks, assuring security for allies and partners, and achieving national security objectives in the event of deterrence failure.[203] Accordingly, the United States is considerably concerned about North Korea's nuclear threat, including its rapid nuclear force buildup and relentless nuclear blackmail. The possibility of nuclear terrorism is still emphasized in the 2018 NPR but is not the top priority.

(2) Declaratory Policy for Nuclear Weapons Use

The United States addresses three issues—non-first use (NFU) policy, conditions for using nuclear weapons, and NSA policy. First, the United States clearly declares that it does not adopt the NFU policy. At the same time, however, strategic ambiguity is maintained by not explicitly disclosing the precise conditions for using nuclear weapons.[204] The United States also indicates that, in order to prevent potential adversaries from making a miscalculation in an attempt to launch a first nuclear strike, it will maintain some nuclear forces on standby with immediate launch options.[205] Second, the United States defines a specific condition of nuclear weapons use: it will consider "using nuclear weapons only in extreme circumstances," meaning nuclear attacks and serious non-nuclear strategic attacks by adversaries.[206] Regarding the NSA, the United States describes that, as with the 2010 NPR, nuclear threats or attacks will not be

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[202] U.S. Department of Defense, *2018 Nuclear Posture Review Report* (Washington, DC: Government Printing Office, 2018): v–vi, https://media.defense.gov/2018/Feb/02/2001872886/-1/-1/1/2018-NUCLEAR-POSTURE-REVIEW-FINAL-REPORT.PDF.

[203] U.S. Department of Defense, *2018 Nuclear Posture Review Report*, vii.

[204] U.S. Department of Defense, *2018 Nuclear Posture Review Report*, 22.

[205] U.S. Department of Defense, *2018 Nuclear Posture Review Report*, 22.

[206] U.S. Department of Defense, *2018 Nuclear Posture Review Report*, 21.

imposed on non-nuclear states in compliance with the nonproliferation obligations as members of the NPT.[207]

(3) Role of U.S. Nuclear Weapons

The United States stresses that it will strengthen the role of nuclear weapons because of their irreplaceable role in achieving U.S. national strategic goals. Specifically, the United States emphasizes that its nuclear capabilities play a "unique and essential" role that cannot be replaced by any other means for deterring nuclear and non-nuclear attacks by adversaries.[208] This absolute role of nuclear weapons as a crucial means for U.S. national strategy also implies the importance of U.S. nuclear capabilities in extending its deterrence to allies and partners. The United States underscores that non-nuclear capabilities, including conventional forces, also "play an essential role in deterring adversaries' aggressions" but do not provide enough deterrent effects, comparable to those of nuclear capabilities.[209] Notably, the United States points out that guaranteeing security only with conventional forces cannot give U.S. allies and partners enough confidence in U.S. extended deterrence.[210]

(4) Preparing for Limited Nuclear Escalation

The United States addresses the high possibility of limited nuclear escalation caused by non-strategic nuclear weapons, and stipulates the escalation as a new form of threat, possibly applied by Russia or North Korea. The United States poses a particular possibility of North Korea utilizing the nuclear escalation option in the event of a crisis or war-fighting, through the development of strategic and non-strategic nuclear weapons systems and the threat of strategic nuclear attacks against the United States.[211]

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[207] U.S. Department of Defense, *2018 Nuclear Posture Review Report*, 21.

[208] U.S. Department of Defense, *2018 Nuclear Posture Review Report*, vi.

[209] U.S. Department of Defense, *2018 Nuclear Posture Review Report*, vi–vii.

[210] U.S. Department of Defense, *2018 Nuclear Posture Review Report*, vi–vii.

[211] U.S. Department of Defense, *2018 Nuclear Posture Review Report*, 11–12.

To deter limited nuclear attacks initiated by adversaries' miscalculations, the United States emphasizes the preparation for a limited nuclear war and at the same time presents "flexible and limited nuclear response options."[212] The United States maintains that "expanding flexible U.S. response options, including low-yield nuclear options," reduces the likelihood of employing nuclear weapons, through increasing adversaries' nuclear threshold and ensuring that "potential adversaries perceive no possible benefits of limited nuclear escalation."[213]

(5) Specifying Tailored Extended Deterrence

The 2018 NPR embodies a tailored extended deterrence to the Asia-Pacific region—in particular, against North Korea's evolving nuclear threat. The United States highlights that through leveraging the weaknesses of the North Korean regime and their nuclear facilities, deterring the North Korean nuclear threat and disabling its nuclear capabilities comprise a firm deterrence strategy of the United States.[214]

b. Nuclear Capability

Beyond retaining its strategic nuclear triad system, the United States seeks to modernize it, including tactical or theater-level non-strategic nuclear weapons, and to further develop and produce new systems that will replace the existing ones in the near future. The United States evaluates that relying on existing LEPs and delaying recapitalizations of U.S. nuclear forces have made it difficult to retire old nuclear systems and replace them with new ones.[215] In addition, by emphasizing the importance of the three elements of the triad system—sea-based, ground-based, and air-based nuclear deterrence forces—the United States underscores that it will strengthen and modernize these systems without delaying and excluding any element.

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[212] U.S. Department of Defense, *2018 Nuclear Posture Review Repor*t, 23.

[213] U.S. Department of Defense, *2018 Nuclear Posture Review Report*, 54.

[214] U.S. Department of Defense, *2018 Nuclear Posture Review Report*, 32–33.

[215] U.S. Department of Defense, *2018 Nuclear Posture Review Report*, 48.

Apart from the systems directly relating to nuclear weaponry, the United States strongly urges the need for modernizing its nuclear command, control, and communication (NC3) system to oversee and control overall nuclear operations.[216] Through modernizing the NC3 system, the United States aims to perfect the process, from threat detection and warning to decision making and directing of countermeasures in a timely manner, while minimizing miscalculation.

To support and complement low-yield nuclear options, the United States announces plans to extend the life of non-strategic nuclear weapons, like the B-61 bombs, as well as to enhance the precision-strike capability of the new B-61-12 nuclear weapons.[217] These projects also include the global forward deployment capability of nuclear bombers and dual-capable fighters, improvement of submarine-launched ballistic missile warhead performance, and development of a new type of maritime-launch nuclear cruise missiles.[218]

c. Analysis

The 2018 NPR signals the intention to strengthen U.S. extended deterrence: not only does it recognize the need to restore and improve U.S. nuclear capabilities, it also clarifies when and how to utilize them in U.S. extended deterrence. Regarding U.S. nuclear capabilities, the 2018 NPR seeks to change the U.S. paradigm of nuclear strategy in a way that reestablishes the role of nuclear weapons in U.S. national strategic goals and augments the absolute role of U.S. nuclear weapons. The United States indeed recognizes that, compared to nuclear capabilities, non-nuclear capabilities have limitations in providing its allies with enough deterrent effects. In doing so, the United States plans to modernize its legacy nuclear weapons systems and develop new ones. Upgrading current capabilities and further improving them by replacing them with new systems would contribute to considerably enhancing U.S. nuclear capabilities, thereby strengthening U.S. ability to extend its deterrence to South Korea against North Korea.

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[216] U.S. Department of Defense, *2018 Nuclear Posture Review Report*, xiii.

[217] U.S. Department of Defense, *2018 Nuclear* Posture Review Report, 47–48, 50, and 61.

[218] U.S. Department of Defense, *2018 Nuclear* Posture Review Report, 54.

Conditions under which the United States would use its nuclear weapons have become more apparent. The United States clearly intends to use its nuclear weapons for extending its tailored deterrence against North Korea's WMD threats. Moreover, it extends conditions for "using nuclear weapons even to non-nuclear strategic attacks."[219] Leveraging low-yield nuclear capability also clarifies how to deter North Korea's possible nuclear strategy. Although the United States still keeps its strategic ambiguity about the precise conditions for using nuclear weapons, the Unites States clearly shows its intention and willingness to actively utilize its nuclear capabilities by withdrawing the existing NFU policy.

U.S. nuclear capabilities would be considerably strengthened. Yet, U.S. extended deterrence may not necessarily improve proportionally to the enhanced U.S. nuclear capabilities in terms of its effectiveness. That is, the efficacy of U.S. extended deterrence may vary depending on which party views it. From an adversary's point of view, the augmentation of U.S. extended deterrence might make the adversary aware of the risks of provocations, and thereby constrain it from continuing them. Conversely, if the adversary feels a greater threat from this U.S. posture and becomes more willing to take risks by continuing with a reckless provocation, the effect of U.S. extended deterrence may become counterproductive.

From an ally's standpoint, however, strengthening of U.S. nuclear capabilities and commitments to actively use nuclear weapons are likely to be perceived as a strong shelter for the ally's security. As a result, from the perspective of South Koreans protected by the U.S. extended deterrence, including the nuclear umbrella, objective data related to the increased U.S. nuclear weapons role and improved capabilities would likely be perceived as signals of strengthening the overall U.S. extended deterrence. On the other hand, an ally that considers extended deterrence to be already sufficient could perceive increased U.S. willingness to use nuclear weapons as unnecessarily raising nuclear risks.

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[219] U.S. Department of Defense, *2018 Nuclear Posture Review Report*, vii.

3. Contrast between the 2010 and 2018 NPRs

Figure 20 highlights the differences and changes in U.S. nuclear strategy between the 2010 and 2018 NPRs in a side-by-side comparison.

	2010 NPR	2018 NPR
Security Environment	☞ Cooperation among major powers : Nuclear arms reduction with Russia (New START) : Common strategic interests with China	☞ Competition among major powers : Annexation of Crimea by Russia : Russia's offensive nuclear posture : Failure to cooperate with China
Top Priority	☞ Preventing WMD proliferation and nuclear terrorism	☞ Deterring any forms of nuclear and non-nuclear attacks : Nuclear superiority to major nuclear threats
Role of Nuclear Weapons	☞ Deterring nuclear attacks ☞ Assuring security of allies and partners ※ Reducing the role of nuclear weapons and increasing the role of conventional weapons	☞ Deterring nuclear and non-nuclear attacks ☞ Assuring security of allies and partners ☞ Contributing to achieving national strategic goals if deterrence fails ※ Irreplaceable role of nuclear weapons by any other means
Possibility of Nuclear Attacks	☞ High possibility of nuclear attacks by terrorists ☞ Low probability of nuclear war among states	☞ High possibility of limited nuclear war or escalation by major nuclear states, like Russia, and rogue states, like North Korea ※ Perceiving the limited nuclear escalation as a new major threat
Nuclear Triad	☞ Retaining but keeping continuous efforts to reduce forces with Russia	☞ Modernizing and developing new weapons systems
Non-Strategic Nuclear Forces	☞ Life extension programs (LEPs) for B61 ☞ Retirement of tomahawk nuclear missiles ※ No investment in new nuclear capabilities	☞ Life extension programs (LEPs) for B61 ☞ Performance improvement of B61 ☞ Development of low-yield nuclear options for SLBMs and sea-based launch nuclear cruise missiles (SLCMs)
Tailored Extended Deterrence for North Korea	☞ Focusing on, and preventing, possibility of proliferation by North Korea ☞ No tailored extended deterrence	☞ Clear perception of the need to devise and implement a tailored extended deterrence for North Korea

Figure 20. Contrast between the 2010 and 2018 NPRs.[220]

Five changes in U.S. nuclear strategy related to its extended deterrence are worth further discussion: perceptions on the international security environment and top priority; the role of nuclear weapons; the NFU policy and the conditions for nuclear weapons use;

[220] Items denoted with asterisks are features of the NPRs discussed previously as particularly relevant to the credibility of extended deterrence on the Korean Peninsula.

the importance of non-strategic or tactical nuclear weapons; and a tailored extended deterrence, targeting North Korea.

a. Security Environment, Top Priority

Although in the 2010 NPR the United States recognized the international security environment as cooperative among major powers like China and Russia, it perceives the security environment as inevitably competitive among major powers in the 2018 NPR. Indeed, the United States views through the 2018 NPR that uncertainty in the security environment has increased due to states' pursuit of their own security interests and intensified nuclear threats, compared to an evaluation through the 2010 NPR. The United States, therefore, sets its top priority to deter any form of nuclear and non-nuclear threat by maintaining nuclear dominance.

b. Nuclear Weapons Role

Unlike its view expressed in the 2010 NPR, the United States perceives the role of nuclear weapons as imperative in the 2018 NPR. Through the 2010 NPR, the United States limited the role of nuclear weapons only in deterring WMD attacks by states not participating in the NPT regime.[221] The possibility of nuclear retaliation against a nuclear attack remained ambiguous. This does not mean a disregard for the importance of nuclear weapons. The United States viewed, however, that "fundamental changes in the international security environment" made it possible to reduce U.S. dependence on nuclear weapons.[222]

In the 2018 NPR, by contrast, the United States emphasizes that nuclear weapons should not only deter nuclear and non-nuclear attacks but should also be used to retaliate against them in certain situations. This policy decision derives from the perception that no other means can replace the role of nuclear weapons. Accordingly, the United States has decided to improve and strengthen its nuclear capabilities by modernizing relevant

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[221] U.S. Department of Defense, *2010 Nuclear Posture Review Report*, 6.

