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PERCEPTION IS REALITY

THE ROK'S DISPLEASURE WITH THE US TAILORED DETERRENCE STRATEGY

by

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PREFACE

It is one thing to be an academic and research a compelling topic. It is quite another to be in the trenches performing the mission on a daily basis. In researching this problem, I experienced aspects of both.

As I neared completion of my Air Command and Staff College program, a “Hot Topic” research opportunity was announced for a study on deterrence. I felt since the United States Strategic Command’s (USSTRATCOM) number one priority is deterring strategic attack against the United States and providing assurance to our allies, my research should be applicable to my work. Having previously taken the Cultural Studies class, I was intrigued by how much strategic culture influenced leadership decision-making. As I learned about Asia-Pacific cultures specifically, I wondered if we were missing the mark in how we were using deterrence messaging against North Korea.

My first research question was, “Why has the US-ROK Tailored Deterrence Strategy toward North Korea not slowed that country’s nuclear program?” I studied the history of the creation of North and South Korea, the lineage of the Kim family, the development of North Korea’s nuclear program, and the Korean culture in-depth. Over five weeks into the term, my proposal was solid enough to share with my team at work for an initial peer review. One of my colleagues said, “You know, the team that wrote the US-ROK Tailored Deterrence Strategy are sitting in the basement. Let’s go visit them.” If the USSTRATCOM top priority is deterrence, it follows that the country’s greatest deterrence experts are here. How lucky to have the actual authors of the policy read my proposal!

Brian was the first to speak. “I have good news and bad news, which would you like first?” I generally like getting bad news out of the way first. “Your research question of why

has the deterrence policy not slowed North Korea's nuclear program: it was never meant to, and almost everyone makes the same mistake you did." I then learned the policy was meant to deter North Korea from *first use* of a nuclear weapon should they develop a full capability, and to assure South Korea of the US commitment to extended deterrence. He recommended a better path was to investigate what the United States can do to influence the perception from South Korea of a waning US commitment for extended deterrence. His good news: all my research on Korean cultural factors still applied.

Therefore, I would like to give Brian, Jennifer, Mark, and Bernie from USSTRATCOM J55 a big thank you for saving me from writing a thoughtfully and beautifully crafted academic paper that has no credibility. Thanks to Steve for knowing that they all work in the basement.

Special thanks are offered to my instructor, Dr. Kathleen Mahoney-Norris. She did more for encouraging me to develop my ideas into concrete arguments than anyone. Her key attribute was drawing out the intent of my words when I assumed my reader made the same leaps that I did. I also want to thank Kim Gangwish, College of Education faculty at the University of Nebraska at Omaha, and Steve Lebedz, the best, retired high school English teacher in Nebraska. Kim and Steve have been family friends for years and I am extremely grateful to them for grading my research paper before it was graded by Dr. KMN.

Thanks are also extended to my ACSC classmates who read, studied, adjusted, and improved my research paper multiple times, providing specific and usable comments. I