[222] U.S. Department of Defense, *2010 Nuclear Posture Review Report*, 3–8.

programs, while it only sought to retain or modify its nuclear capabilities at a reduced level of nuclear forces in the 2010 NPR.

c. Declaratory Policy: NFU and Conditions of Nuclear Weapons Use

In the 2018 NPR, the United States explicitly rejects the NFU policy and shows its willingness to use nuclear weapons preemptively if required in the event of extreme conditions, while it only chose to maintain a strategic ambiguity in the 2010 NPR. Compared to the 2010 NPR, the United States, in the 2018 NPR, expands the conditions of nuclear use through the term "significant non-nuclear strategic attacks,"[223] which provides broader conditions, including existing conventional, chemical, and biological attack situations. The potential targets for nuclear use, on the other hand, are the same as in the 2010 NPR by maintaining the existing NSA policy.

d. Importance of Non-Strategic Nuclear Weapons

Regarding the pursuit of low-yield tactical or non-strategic nuclear options and related mechanisms through the 2018 NPR, the United States emphasizes the importance of preparation for a limited nuclear war that might arise from an adversary's limited nuclear escalation, while it intended to reduce the role and number of tactical nuclear weapons in the 2010 NPR.

e. Tailored Extended Deterrence against North Korea

In relation to tactical nuclear options, in the 2010 NPR the United States did not contemplate any tailored extended deterrence for North Korea and was only concerned about North Korea's proliferation ambitions. In the 2018 NPR, on the other hand, the United States recognizes North Korea's growing nuclear capabilities as a major nuclear threat and clearly shows U.S. tailored deterrence strategy for North Korea and willingness to implement it.

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[223] U.S. Department of Defense, *2018 Nuclear* Posture Review Report, 21.

4. Conclusion

Compared to 2010, U.S. nuclear deterrence strategy has been further strengthened in 2018. The contrast between the two NPRs, which have been the foundation of the U.S. nuclear strategy, policies, and force structure, clearly demonstrates the current, strengthened awareness of the importance of nuclear weapons and enhanced U.S. nuclear capabilities. In particular, the role of nuclear weapons in U.S. extended deterrence has been strengthened and expanded through the 2018 NPR. Through diversifying the options in which the United States can actually utilize nuclear weapons, the United States could obtain the effect of increasing its deterrence capabilities.

U.S. extended deterrence capabilities concerning South Korea's security assurance have also been strengthened. By extending U.S. nuclear deterrence to South Korea and tailoring its deterrence to North Korea, the United States reveals its strengthened willingness to deter North Korea from threatening these allies with its nuclear weapons. This policy decision would play a significant role in improving U.S. nuclear deterrence, thereby also enhancing the credibility of U.S. extended deterrence.

The strengthening of U.S. extended deterrence seems demonstrated by the fact that North Korea has responded defensively and sensitively to the 2018 NPR, whereas it barely responded to the 2010 NPR.[224] North Korea has strongly criticized the U.S. political decision pertinent to tailored extended deterrence when the United States released a new, revised nuclear strategy through the 2018 NPR. This implies that the credibility of U.S. extended deterrence has considerably increased in 2018 over 2010. It is unclear, however, whether South Koreans' confidence in U.S. extended deterrence has improved, even if the North Korean regime has perceived U.S. extended deterrence as highly credible. This uncertainty is because an ally's perception of U.S. extended deterrence is fundamentally different from an adversary's perception.

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[224] Seong-rim Jee, "North Korea Criticizes the U.S. Nuclear Posture Review as Proclaiming the Declaration of Nuclear War," *Yonhap News*, February 7, 2018, http://www.yonhapnews.co.kr/bulletin/2018/02/07/0200000000AKR20180207001300014.HTML?input=1195m.

B. CHANGES IN NORTH KOREA'S ICBM CAPABILITY

North Korea has rapidly improved its ballistic missile capability since Kim Jong-un took the helm in December 2011. Pyongyang has strived to complete its ballistic missiles, equipped with nuclear warheads, through six nuclear tests and dozens of missile tests using short-, medium-, and long-range missiles. North Korea's ultimate goal might be completing its missile's capability to reach the continental United States. While experts and intelligence agencies have largely agreed on these judgments, they have tended to view the actual capability of North Korea's nuclear missiles differently, especially that of long-range missiles—ICBMs.

This section examines the most relevant analyses of North Korea's evolving ICBM capability as assessed by U.S. intelligence agencies and experts. It aims to find a convergent assessment of North Korea's ICBM capability by comparing and contrasting experts' analyses. Before that, it is necessary to ascertain the criteria to evaluate ICBM capability. To explore the frequency of North Korea's missile tests since Kim Jong-un came to power is also crucial to estimate South Koreans' perception of U.S. extended deterrence, because the concentration and intensification of North Korea's ballistic missile tests may cause South Koreans to worry that the United States might not be able to extend its deterrence.

1. Key Criteria for ICBM Capability

To achieve substantial ICBM capability, several significant elements must be met. Just as the Federation of American Scientists (FAS) describes the essential components of a ballistic missile with a nuclear warhead, the prime determinants for ICBM capability are the qualified function of warheads—miniaturization, and lightening for mounting on an ICBM.[225] Hans Kristensen and Robert Norris, prominent experts on nuclear nonproliferation, also recognize these factors as main elements when evaluating the

[225] The FAS describes the principal elements of nuclear warheads for ballistic missiles as to whether nuclear warheads have the properties—size and shape—to be mounted and whether they can be designed into the form of various munitions. See "Ballistic Missile Basics," Federation of American Scientists, accessed October 20, 2018, https://fas.org/nuke/intro/missile/basics.htm.

capability of a ballistic missile equipped with nuclear warheads.[226] Mary Nikitin and Steven Hildreth, experts on North Korea's military capabilities, support this evaluation by stating that "the prime objective of North Korea's nuclear weapons program is to develop a nuclear warhead that is miniaturized, or sufficiently lighter and smaller to be mounted on long-range ballistic missiles."[227]

Delivery range is another crucial component to determine an ICBM's capability. If North Korea could not make its ICBM reach the U.S. homeland, its ICBM capability would remain incomplete. To deliver its ICBM to the United States, North Korea must exceed the standard range of 5,500 kilometers. Kristensen and Norris describe ballistic missile classifications as Figure 21.

Type	Range (kilometers)
Close-range ballistic missiles	50–300
Short-range ballistic missiles	300–1,000
Medium-range ballistic missiles	1,000–3,000
Intermediate-range ballistic missiles	3,000–5,500
Intercontinental ballistic missiles	5,500 +

Figure 21. Ballistic Missile Categories.[228]

In the end, the development of a standardized nuclear warhead, combined with qualified delivery ability, represent essential factors in evaluating ICBM capability. If either of these two main elements remains incomplete, North Korea's nuclear ICBMs would not be able to land on U.S. soil. If North Korea has no complete ability to deliver its ICBM to the U.S. homeland, the risks of a North Korean nuclear attack to the United States will be reduced. If the likelihood of North Korea's nuclear attack against the

[226] Hans M. Kristensen and Robert S. Norris, "North Korean Nuclear Capabilities, 2018," *Bulletin of the Atomic Scientists* 74, no. 1 (2018): 44, https://doi.org/10.1080/00963402.2017.1413062.

[227] Steven A. Hildreth and Mary B. Nikitin, *North Korea's Nuclear and Ballistic Missile Programs*, CRS In-Focus No. IF10472 (Washington, DC: Congressional Research Service, 2018), https://fas.org/sgp/crs/nuke/IF10472.pdf.

[228] Kristensen and Norris, "North Korean Nuclear Capabilities, 2018," 42. Their classification also aligns with U.S. standards described by the FAS. See Federation of American Scientists (FAS), "Ballistic Missile Basics."

continental United States diminishes, the United States presumably would become less hesitant to implement its extended deterrence. At the same time, the possibility of retaliation would increase if deterrence against North Korea fails.

2. Frequency of Missile Tests

Under Kim Jong-un's reign, North Korea has conducted more than twice as many ballistic missile tests as in the past. North Korea had conducted a total of 99 missile tests since 2011, whereas it conducted a total of 46 missile tests during third Kim's two predecessors. Of the total 99 missile tests, the ICBM test accounts for six times. Figure 22 shows the chronology of North Korea's missile tests.

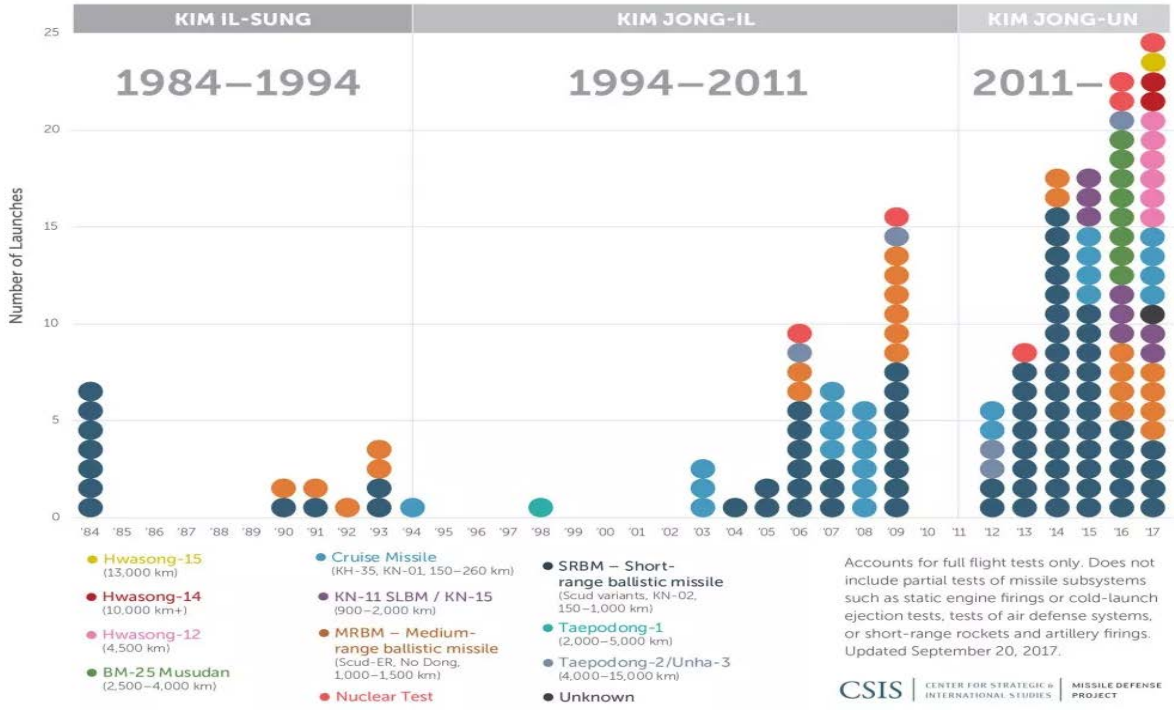

Figure 22. Chronology of North Korea's Missile Tests (1984–2017).[229]

[229] Ian Williams, "North Korean Missile Launches and Nuclear Tests: 1984-Present," Missile Threat: Center for Strategic and International Studies (CSIS) Missile Defense Project, last modified November 29, 2017, https://missilethreat.csis.org/north-korea-missile-launches-1984-present/.

The number of missile tests raises questions about North Korea's intentions: North Korea under Kim Jong-un might have wanted to demonstrate a credible threat both to the United States and South Korea; or it may have really wanted to complete its nuclear-armed ballistic missiles. While North Korea's real intention remains unclear, the fact that it conducted a considerable number of missile tests during the third Kim's regime in comparison to the past appears definite. The number of missile launches has also gradually increased since 2012 and peaked in 2017.

North Korea's intensive missile tests during a relatively short period compared to the previous regimes would have been sufficient to raise concerns for South Koreans, although actual ICBM launch tests only took place six times. North Korea's increasing number of missile tests may have been enough to make South Koreans aware that North Korea holds a strong ballistic missile force capable of attacking South Korea at any time. The intensive missile tests might also have raised South Korean concerns that the United States might not be able to extend its deterrence to South Korea, at least in a timely manner, if South Korea should endure the North's attack. This concern could have been further amplified when North Korea tested long-range ballistic missiles aimed at U.S. mainland.

3. Development Process of ICBM Capability

To identify whether North Korea's ICBM capability—warhead standardization and delivery range—has advanced, this section chronicles North Korea's activities directly related to the two key criteria.[230] It then estimates North Korea's ICBM capability through the utilization of relevant analyses by U.S. intelligence agencies and experts.

[230] North Korea conducted the fourth and fifth nuclear tests in 2016 and the sixth in 2017. In this thesis, however, these three nuclear tests were excluded from discussion. This is because the core debates on these three nuclear tests were how much the explosive yield was and whether those nuclear tests were for developing hydrogen bombs and thermo-nuclear warheads.

a. In 2012

In the early stages of the third Kim's regime, North Korea did not progress significantly in its ICBM capability, only achieving a slight increase in its delivery range. According to the North American Aerospace Defense Command (NORAD) report, a Taepo Dong-2 (TD-2, also known as the Unha-3 by North Korean name) ICBM launched in April 2012 failed to operate at the second stage.[231] After the following ICBM test of a TD-2 launched at the end of 2012, an expert on nonproliferation, Mary Nikitin, assessed in a Congressional Research Service (CRS) report that North Korea certainly demonstrated its ability to put an ICBM into orbit and achieved a greater delivery range over the previous launch. Nevertheless, she concluded that North Korea still needed to resolve more sophisticated technological issues.[232]

Another North Korean ICBM, the Hwasong-13 (KN-08 by U.S. designation), which was first unveiled at the North Korean military parade in April 2012, appeared to be merely a mock-up for demonstration purposes. The former U.S. Secretary of Defense Robert Gates had initially claimed that North Korea had recently developed a road-mobile ICBM.[233] Due to the absence of a series of flight tests and North Korea's known lack of technological skills to mount a nuclear warhead on an ICBM, however, the KN-08 paraded through Pyongyang appeared to have an incomplete capability as an ICBM.[234]

b. In 2013

Contrary to North Korea's 2013 claim that it utilized a miniaturized and light nuclear warhead, North Korea arguably still could not reach the required ICBM capacity

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[231] "NORAD and USNORTHCOM Acknowledge Missile Launch," North American Aerospace Defense Command (NORAD), accessed October 21, 2018, http://www.norad.mil/Newsroom/Article/578614/norad-and-usnorthcom-acknowledge-missile-launch/.

[232] North Korea seemed to succeed in sending the Unha-3 into space orbit. See Mary B. Nikitin, *North Korea's Nuclear Weapons: Technical Issues*, CRS Report No. RL34256 (Washington, DC: Congressional Research Service, 2013), https://fas.org/sgp/crs/nuke/RL34256.pdf.

[233] John Schilling, "A Revised Assessment of the North Korean KN-08 ICBM," *Science and Global Security* 21, no. 3 (2013): 210–36, https://doi.org/10.1080/08929882.2013.835592.

[234] Schilling, "A Revised Assessment of the North Korean KN-08 ICBM," 210–36.

in its third nuclear test. Regarding North Korea's third nuclear test, a vigorous discourse took place as to whether North Korea had succeeded in developing a standardized nuclear warhead. Based on the explosive yield assessment of North Korea's 2013 nuclear test, the Defense Intelligence Agency (DIA) raised the possibility of North Korea's success in miniaturizing its nuclear warheads. The DIA argued with "moderate confidence" that North Korea had become capable of delivering a nuclear weapon small enough to mount on an ICBM.[235]

By contrast, most U.S. intelligence agencies and private experts released assessments opposite to the DIA's view, and many estimated that North Korea had not yet achieved its nuclear warhead miniaturization. James Clapper, at the Office of the Director of National Intelligence (DNI), claimed that the analysis by the DIA was not an official assessment recognized by the Intelligence Community and that North Korea had yet to fully demonstrate enough capabilities for a nuclear warhead missile.[236] Similarly, a founder of the Institute for Science and International Security (ISIS) and expert on nuclear weapons, David Albright, agreed with DNI's assessment that North Korea still lacked the necessary capability to deploy a nuclear warhead on an ICBM.[237] Air Force Global Strike Command (AFGSC) also supported that "North Korea currently does not have an operational warhead,"[238] but added that it would likely deploy a nuclear ICBM like the KN-08 within the next five years.[239]

c. In 2016

In 2016, North Korea began accelerating its ICBM development and has achieved considerable progress in its capabilities, compared to the early days of Kim Jong-un's

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[235] Thom Shanker, David E. Sanger, and Eric Schimitt, "Pentagon Finds Nuclear Strides by North Korea," *New York Times*, April 11, 2013, https://www.nytimes.com/2013/04/12/world/asia/north-korea-may-have-nuclear-missile-capability-us-agency-says.html.

[236] James R. Clapper, "DNI Statement on North Korea's Nuclear Capability," Office of the Director of National Intelligence, last modified April 11, 2013, https://www.odni.gov/index.php/newsroom/press-releases/press-releases-2013/item/839-dni-statement-on-north-korea-s-nuclear-capability.Cla.

[237] David Albright, "North Korean Miniaturization," 38 North, last modified February 13, 2013, https://www.38north.org/2013/02/albright021313/.

[238] Kristensen and Norris, "North Korean Nuclear Capabilities, 2018," 46.

[239] Kristensen and Norris, "North Korean Nuclear Capabilities, 2018," 43.

regime. On February 7, North Korea again launched a TD-2 ICBM and succeeded in placing a satellite from that rocket in orbit, albeit unstably. The National Air and Space Intelligence Center (NASIC) estimated that the TD-2 could travel more than 12,000 kilometers and reach U.S. soil.[240] The NASIC said, however, that North Korea had not yet achieved a re-entry capacity for the TD-2.[241]

d. In 2017

Through a launch of the Hwasong-14 (KN-20 by U.S. designation) ICBM on July 4, 2017, North Korea partially proved its ability to cross the ICBM's standard range of 5,500 kilometers. North Korea, however, failed again to demonstrate a re-entry capacity, although it claimed that its re-entry vehicle could protect the ICBM warhead throughout re-entry time of the nuclear warhead into the atmosphere.[242] On July 27 of the same year, North Korea demonstrated more advanced capability to deliver its ICBM farther than the previous test, through the second KN-20 ICBM launch. David Wright assessed that the KN-20 ICBM could fly a range of 10,400 kilometers, able to reach the U.S. West Coast and a number of U.S. cities, such as Los Angeles, Denver, and Chicago.[243] However, Kristensen and Norris argued that North Korea failed to prove its ability to mount a standardized nuclear warhead and to keep the warhead intact after a re-entry.[244]

On November 29, following the ongoing improvement in ICBM performance, North Korea demonstrated its ability to strike throughout the continental United States by launching a new type of ICBM called Hwasong-15 (U.S. designation KN-22). If North Korea launched this ICBM with a standard trajectory, according to Wright, this missile could reach a range of more than 13,000 kilometers.[245] Regarding the KN-22's weight,

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[240] Kristensen and Norris, "North Korean Nuclear Capabilities, 2018," 43.

[241] Kristensen and Norris, "North Korean Nuclear Capabilities, 2018," 43.

[242] Kristensen and Norris, "North Korean Nuclear Capabilities, 2018," 44.

[243] David Wright, "North Korean ICBM Appears Able to Reach Major US Cities," Union of Concerned Scientists, last modified July 28, 2017, https://allthingsnuclear.org/dwright/new-north-korean-icbm.

[244] Kristensen and Norris, "North Korean Nuclear Capabilities, 2018," 44.

[245] David Wright, "North Korea's Longest Missile Test Yet," Union of Concerned Scientists, last modified November 28, 2017, https://allthingsnuclear.org/dwright/nk-longest-missile-test-yet.

however, Wright assessed that North Korea would still be unable to mount and carry a nuclear warhead because the warhead mounted on the KN-22 was just a mock-up.[246]

4. Current Status of ICBM Capability

North Korea currently holds four types of ICBMs, including those not yet deployed or still in development: the Taepo Dong-2 (TD-2), the Hwasong-13 (KN-08), Hwasong-14 (KN-20), and Hwasong-15 (KN-22).[247] The TD-2 is a "three-stage, liquid-fuel, long-range missile that is thought to be a militarized version of the Unha-3 space-launch vehicle (SLV),"[248] which deployed a satellite in orbit in 2012 and 2016.[249] The Hwasong-13 is a "three-stage, liquid-fuel,"[250] road-mobile ICBM, first unveiled during a military parade in April 2012.[251] This missile was first listed as an ICBM and named as the KN-08 at an AFGSC briefing.[252] The Hwasong-14, "with the U.S. designation KN-20, is a two-stage, liquid-fuel," road-mobile ICBM, first displayed at a 2015 military parade and tested twice successively, on July 4 and 27, 2017.[253] The Hwasong-15, tested most recently on November 29, 2017, is also a "two-stage, liquid-fuel," road-mobile ICBM, known as KN-22 by U.S. designation.[254] Figure 23 presents ICBMs currently held by North Korea.

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[246] Wright, "North Korea's Longest Missile Test Yet."

[247] The points of view of experts and intelligence agencies slightly differ from one another depending on what should be regarded as ICBM class. The author mainly refers to the views of National Air and Space Intelligence Center (NASIC). Since the 2018 version has not yet been issued, however, missing information is supplemented by Kristensen and Norris' analyses. See National Air and Space Intelligence Center (NASIC), "Ballistic and Cruise Missile Threat," accessed October 21, 2018, https://www.nasic.af.mil/LinkClick.aspx?fileticket=F2VLcKSmCTE%3D&portalid=19; and Kristensen and Norris, "North Korean Nuclear Capabilities, 2018," 43.

[248] Kristensen and Norris, "North Korean Nuclear Capabilities, 2018," 43.

[249] "Ballistic and Cruise Missile Threat," National Air and Space Intelligence Center (NASIC), accessed October 21, 2018, https://www.nasic.af.mil/LinkClick.aspx?fileticket=F2VLcKSmCTE%3D&portalid=19.

[250] Kristensen and Norris, "North Korean Nuclear Capabilities, 2018," 43.

[251] National Air and Space Intelligence Center (NASIC), "Ballistic and Cruise Missile Threat."

[252] Kristensen and Norris, "North Korean Nuclear Capabilities, 2018," 43.

[253] Kristensen and Norris, "North Korean Nuclear Capabilities, 2018," 44.

[254] Kristensen and Norris, "North Korean Nuclear Capabilities, 2018," 44.

		Taepo Dong-2	Hwasong-13	Hwasong-14	Hwasong-15
Numbers of Stages		3	3	2	2
Propellant		Liquid	Liquid	Liquid	Liquid
Deployment Mode		Fixed	Road Mobile	Road Mobile	Road Mobile
Maximum Range (km)		12,000 +	11,500	10,400	13,000
US Designation		TD-2	KN-08	KN-20	KN-22
Year Tested		4.13 2012. 12.12.2012.	Not Tested	7.4.2017.	11.29.2017.
Year Deployed		2012	In Development		
Standard -ization	Miniaturization	Incomplete or Uncertain			
	Lightening				

Figure 23. North Korea's ICBM Capability (as of 2018).[255]

All four ICBMs, theoretically, can reach most of territories in the United States. Even with low precision ICBMs, North Korea might be able to inflict serious damage on the United States by targeting anywhere in U.S. soil with its ICBM of a valid delivery range. Yet, another determinant for the completion of ICBM capability—warhead standardization—remains unproven. For this reason, despite North Korea's repeated propaganda of its success in its ICBM development, the existing assessments of major U.S. intelligence agencies and experts remain, "Not yet." Even so, U.S. intelligence agencies and experts unanimously estimate that North Korea would be able to perfect its ICBM capability within a short period of time.

[255] Adapted from Kristensen and Norris, "North Korean Nuclear Capabilities, 2018," 42. Hwasong-13 (KN-08) has not been tested yet since it was first unveiled in April 2012, although it is classified as an ICBM-class ballistic missile.

5. Conclusion

Comparing and contrasting the existing analyses by U.S. intelligence agencies and experts may illuminate how North Korea's ICBM capability has evolved and which key determinants for evaluating its capability have been grasped by North Korea. Without any retrogression and long stagnation, North Korea appears to have improved its ICBM capability at a remarkable pace since Kim Jong-un came to power and potentially achieved the ability to place the United States within its ICBM range. Nonetheless, North Korea seems to have not yet achieved a full standardization of nuclear warheads essential for reliable nuclear armed ICBMs and has shown only some of its ability to place its ballistic missiles into the ICBM range.

Despite North Korea's imperfect ICBM capability, however, North Korea may have achieved its strategic goal—securing survivability of its regime through threatening nuclear attacks. Through intensive ballistic missile tests, regardless of missile types, North Korea seems to have clearly established a credible threat to South Korea. In this respect, North Korea may have achieved its desired effect without having actual capability to strike the continental United States. Even if South Korea perceives North Korea's ICBM capability as incomplete, this incomplete capability appears to have imposed enough threats to the South. The factual confirmation of whether North Korea has full ICBM capability is less significant. The psychological impact of how a series of North Korea's ICBM provocations have affected South Koreans is more important.

In April 2018, Kim Jong-un announced that North Korea no longer needed to conduct its nuclear or ICBM tests because it had already achieved its goal of developing complete nuclear weapons.[256] Considering many experts' evaluations, Kim Jong-un's declaration may be merely propaganda. Nevertheless, owing to the lack of accurate information on North Korea's actual ICBM capability, it may be rational to assume that North Korea acquired substantive ICBM capability. Kim Jong-un may also recognize that

[256] Anna Fifield, "North Korea Says It Will Suspend Nuclear and Missile Tests, Shut Down Test Site," *Washington Post*, April 20, 2018, https://www.washingtonpost.com/world/north-korean-leader-suspends-nuclear-and-missile-tests-shuts-down-test-site/2018/04/20/71ff2eea-44e7-11e8-baaf-8b3c5a3da888_story.html?noredirect=on&utm_term=.5468a6d6ede3.

an unproven ICBM capability has sufficient deterrent effect. If what Kim wants to achieve through his nuclear capabilities, including ICBMs, is to present a credible threat to the United States and South Korea, Kim's declaration seems not to be hollow. If Kim's calculation appears correct, North Korea may not actually need to perfect its nuclear ICBM capability.

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IV. IMPACT OF CHANGED U.S. NUCLEAR STRATEGY AND NORTH KOREA'S ICBM CAPABILITY

The United States has strengthened its nuclear strategy and further refined the tailored extended deterrence to South Korea. Meanwhile, North Korea has rapidly evolved its ICBM capability with the aim of targeting the U.S. homeland. How have the enhanced U.S. deterrence and North Korea's nuclear ICBM capability actually affected South Koreans' perceptions of U.S. extended deterrence? Have these two factors strengthened or weakened the South Koreans' confidence in U.S. extended deterrence?

Drawing on the dataset of existing South Korean perceptions demonstrated in Chapter II, this chapter examines the impact of the two factors discussed in Chapter III—U.S. nuclear strategy and North Korea's ICBM capability—on South Koreans' perceptions of confidence in U.S. extended deterrence. The chapter aims to unpack the correlation between the changes in South Koreans' confidence and these two factors. Because little correlation has been shown between the perception of the three South Korean groups—politicians, academics, and the general public—this chapter examines the association of the two factors on each group's perceptions.

A. IMPACT OF STRENGTHENED U.S. NUCLEAR STRATEGY

If conventional wisdom remains valid that South Koreans' perceptions are in line with U.S. political resolve, nuclear strategy, and relevant capabilities, then changes in South Koreans' confidence in U.S. extended deterrence should also correlate with changes in U.S. nuclear strategy between the 2010 and 2018 NPRs. Thus, strengthened U.S. nuclear capabilities and commitments to security guarantees through the 2018 NPR would improve South Koreans' confidence in U.S. extended deterrence; diminished signals of U.S. nuclear capabilities and uncertain commitments in the 2010 NPR would cause South Korean concern and doubt about U.S. extended deterrence. The chart in Figure 24 shows the South Korean level of confidence in U.S. extended deterrence in correlation with each NPR's issuance year, 2010 and 2018, as well as in the intervening years.

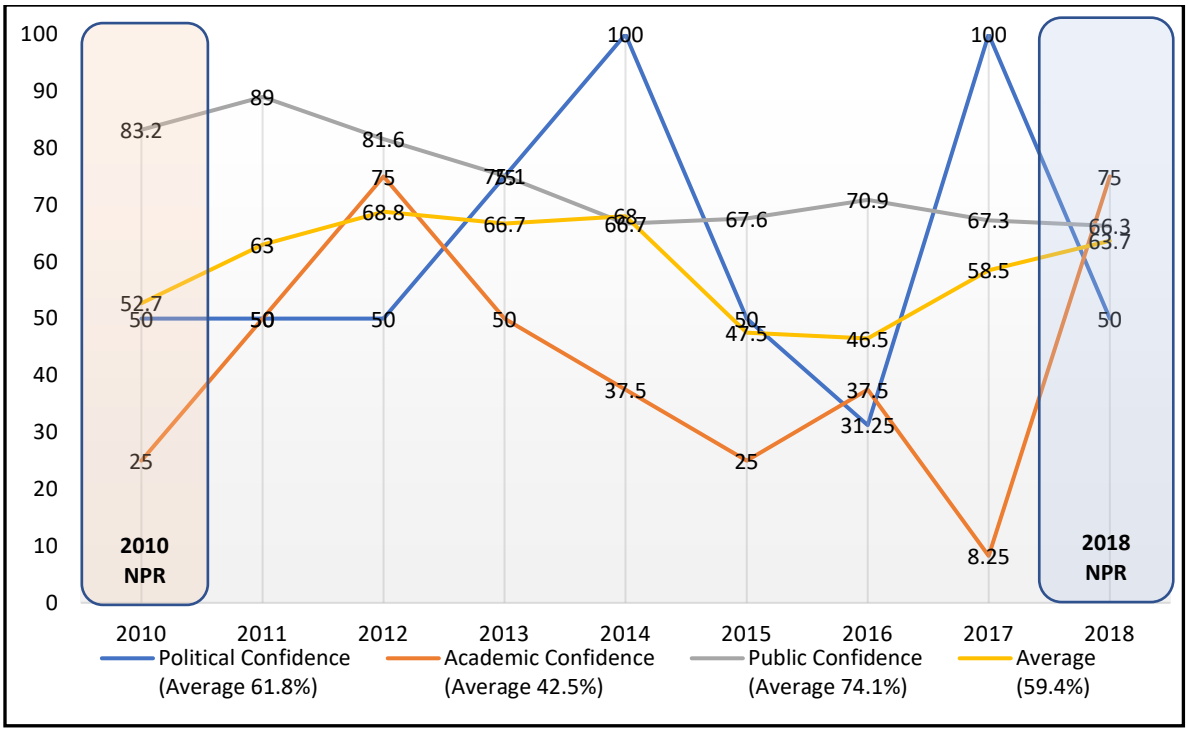

Figure 24. Correlation between U.S. Nuclear Strategy and South Koreans' Confidence in U.S. Extended Deterrence.

1. Impact on Political Perceptions

Average political confidence in U.S. extended deterrence seems to have been high, but the year-to-year variations are apparent. It has reflected various degrees of confidence in U.S. extended deterrence, from high confidence to strong distrust. Politicians' perception, except for strong distrust in 2016, has mostly reflected a moderate level of confidence in U.S. extended deterrence. Politicians' confidence gradually increased after 2012, reaching an extremely high level of confidence in 2014. Since then, it decreased and reflected the lowest level of confidence in 2016. Political confidence moved again toward the highest level in 2017. As of 2018, it has declined again to a moderate degree.

The impact of U.S. nuclear strategy on changes in political confidence appears insignificant. This outcome is contrary to the expectation that political confidence in U.S. extended deterrence will change correspondingly with variations in U.S. nuclear capabilities embedded in the U.S. nuclear strategy. As demonstrated by the contrast

between the 2010 and 2018 NPRs, the United States will enhance its extended deterrence through strengthening its nuclear capabilities and the role of nuclear weapons. Yet, given the timing of the two NPRs' conception and release in 2010 and 2018, respectively, South Korean politicians' confidence in weakened U.S. nuclear forces remained unchanged, and their confidence in enhanced nuclear capabilities has declined significantly. Rather, the confidence became higher two years after the 2010 NPR's release, remained even stronger in 2017 when the United States decided to strengthen its nuclear capabilities through the 2018 NPR, and has declined since the U.S. announcement of the 2018 NPR and its worldwide release.

Accordingly, the relation between South Korean politicians' perceptions and changes in U.S. nuclear strategy appear to have been independent of each other.

2. Impact on Academic Perceptions

The academic group has shown various degrees of confidence, with large deviations from strong distrust to high confidence in U.S. extended deterrence. Although the academic group has shown moderate level of confidence on average, it remained in strong distrust for five out of nine years in total. Academics' confidence started with strong distrust in U.S. extended deterrence, but since then, it had gradually increased. Since 2012, academics' confidence has continuously headed toward strong distrust again and maintained within low degrees of confidence for four years until 2017. Nevertheless, it has rebounded from the lowest level of confidence in 2017 to high confidence.

The impact of U.S. nuclear strategy on changes in academic confidence seems not to be significant, even if the academic group consists of scholars and military experts, who might be most sensitive to changes in U.S. nuclear strategy. Contrary to conventional wisdom, academic confidence in U.S. extended deterrence increased for two years from strong distrust to high confidence after the issuance of the 2010 NPR. The academic group's confidence has considerably increased in accordance with conventional wisdom since the release of the 2018 NPR, but other variations make it difficult to show a direct association.

Due to these contradictory tendencies, academics' confidence may not correlate with changes in U.S. nuclear strategy, including extended deterrence.

3. Impact on Public Perceptions

The public group has shown strong confidence in U.S. extended deterrence, with no significant year-to-year variation in the degree of confidence. Although the measured data derives from the proximate public perceptions of the U.S.-ROK alliance, they are well worth utilizing because U.S. extended deterrence operates within the larger framework of the U.S.-ROK alliance. The South Korean public had inclined gently toward holding a higher level of confidence in U.S. extended deterrence since 2010. Their confidence gradually declined, but remained within the high confidence range, since 2011. Since 2014, increases in public confidence in U.S. extended deterrence have been repeated within a small range, but since 2016, public confidence has moved in the opposite direction. Public confidence in U.S. extended deterrence dropped slightly again when the 2018 NPR was released.

The influence of U.S. nuclear strategy on changes in public confidence appears negligible. Unlike the conventional wisdom that public confidence would correspond to changes in U.S. nuclear strategy, it shifted in exactly the opposite direction. The degree of public confidence in U.S. extended deterrence has been not only consistently high, regardless of weakening of U.S. nuclear capabilities via the 2010 NPR, but it also has reflected a slight decline in spite of strengthening of U.S. nuclear capabilities through the 2018 NPR. Most importantly, the release of the 2018 NPR did not have a significant impact on this generally consistent measure.

Therefore, the South Korean public's approximate confidence in U.S. extended deterrence may have little correlation with U.S. nuclear strategy.

4. Conclusion

South Koreans' changing perceptions of U.S. extended deterrence rarely correlate with strengthened U.S. nuclear strategy, as reflected between the 2010 and 2018 NPRs. Most South Koreans are not significantly affected by the augmentation of U.S. nuclear

strategy, unlike conventional wisdom that South Koreans' perceptions will generally align with U.S. nuclear strategy, policy decisions, and relevant capabilities embedded in that strategy. Only the academic group tends to have some correlation, albeit a modest one, with changes in U.S. nuclear strategy. However, considering the academic group's expertise on U.S. nuclear strategy, changes in academic confidence appear to have remained largely insensitive to U.S. nuclear strategy.

Fluctuations in average confidence seem to have been largely affected by variations in politicians' and academics' confidence, rather than in the public's confidence. This estimation may be attributed to the propensity that changes in average confidence and their degrees of fluctuation follow the changes in politicians' and academics' confidence. The fact that most trajectories of average confidence lie between or near the confidence levels of politicians and academics may support this tendency. Public confidence, with relatively small fluctuations, does not appear to have a significant impact on the fluctuation range of average confidence. The narrow range of variation in public confidence may reflect the public's limited interest in or recognition of U.S. extended deterrence.

The accuracy of the results of South Koreans' average confidence may depend on how well individuals within the three groups recognize the salience of U.S. nuclear strategy and extended deterrence. Not all politicians or government officials may have addressed U.S. extended deterrence-related issues. Only some of them might have considered extended deterrence issues as imperative. Of those few involved, not all have always expressed or intimated their confidence, and they appeared to have even rarely changed their viewpoints of extended deterrence.

In the same context, not many academics and military experts are directly involved in the U.S. extended deterrence area. And only few have been consistently or regularly dealing with problems and policy implications associated with U.S. nuclear strategy and extended deterrence. Although the academic group has sometimes perceived improvements in U.S. nuclear capabilities as positive signals for enhancing extended deterrence, it has tended to consistently maintain critical perspectives on the credibility of U.S. extended deterrence, and individuals' personal views have remained almost

unchanged. Public confidence encompasses a different issue: the accuracy of public confidence depends on how well their confidence in the U.S.-ROK alliance reflects those in U.S. extended deterrence. The public may rarely know nuclear strategy and security guarantee mechanisms, such as U.S. extended deterrence, but may only recognize the U.S.-ROK alliance.

Although the political figures examined may not represent the entire political sphere in South Korea, identification of politicians' confidence through a small number of political figures still remains valid, because those examined are clearly aware of U.S. extended deterrence. Similarly, even if scholars and experts examined in this thesis may not represent the whole academic community, these people are still useful to identify academics' confidence, because those examined here are well-known experts on U.S. nuclear strategy and extended deterrence. Finally, even though public confidence in the U.S.-ROK alliance does not fully reflect their confidence in U.S. extended deterrence, the data surveyed based on the U.S.-ROK alliance appears effective, because extended deterrence and the alliance are inseparable.

B. IMPACT OF NORTH KOREA'S EVOLVED ICBM CAPABILITY

North Korea has been trying to develop its ballistic missiles, equipped with nuclear weapons, by conducting intensive missile tests since Kim Jong-un came to power, although it may not have succeeded in developing a full-blown ICBM capability to strike the United States. If South Koreans' perceptions correlate with changes in North Korea's ICBM capability, combined with the increasing number of missile tests, their confidence in U.S. extended deterrence will be inversely related to the North's evolved ICBM capability: the more the North Korean ICBM capability advances, the lower the South Koreans' confidence in U.S. extended deterrence will be and vice versa.

The chart shown in Figure 25 presents South Koreans' confidence in U.S. extended deterrence during the period in which North Korea has rapidly advanced its ICBM capability. During this period, North Korea has continuously upgraded its ICBM capability without any technological retrogression, even though it could not perfect its capability.

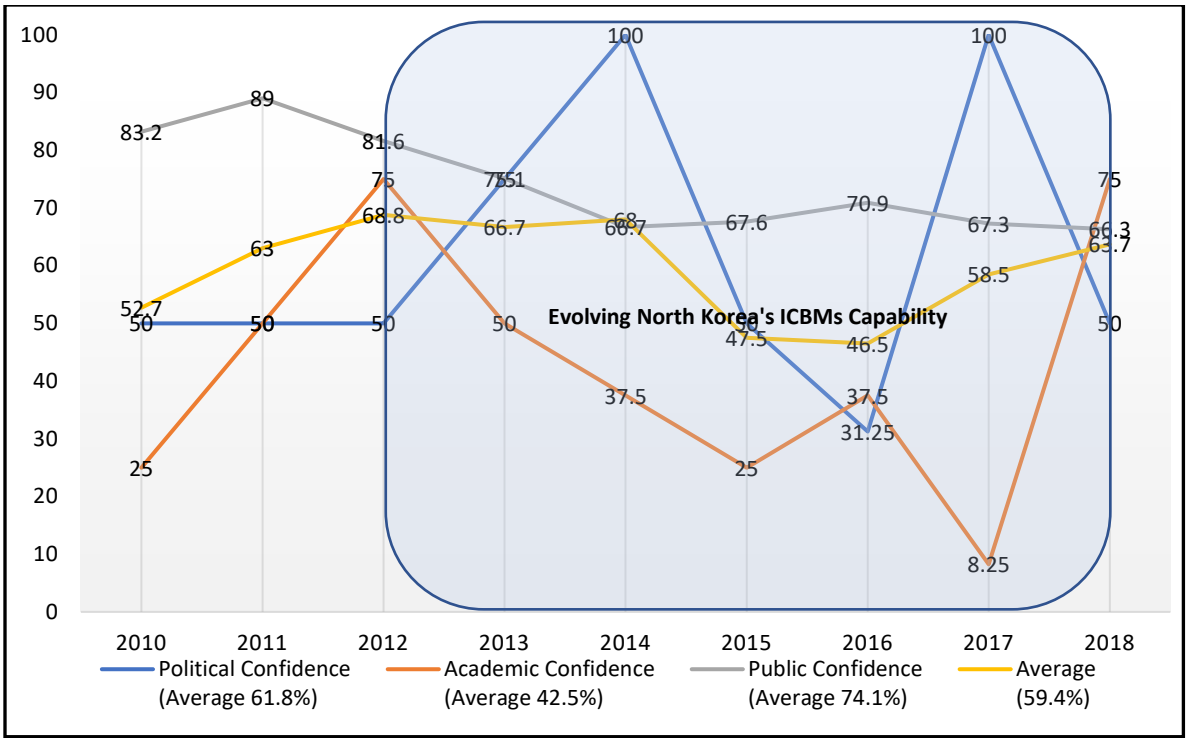

Figure 25. Correlation between North Korea's ICBM Capability and South Koreans' Confidence in U.S. Extended Deterrence.

1. Impact on Political Perceptions

Given North Korea's growing ICBM capability along with intensive ballistic missile tests, North Korea's evolved ICBM capability seems to have had little impact on changes in politicians' confidence. Confidence among those in South Korea's political sphere has not reflected much concern about North Korea's growing ICBM capability. It increased since 2012 and was maintained at its highest level in 2014. From the lowest confidence level in 2016, political confidence improved again and reached its highest degree in 2017, despite North Korea's unceasing ICBM tests and ongoing growth in ICBM ability. Politicians' confidence has sometimes moved in the opposite direction from evolving North Korea's ICBM capability, which is in line with conventional wisdom. Nevertheless, the politicians' changing confidence in U.S. extended deterrence also reflects detachment from the North's ICBM ability, as sometimes the degree of confidence among South Korean politicians and government officials remained high.

Accordingly, the correlation between political confidence and North Korea's evolving ICBM capability appears to have been insignificant.

2. Impact on Academic Perceptions

Scholars and experts seem to have been partially influenced by North Korea's evolving ICBM capability. Along with North Korea's rapid development of ICBM capability, academics' confidence sharply plummeted, gradually turning from a solid confidence to a deep distrust in U.S. extended deterrence. Notably, the period when scholars and experts became very concerned about U.S. extended deterrence was between 2016 and 2017, when North Korea began demonstrating its ability to place a ballistic missile into ICBM delivery range. Although academics' confidence temporarily rose in 2016, it declined in nearly opposite direction from North Korea's growing ICBM capacity, which aligns with conventional wisdom.

Interestingly, in 2018, academics' confidence rebounded from strong distrust to high confidence, even though North Korea has not diminished or abolished its ICBM capability. Notably, North Korea last launched an ICBM-class ballistic missile, the Hwasong-15, at the end of 2017, and Kim Jong-un has declared that North Korea would halt further missile tests.[257] Considering these developments, the high level of confidence within the academic sphere in 2018 may mean that scholars and experts might not perceive the North Korean ICBM as having complete capability. More interestingly, academics may consider North Korea's intensive missile testing of ICBMs, rather than innate capabilities, to be the most acute threat diminishing the credibility of U.S. extended deterrence. In this case, the advancement in North Korea's ICBM capability, perhaps together with its intensive missile tests, might have had a greater impact on academics' confidence than the strengthening of U.S. nuclear capabilities.

3. Impact on Public Perceptions

The impact of North Korea's growing ICBM capability on changes in public confidence seems to remain minimal. At first glance, the declining confidence among the

[257] Fifield, "North Korea Says It Will Suspend Nuclear and Missile Tests, Shut Down Test Site."

South Korean public from 2012 may seem to be in relation to North Korea's evolving ICBM capability. Yet, from 2014 onwards, public confidence in U.S. extended deterrence became stronger. Most importantly, despite the fact that the North Korean ICBMs have come even closer to their ideal ability to attack U.S. mainland, U.S. extended deterrence has remained credible among the South Korean public. That degree of confidence has fallen very slightly between 2016 and 2018, but was still within the range of high confidence, when North Korea had potentially put the entire continental United States within its ICBM delivery range.

Therefore, the South Korean public's confidence in U.S. extended deterrence and North Korea's evolving ICBM capability have little correlation to each other.

4. Conclusion

On the whole, South Koreans' perceptions of U.S. extended deterrence may rarely correlate with North Korea's evolved ICBM capability. In contrast to the expectation that South Koreans' confidence will significantly diminish as North Korea advances its nuclear ICBM capability, most South Koreans, except for the academic group, may not be considerably influenced by North Korea's enhanced ICBM capability. South Koreans, at first, seem to have been becoming less confident in U.S. extended deterrence following North Korea's improved ICBM capability. Nonetheless, their confidence has gradually increased again since 2016, even when North Korea has potentially demonstrated its ability to deliver an ICBM to the United States.

The advancement in North Korea's ICBM capability should negatively affect South Koreans' perceptions of U.S. extended deterrence, because the United States might become more hesitant to extend its deterrence to South Korea, when and if North Korea threatens to retaliate with its nuclear-armed ICBMs. South Koreans' overall confidence, however, has tended to move away from this expectation, and only scholars' and experts' confidence has partially corresponded to this expectation.

Even so, this result alone may not indicate that North Korea's evolved ICBM capability has little impact on South Koreans' confidence in U.S. extended deterrence. Perhaps the enhanced U.S. nuclear capabilities also shape this outcome: the diminished

South Korean confidence due to North Korea's evolved ICBM ability may have been offset or even increased by the enhanced U.S. nuclear capabilities. Otherwise, South Koreans should become more doubtful about U.S. extended deterrence, even though the United States has strengthened its nuclear capabilities and reiterated its commitment to readily unfold its nuclear umbrella over the Korean Peninsula. The comparison of the influence between the strengthened U.S. nuclear strategy and North Korea's enhanced ICBM capability is discussed in more detail in the conclusion.

Similar to academic confidence, South Koreans' average confidence also increased in 2018. This outcome might imply that although three differing groups show different aspects, average confidence may be more negatively affected by North Korea's ongoing missile provocations than by its potential ICBM capability. If so, the average South Korean may feel more psychologically threatened by North Korea's intensive missile provocations than by its technical ability related to the ICBM. In this respect, frequency or intensity of North Korea's missile tests, regardless of the missile type, might also have a negative impact on South Koreans' confidence in U.S. extended deterrence.

The reason for the different aspect in 2018 between political circles and the academic community remains uncertain. Unlike academics' confidence, the confidence among politicians dropped significantly in 2018. This result seems also to contradict the average confidence in U.S. extended deterrence if the assumption that North Korea's halt of missile tests contributes to improving South Koreans' confidence appears intact. Adding to the influence of strengthened U.S. nuclear strategy, increased confidence among academics is in line with both the enhanced U.S. nuclear capabilities and suspended North Korean missile tests. Confidence among politicians and government officials, however, dips lower in contrast with academics' confidence. Perhaps this means that the two factors—augmentation of U.S. nuclear capabilities and suspension of North Korea's missile tests—may not significantly affect political confidence. Otherwise, North Korea's ICBM capability may still negatively affect politicians' confidence, regardless of North Korea's missile test suspension. Alternatively, perhaps scholars' and experts' role of advising in policy decisions does not actually affect politicians and their political decisions.

V. CONCLUSION

This thesis explored factors that might have affected South Koreans' perceptions of U.S. extended deterrence since 2010, focusing primarily on the correlation between South Koreans' changing confidence, evolving U.S. nuclear strategy, and North Korea's evolving ICBM capability. This thesis argued that the strengthened U.S. nuclear strategy and North Korea's evolved ICBM capability appear to have had little impact on changes in South Koreans' confidence in U.S. extended deterrence in this period. The thesis tested and supported this argument by examining South Koreans' perceptions, highlighting differences between the 2010 and 2018 NPRs, analyzing North Korea's ICBM capability through key criteria for evaluation, and finally identifying correlations among these factors.

The thesis concludes with four other tasks. It first discerns key findings that can be inferred from the outcomes obtained so far. It then draws some policy implications from those findings related to key policy questions: How should the U.S.-ROK alliance respond to South Koreans' changing confidence in U.S. extended deterrence? What actions are required for the U.S.-ROK alliance to improve South Koreans' perceptions of U.S. extended deterrence? How should the U.S.-ROK alliance deal with the South Korean public's support for the ROK's possession of independent nuclear weapons? The thesis closes with a discussion of the limitations of this research and illuminates potential directions for future research.

A. FINDINGS

This thesis identified four key findings from the research outcomes.

1. Weak Correlations

Changes in South Koreans' perceptions of U.S. extended deterrence do not appear directly correlated to the changes in U.S. nuclear strategy and North Korea's ICBM capability. Not only has the confidence of South Koreans been little influenced by changed U.S. nuclear strategy, it has also rarely been correlated to North Korea's

changed ICBM capability. Although this finding is not entirely convincing, due to the information limitations discussed in prior chapters, by dividing average confidence into three differing groups, this irrelevance between South Koreans' confidence and the two factors seems to be more noticeable.

2. Subtle Dominant Influence

There is tentative evidence of a subtle combined effect of U.S. nuclear strategy and North Korea's ICBM capability over South Koreans' perceptions: South Koreans' average confidence in U.S. extended deterrence improved when North Korea placed its ballistic missiles within the ICBM range and the United States decided to strengthen its nuclear capabilities in response. If the North's ICBM capability were more influential than U.S. nuclear strategy in South Koreans' perceptions, then the South Korean's confidence should be dampened; if U.S. nuclear strategy were to be sufficiently convincing to ameliorate South Koreans' concerns, their confidence would be offset or would even rise. The latter case seems consistent with the result found in this thesis: the changes in U.S. nuclear strategy indicating even a little improvement in relevant capabilities may be more influential than the enhancement of North Korea's ICBM capability. Nevertheless, the strength of the relationship between the two factors still remains closer to uncertain.

3. Potential Role of U.S. Pledges

One of the results may imply the role of U.S. ongoing commitments in improving South Koreans' perceptions of U.S. extended deterrence: when the United States appeared to reduce its nuclear force structure and North Korea started to accelerate its development of ICBM capability, South Koreans' confidence improved, was maintained, or, at least, was not significantly diminished. This outcome may also indicate the role of the deterrence mechanisms in making extended deterrence more credible. If the United States reiterates its firm commitments to South Korea and further suggests developing the deterrence mechanisms to ensure its willingness to use full capabilities, South Koreans' confidence may improve, be maintained, or, at least, not worsen significantly, even if

North Korea starts spurring its ICBM development. Nevertheless, how certain levels of North Korea's ICBM capability may be offset by these U.S. actions remains unclear.

4. South Koreans' Nuclearization Anomaly

The South Korean public's strong support for nuclearization is at odds with conventional wisdom. The South Korean public has largely been sure of U.S. extended deterrence, but they have been supportive of having their own nuclear weapons at the same time. One plausible explanation for this stance is an absence of public recognition of the precise concept of U.S. extended deterrence operating within a larger framework of the U.S.-ROK alliance. Most of the South Korean public seems less aware of U.S. extended deterrence and to consider only the U.S.-ROK alliance itself. However, no specific signals for correlation with North Korea's ICBM capability or U.S. nuclear strategy exist, and why the public has consistently supported the possession of nuclear weapons remains opaque. This irony, however, may provide a significant policy implication for improving South Koreans' understanding of U.S. extended deterrence, as discussed in more detail in the next section.

B. IMPLICATIONS

The U.S.-ROK alliance must continue its efforts to develop and maximize the combined deterrence through close cooperation, while at the same time trying to make the South Korean public rightly perceive the important role of extended deterrence. These efforts should be carried out bilaterally by both Washington and Seoul, because both countries share common security values and interests.

1. Importance of Continuous Security Commitments

South Koreans' confidence in U.S. extended deterrence might be further strengthened or, at least maintained, by greater U.S. commitment to sustainable security guarantees for South Korea. Although the overall outcome appears to have little impact on South Koreans' confidence, a small part of the results may suggest the importance of the U.S. commitment to extended deterrence. No matter how the U.S. nuclear strategy changes—whether it implies the reduction of nuclear force structure or the augmentation

of nuclear capabilities—demonstrating firm U.S. commitments and implementing relevant policies may have positive influences on South Koreans' confidence. Not surprisingly, the existing literature has also discussed the significance of a defender's ongoing security guarantees for its allies and the efficacy of the means and mechanisms to implement extended deterrence. If these U.S. efforts are to be supported by bilateral cooperation with South Korea through a catalyst—the U.S.-ROK alliance—South Koreans' confidence may become even more resilient.

2. Importance of Joint Efforts of the U.S.-ROK Alliance

In this respect, practical cooperative mechanisms between the United States and South Korea to improve the combined deterrence capabilities become more important. Indeed, the U.S.-ROK alliance has developed a variety of extended deterrence-related mechanisms through the SCMs, as examined in Chapter II. Through these mechanisms, the South Korean government's needs may have been more actively discussed over time. In particular, given South Korea's specific security concern, the extended deterrence-related mechanisms to complement the security loopholes that may arise from the conversion of the WT-OPCON may become more imperative for the U.S.-ROK alliance. An unexpected collapse of the U.S.-ROK alliance seems unlikely, given the shared strategic value and interests between the United States and South Korea. Rather, a close cooperation for further development of U.S. extended deterrence within the U.S.-ROK alliance seems more plausible. Washington and Seoul should transform U.S. extended deterrence into a mechanism that shares mutual security interests of the U.S.-ROK alliance, rather than one in which South Korea unilaterally benefits from the United States.

3. Measures for South Korean Public

The U.S.-ROK alliance may also need to consider and make efforts to inform South Koreans of U.S. extended deterrence. As revealed by this thesis, the majority of the South Korean public has long supported the ROK's possession of nuclear weapons. Why they have favored South Korea's own nuclear development is unclear, however. Perhaps developing an extended deterrence mechanism and reaffirming the solidarity of the U.S.-

ROK alliance may not be sufficient. The decisions agreed to by the high-level policy makers may need to be actively promoted to the South Korean public. The publicity purposes should be not only to inform the public of what U.S. extended deterrence is but also to explain why it is imperative. Such efforts by Washington and Seoul may help bolster South Koreans' perceptions of U.S. extended deterrence and, by extension, may provide U.S. citizens with a conviction that extending U.S. deterrence to South Korea would ultimately contribute to protecting U.S. security, too.

C. LIMITATIONS OF THE RESEARCH

The most significant limitation of the thesis is insufficient data about South Koreans' perceptions of U.S. extended deterrence. The weak correlations between South Koreans' confidence and the two influential factors—U.S. nuclear strategy and North Korea's ICBM capability—may not derive only from their relations themselves. As already mentioned, sufficient and accurate data reflecting South Koreans' changing confidence in U.S. extended deterrence is needed to draw an accurate result. Only a small number of politicians, government officials, and academic experts have addressed U.S. extended deterrence-related issues. Moreover, few have periodically expressed or intimated their confidence in U.S. extended deterrence. Even if they did, there was little change in their perceptions. Finally, no direct polling data concerning public perceptions of U.S. extended deterrence exists.

The shortage of data, in turn, may obscure the subtle relation between the changing U.S. nuclear strategy and North Korea's ICBM capability in influencing South Koreans' changing confidence in U.S. extended deterrence. Although an analysis on the dominance of influence of these factors may seem possible, the outcome derived from insufficient data must be tentative. The other reason that the accuracy of the influence dominance of the two factors becomes modest is the absence of an analysis of the differences between the 2010 NPR and the previous 2002 NPR. This thesis analyzed that the United States would reduce its nuclear capabilities through the 2010 NPR. The thesis, however, did not analyze how much U.S. nuclear capabilities weakened or whether they

actually decreased, compared to the 2002 NPR. This limitation would probably make the accuracy of dominant influence even more ambiguous.

Little or weak correlations—the key finding—may lead to another limitation of this thesis: what then might be the actual factors affecting South Koreans' changing perceptions of U.S. extended deterrence? Would consistent U.S. security commitments be the most influential factor? Would the South Korean government's political decisions stemming from the ruling party's political leaning be the determining factor? Would the contemporary political and diplomatic relations between the two Koreas be an influential factor? Could North Korea's physical provocations, which did not cause direct retaliation by the U.S.-ROK alliance—particularly the United States—be the crucial factor in affecting South Koreans' confidence? Consequently, weak confidence in the results of this thesis leads to a new research challenge beyond the discussion of the accuracy of the results.

Lastly, this thesis has the limitation of measuring South Koreans' perceptions by using a qualitative method rather than a quantitative one. Indeed, it is very difficult to measure human beings' perceptions with certainty. In addition, it is more difficult to grasp a person's confidence in U.S. extended deterrence through comments or writings of that person. Although this thesis utilized a simplified method defined by the author for measuring perceptions, this method does not necessarily justify the results of the measurement. Analyzing the correlation between the confidence levels of South Koreans and the two factors in this way may also add uncertainties to the results. In the end, all of these limitations can guide the direction of future research.

D. FUTURE RESEARCH

The most obvious way to ensure a credible outcome and build upon this thesis is to conduct a direct survey of South Koreans' confidence in U.S. extended deterrence. Of course, one year's data would not be enough to identify the changing perceptions of South Koreans. Either a professional survey institution or a direct survey by a researcher could improve the quality of future research. Such improved research, however, would not be able to cover the same period of this thesis.

For the same period of study, an additional analysis of the differences between the 2002 and 2010 NPRs should be conducted. An examination of the differences between the two NPRs will be helpful to identify more thoroughly the dominant influence between U.S. nuclear strategy and North Korea's ICBM capability. Further research on the 2002 NPR would also enable the results of the impact of U.S. nuclear strategy on South Koreans' confidence to become more credible.

Expanding the research scope to other potential factors that might influence South Koreans' perceptions will also be of great help in identifying another causal factor that leads to changes in their confidence. As mentioned as a limitation, other factors may exist besides the two factors examined in this thesis. South Koreans' perceptions of U.S. extended deterrence seem to be influenced by multi-causal factors rather than independently by one factor; therefore, a multi-dimensional approach to and research on possible factors will be paramount. The additional potential factors are the same as those mentioned previously.

By drawing from quantitative data and applying a more reliable measuring method, this thesis might have been able to reduce the potential uncertainties about the results. Utilizing statistical methods for analyzing the correlation between dependent and independent variables or between the independent variables themselves would also be more helpful to derive more accurate outcomes.

This thesis nevertheless may be the first attempt to identify the correlations between South Koreans' changing confidence in U.S. extended deterrence and the key potential factors affecting that confidence, particularly by utilizing more objective data through an examination of South Korean perceptions and staying away from subjective analyses based on scholars' own perceptions.

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LIST OF REFERENCES

Ahn, Hong-wook. "The Full Text, Declaration Commemorating the 60th Anniversary of The Alliance." *Kyunghyang News*, May 8, 2013. http://news.khan.co.kr/kh_news/khan_art_view.html?artid=201305080709071&code=910402.

Albright, David. "North Korean Miniaturization." 38 North. Last modified February 13, 2013. https://www.38north.org/2013/02/albright021313/.

Anderson, Justin V., Jeffrey A. Larsen, and Polly M. Holdorf. "Extended Deterrence and Allied Assurance: Key Concepts and Current Challenges for U.S. Policy." Institute for National Security Studies Occasional Paper 69, U.S. Air Force Academy, 2013. http://www.usafa.edu/app/uploads/OCP69.pdf.

Asan Institute for Policy Studies. "South Korean Perceptions of ROK-US Relations and Foreign Affairs." June 20, 2013. http://en.asaninst.org/contents/south-korean-perceptions-of-rok-us-relations-and-foreign-affairs/.

_____. "South Koreans and Their Neighbors 2014." April 19, 2014. http://en.asaninst.org/contents/south-koreans-and-their-neighbors-2014/.

_____. "South Koreans and Their Neighbors 2015." May 18, 2015. http://en.asaninst.org/contents/south-koreans-and-their-neighbors/.

_____. "South Koreans and Their Neighbors 2016." May 3, 2016. http://en.asaninst.org/contents/south-koreans-and-their-neighbors-2016/.

_____. "South Koreans and Their Neighbors 2018." May 2, 2018. http://en.asaninst.org/contents/south-koreans-and-their-neighbors-2018/.

Bush, Richard C. "The U.S. Policy of Extended Deterrence in East Asia: History, Current Views, and Implications." Arms Control Series Paper 5, Foreign Policy at Brookings, 2011. https://www.brookings.edu/wp content/uploads/2016/06/02_arms_control_bush.pdf.

Cheon, Seong-whun. "Changing Dynamics of U.S. Extended Nuclear Deterrence on the Korean Peninsula." *Inha Journal of International Studies* 26 no. 1 (2011): 37–64.

Choe, Sang-Hun, and David E. Sanger. "After North Korea Test, South Korea Pushes to Build Up Its Own Missiles." *New York Times*, July 29, 2017. https://www.nytimes.com/2017/07/29/world/asia/us-south-korea-north-korea-missile-test.html.

Choi, Kyung-woon. "ROK Should Also Start Developing Nuclear Weapons vs. The Maintenance of the CFC Is More Effective." *Chosun Ilbo*, August 5, 2011. http://news.chosun.com/site/data/html_dir/2011/08/05/2011080500098.html.

Chosun Ilbo. "North Korea's Third Nuclear Test, Unable to Know Raw Materials Used in Nuclear Test." April 25, 2013. http://news.chosun.com/site/data/html_dir/2013/04/25/2013042501202.html.

_____. "Trump Administration's NPR and the Redeployment of Tactical Nuclear Weapons in the Korean Peninsula." *Asan Institute for Policy Studies Issue Brief* 7 (2018). http://www.asaninst.org/contents/trump-%ED%96%89%EC%A0%95%EB%B6%80%EC%9D%98-npr%EA%B3%BC-%ED%95%9C%EB%B0%98%EB%8F%84-%EC%A0%84%EC%88%A0%ED%95%B5-%EC%9E%AC%EB%B0%B0%EC%B9%98/.

Clapper, James R. "DNI Statement on North Korea's Nuclear Capability." Office of the Director of National Intelligence. Last modified April 11, 2013. https://www.odni.gov/index.php/newsroom/press-releases/press-releases-2013/item/839-dni-statement-on-north-korea-s-nuclear-capability.Cla.

Dunn, Lewis A., Gregory Giles, Jeffrey Larsen, and Thomas Skypek. "Foreign Perspectives on U.S. Nuclear Policy and Posture: Insights, Issues, and Implications." Working paper, Defense Threat Reduction Agency, 2006. http://www.dtic.mil/dtic/tr/fulltext/u2/a464784.pdf.

Federation of American Scientists. "Ballistic Missile Basics." Accessed October 20, 2018. https://fas.org/nuke/intro/missile/basics.htm.

Fifield, Anna. "North Korea Says It Will Suspend Nuclear and Missile Tests, Shut Down Test Site." *Washington Post*, April 20, 2018. https://www.washingtonpost.com/world/north-korean-leader-suspends-nuclear-and-missile-tests-shuts-down-test-site/2018/04/20/71ff2eea-44e7-11e8-baaf-8b3c5a3da888_story.html?noredirect=on&utm_term=.5468a6d6ede3.

Fitzpatrick, Mark. "Republic of Korea." In *Asia's Latent Nuclear Powers: Japan, South Korea and Taiwan.* New York: Routledge, 2016.

Fuhrmann, Matthew, and Todd S. Sechser. "Signaling Alliance Commitments: Hand-Tying and Sunk Costs in Extended Nuclear Deterrence." *American Journal of Political Science* 58, no. 4 (2014): 919–35.

Guertner, Gary L. "European Views of Preemption in U.S. National Security Strategy." *Parameters* 37, no. 2 (2007): 31–44.

Hah, Jin-kyung. "National Defense Policy: The Full Text of Joint Communique of the 45th U.S.-ROK SCM." Ministry of National Defense. Last modified January 27, 2014. http://www.mnd.go.kr/user/boardList.action?boardId=I_43915&siteId=mnd&id=mnd_010704010000.

Han, In-taek. “The World without Nuclear Weapons and the Nuclear Umbrella.” *JPI PeaceNet*, no. 10 (2010). http://www.jpi.or.kr/kor/regular/policy_view.sky?code=papermorgue&id=2642.

Hayes, Peter, and Chung-in Moon. “Should South Korea Go Nuclear?” NAPSNet Policy Forum, July 28, 2014. https://nautilus.org/napsnet/napsnet-policy-forum/should-south-korea-go-nuclear/.

Healey, Denis. *The Time of My Life.* New York: W.W. Norton, 1989.

Hildreth, Steven A., and Mary B. Nikitin. *North Korea’s Nuclear and Ballistic Missile Programs*. CRS In-Focus No. IF10472. Washington, DC: Congressional Research Service, 2018. https://fas.org/sgp/crs/nuke/IF10472.pdf.

Huntley, Wade L. “Speed Bump on the Road to Global Zero.” *Nonproliferation Review* 20, no. 2 (2013): 305–38.

Jane, Perlez, and Sang-Hun Choe. “Bannon and Dunford Remarks Muddle U.S. Strategy for North Korea.” *New York Times*, August 16, 2017. https://www.nytimes.com/2017/08/16/world/asia/north-korea-trump-moon-jae-in-south.html.

Jang, Se-Jeong. “North Korea, Violation of the Armistice Agreement, 430,000 Times,” *Joong-ang Ilbo*, March 7, 2013. http://news.joins.com/article/10867822.

Jee, Seong-rim. “North Korea Criticizes the U.S. Nuclear Posture Review as Proclaiming the Declaration of Nuclear War.” *Yonhap News*, February 7, 2018. http://www.yonhapnews.co.kr/bulletin/2018/02/07/0200000000AKR20180207001300014.HTML?input=1195m.

Jeon, Seul-ki, and Sin-young Lee. “South Korea’s Official Nuclear Armament, Possible or Impossible?” *Chosun Ilbo*, January 7, 2016. http://news.chosun.com/site/data/html_dir/2016/01/07/2016010701448.html.

Jin, Sang-hyun. “The Full Text, Joint Statement of The U.S.-ROK Summit.” *Joongang Ilbo*, October 14, 2011. https://news.joins.com/article/6414992.

Jung, Yoon-sub, and Byoung-chul Kang. “The Full Text, Join Statement on North Korea.” *Yonhap News*, October 17, 2015. http://www.yonhapnews.co.kr/bulletin/2015/10/16/0200000000AKR20151016201900001.HTML.

Kim, Ho-joon. “The Full Text of Joint Communique of the 47th U.S.-ROK SCM.” *Yonhap News*, November 2, 2015. http://www.mnd.go.kr/user/boardList.action?boardId=I_43915&siteId=mnd&id=mnd_010704010000.

Kim, Jae-hong. “National Defense Policy; The Full Text of Joint Communique of the 42nd U.S.-ROK SCM.” Ministry of National Defense. Last modified October, 11, 2010. http://www.mnd.go.kr/user/boardList.action?boardId=I_43915&siteId=mnd&id=mnd_010704010000.

Kim, Jae-yeop. “Military Security in the Korean Peninsula and Nuclear Strategy: Focused on Countering North Korea’s Nuclear Armament Threat.” *National Defense Studies* 59, no. 2 (2016): 27–55.

Kim, Jong-woo. “Jung Mong-joon Claimed the Need to Review the Reintroduction of Tactical Nuclear Weapons.” *Yonhap News*, February 25, 2011. https://news.naver.com/main/read.nhn?mode=LSD&mid=sec&sid1=100&oid=001&aid=0004931122.

Kim, Jung-Sub. “Rethinking Extended Deterrence in the Korean Peninsula.” *National Strategy* 21, no. 2 (2015): 5–40.

Kim, Kwi-keun. “Controversy over Remarks by Defense Minister Kim on U.S. Tactical Nuclear Weapons Relocation.” *Yonhap News*, November 22, 2010. https://news.naver.com/main/read.nhn?mode=LSD&mid=sec&sid1=100&oid=001&aid=0004779406.

Kim, Seong-han. “Persuade Washington to Redeploy Tactical Nuclear Weapons.” *Chosun Ilbo*, September 7, 2017. http://news.chosun.com/site/data/html_dir/2017/09/06/2017090603592.html.

Kim, Seung-taek. *Rethinking Extended Deterrence*. Washington, DC: CSIS Office of the Korea Chair, 2010. https://my.csis.org/analysis/rethinking-extended-deterrence-korean.

Kim, Tae-woo. “ROK-US Defense Cooperation against the North Korean Nuclear Threat: Strengthening Extended Deterrence.” In *The U.S.-ROK Alliance Relations for the 21st Century*, edited by Jung-Ho Bae and Abraham Denmark, 181–220. Seoul: Korea Institute for National Unification, 2009.

Kim, Young-ho. “The Obama Administration’s Nuclear Policy and South Korean Security.” *Journal of National Defense Studies* 53, no. 1 (2010): 47–69.

_____. “Challenges After the Dismantling of the Combined Forces Command (CFC).” *Chosun Ilbo*, October, 31, 2012. http://news.chosun.com/site/data/html_dir/2012/10/31/2012103103464.html?Dep0=twitter&d=2012103103464.

Kim, Young-nam. “U.S. Missile Experts, NK’s ICBM is Able to Reach the U.S. and No Problem with Re-entry.” *VOA Korea*, November 30, 2017. https://www.voakorea.com/a/4143085.html.

Kristensen, Hans M., and Robert S. Norris. “North Korean Nuclear Capabilities, 2018.” *Bulletin of the Atomic Scientists* 74, no. 1 (2018): 41–51. https://doi.org/10.1080/00963402.2017.1413062.

Kwon, Dae-yeol. “President Lee Got a Security Briefing from the Pentagon.” *Chosun Ilbo*, October 13, 2011. http://news.chosun.com/site/data/html_dir/2011/10/13/2011101300182.html.

Lee, Choon-keun. “Acquiring Nuclear Weapons Depends on Our Will.” *Premium Chosun*, May 18, 2015. http://premium.chosun.com/site/data/html_dir/2015/05/17/2015051700856.html.

_____. “Security Crisis Has Never Been Desperate as Current South Korea.” *Premium Chosun*, May 18, 2015. http://premium.chosun.com/site/data/html_dir/2015/05/17/2015051700858.html.

_____. “The U.S. Has Almost Tolerated Nuclearization of the States that Were Friendly to the US.” *Premium Chosun*, May 18, 2015. http://premium.chosun.com/site/data/html_dir/2015/05/17/2015051700867.html.

Lee, Hyang-sub. “The Full Text of Joint Communique of the 43rd U.S.-ROK SCM.” Ministry of National Defense. Last modified November, 2, 2011. http://www.mnd.go.kr/user/boardList.action?boardId=I_43915&siteId=mnd&id=mnd_010704010000.

Lee, Hyun-oh. “The Difference between US-NATO and U.S.-ROK Alliance in the Case of the North Korean Nuclear Threat.” *New Daily*, July 7, 2014. http://www.newdaily.co.kr/site/data/html/2014/07/07/2014070700011.html.

Lee, Joo-man. “National Defense Policy: The Full Text of Joint Communique of the 44th U.S.-ROK SCM.” Ministry of National Defense. Last modified February 25, 2013. http://www.mnd.go.kr/user/boardList.action?boardId=I_43915&siteId=mnd&id=mnd_010704010000.

Lee, Jung-jin. “Han Min-koo, Trump’s Remark on the North Korean Nuclear, A Positive Sign for Cooperation.” *Yonhap News*, January 13, 2017. http://www.yonhapnews.co.kr/bulletin/2017/01/13/0200000000AKR20170113050000014.HTML?input=1195m.

Lee, Seung-Jun. “Gallup, Holds Nuclear Weapons, 60% in Favor, 35% Against.” *Hankyoreh*, September 8, 2017. http://www.hani.co.kr/arti/politics/politics_general/810212.html.

Lee, Yong-soo. “Trump Appears to be Unable to Reverse the U.S. Nonproliferation Norm.” November 15, 2016. http://news.chosun.com/site/data/html_dir/2016/11/15/2016111500193.html.

Ministry of National Defense. “Background and Significance of the ROK-US Alliance.” Accessed August 6, 2018. http://www.mnd.go.kr/mbshome/mbs/mnd/subview.jsp?id=mnd_010701010000.

Moon, Seong-mook. “Republic of Korea’s Policy Alternative Regarding North Korea’s Nuclear Problem.” *The Journal of Strategic Studies* no. 62 (2014): 91–121.

Morgan, Patrick M. *Deterrence Now*. Cambridge, UK: Cambridge University Press, 2003.

Morrow, James D. “Alliances, Credibility, and Peacetime Costs.” *Journal of Conflict Resolution* 38, no. 2 (1994): 270–97.

National Air and Space Intelligence Center (NASIC). “Ballistic and Cruise Missile Threat.” Accessed October 21, 2018. https://www.nasic.af.mil/LinkClick.aspx?fileticket=F2VLcKSmCTE%3D&portalid=19.

Nikitin, Mary B. *North Korea’s Nuclear Weapons: Technical Issues*. CRS Report No. RL34256. Washington, DC: Congressional Research Service, 2013. https://fas.org/sgp/crs/nuke/RL34256.pdf.

Noh, Min-Ho. “North Korea’s Announcement, Successful Hydrogen Bomb Test for ICBM.” *New Daily*, September 3, 2017. http://www.newdaily.co.kr/site/data/html/2017/09/03/2017090300018.html.

North American Aerospace Defense Command (NORAD). “NORAD and USNORTHCOM Acknowledge Missile Launch.” Accessed October 21, 2018. http://www.norad.mil/Newsroom/Article/578614/norad-and-usnorthcom-acknowledge-missile-launch/.

Oh, Dae-il. “Kim Kwan-jin Calls for Self-Denuclearization to Adhere to the Principle of Denuclearization.” *Chosun Ilbo*, April 16, 2013. http://news.chosun.com/site/data/html_dir/2013/04/16/2013041602430.html.

Oh, Young-chul. “The Ministry of Nation Defense, Immediate Suppression If North Korea Provokes.” *KBS News*, January 12, 2014. http://news.kbs.co.kr/news/view.do?ref=A&ncd=2788159.

O’Neil, Andrew. “Extended Nuclear Deterrence in East Asia: Redundant or Resurgent?” *International Affairs* 87, no. 6 (2011): 1439–1457.

Park, Byung-soo. “Kim Jong-un’s Declaration, The Completion of Nuclear Armed Forces.” *Hankyoreh*, November 29, 2017. http://www.hani.co.kr/arti/politics/defense/821244.html.

Park, Chang-kwon. “ROK-US Cooperation in Preparation for Hostile Actions by North Korea in Possession of Nuclear Weapons.” *Korean Journal of Defense Analysis* 22, no. 4 (2010): 499–513.

Park, Hwee-rhak. “The Establishment of The U.S.-ROK Combined Theater Command, Extended Deterrence Should Be Strengthened.” *Tongil Hankook*, July 1, 2013. http://unikorea21.com/?p=7773.

_____. “An Examination of the Probability of the U.S. Nuclear Extended Deterrence under the Advanced North Korean Nuclear Threat.” *Journal of International Politics* 22, no. 2 (2017): 85–114.

_____. “An Analysis on the Necessity and Feasibility of the Redeployment of U.S. Tactical Nuclear Weapons in South Korea.” *Military Development Research* 11, no. 2 (2017): 1–24.

Park, Young-ho. “South Korea’s Perception on and Responses to North Korea’s Nuclear Weapons Development after Its Third Nuclear Test.” *Journal of Peace and Unification Studies* 5, no. 1 (2013): 3–38.

Roberts, Brad. *The Case for U.S. Nuclear Weapons in the Twenty-First Century*. Stanford, CA: Stanford University Press, 2016.

Roehrig, Terence. *From Deterrence to Engagement: The U.S. Defense Commitment to South Korea*. Lanham, MD: Lexington Books, 2006.

———. “The U.S. Nuclear Umbrella over South Korea: Nuclear Weapons and Extended Deterrence.” *Political Science Quarterly* 132, no. 4 (2017): 651–84.

Russett, Bruce M. “The Calculus of Deterrence.” *Journal of Conflict Resolution* 7, no. 2 (1963): 97–109.

Schilling, John. “A Revised Assessment of the North Korean KN-08 ICBM.” *Science and Global Security* 21, no. 3 (2013): 210–36 https://doi.org/10.1080/08929882.2013.835592.

Shanker, Thom, David E. Sanger, and Eric Schimitt. “Pentagon Finds Nuclear Strides by North Korea.” *New York Times*, April 11, 2013. https://www.nytimes.com/2013/04/12/world/asia/north-korea-may-have-nuclear-missile-capability-us-agency-says.html.

Shin, Seong-chul. “National Defense Policy: The Full Text of Joint Communique of the 46th U.S.-ROK SCM.” Ministry of National Defense. Last modified October 24, 2014. http://www.mnd.go.kr/user/boardList.action?boardId=I_43915&siteId=mnd&id=mnd_010704010000.

_____. “National Defense Policy: The Full Text of Joint Communique of the 48th U.S.-ROK SCM.” Ministry of National Defense. Last modified November 2, 2016. http://www.mnd.go.kr/user/boardList.action?boardId=I_43915&siteId=mnd&id=mnd_010704010000.

Snyder, Scott. “Finding a Balance between Assurances and Abolition: South Korean Views of the Nuclear Posture Review.” *Nonproliferation Review* 18, no. 1 (2011): 147–63.

Song, Seung-jong. “The Root Causes of North Korean Nuclear Crisis and Problems of Extended Deterrence Strategy.” *Review of Korean Military Studies* 6, no. 2 (2017): 3–31.

Tertrais, Bruno, David S. Yost, Elaine Bunn, Seok-Soo Lee, Ariel E. Levite, James A. Russell, Emile Hokayem, Mustafa Kibaroglu, Paul Schulte, Oliver Thranert, and Lukasz Kulesa. “Perspectives on Extended Deterrence.” Paper presented at the seminar of the Foundation for Strategic Research, France, November 2009. https://inis.iaea.org/collection/NCLCollectionStore/_Public/47/061/47061163.pdf?r=1&r=1.

United States Forces Korea. “Full Text of 47th ROL-US Joint Communique.” Last modified November 1, 2015. http://www.usfk.mil/Media/News/Article/626859/full-text-of-47th-rok-us-joint-communique/.

U.S. Department of Defense. *2010 Nuclear Posture Review Report.* Washington, DC: Government Printing Office, 2010. https://dod.defense.gov/Portals/1/features/defenseReviews/NPR/2010_Nuclear_Posture_Review_Report.pdf.

_____. *2018 Nuclear Posture Review Report.* Washington, DC: Government Printing Office, 2018. https://media.defense.gov/2018/Feb/02/2001872886/-1/-1/1/2018-NUCLEAR-POSTURE-REVIEW-FINAL-REPORT.PDF.

_____. “Joint Communique of the 49th ROK-US Security Consultative Meeting.” Last modified October 28, 2017. https://dod.defense.gov/Portals/1/Documents/pubs/20171028-Joint-Communique-OSD-MND-October-17-Final-version.pdf.

White House. “Joint Press Release by the United States of America and the Republic of Korea.” Accessed August 13, 2018. https://www.whitehouse.gov/briefings-statements/joint-press-release-united-states-america-republic-korea/.

_____. “Joint Statement between the United States and the Republic of Korea.” Accessed August 13, 2018. https://www.whitehouse.gov/briefings-statements/joint-statement-united-states-republic-korea/.

White House, President Barack Obama. “Joint Fact Sheet: The United States-Republic of Korea Alliance: A Global Partnership.” Accessed August 13, 2018. https://obamawhitehouse.archives.gov/the-press-office/2014/04/25/joint-fact-sheet-united-states-republic-korea-alliance-global-partnership.

Williams, Ian. “North Korean Missile Launches and Nuclear Tests: 1984–Present.” Missile Threat: Center for Strategic and International Studies (CSIS) Missile Defense Project. Last modified November 29, 2017. https://missilethreat.csis.org/north-korea-missile-launches-1984-present/.

Wright, David. “North Korean ICBM Appears Able to Reach Major U.S. Cities.” Union of Concerned Scientists. Last modified July 28, 2017. https://allthingsnuclear.org/dwright/new-north-korean-icbm.

_____. “North Korea’s Longest Missile Test Yet.” Union of Concerned Scientists. Last modified November 28, 2017. https://allthingsnuclear.org/dwright/nk-longest-missile-test-yet.

Yang, Seung-sik, and Seon-woo Won. “Response to the Deployment of U.S. Tactical Nuclear Weapons, 3 of Ruling Party Agreed, 4 of Opposite Party Disagreed.” *Chosun Ilbo*, September 13, 2016. http://news.chosun.com/site/data/html_dir/2016/09/13/2016091300207.html.

Yang, Wook. “The Unprepared Transition of WT-OPCON Is A Disaster.” *Sisapress*, January 3, 2018. http://www.sisapress.com/journal/article/173074.

Yoo, Yong-won. “Withdrawal of Part of USFK and Deployment in Other Region.” *Chosun Ilbo*, February 3, 2010. http://news.chosun.com/site/data/html_dir/2010/02/03/2010020300154.html.

_____. “In Case of Crisis in the Korean Peninsula, Virtually Impossible to Deploy Large-Scale U.S. Troops in the Peninsula.” *Chosun Ilbo*, January 6, 2012. http://news.chosun.com/site/data/html_dir/2012/01/06/2012010600241.html.

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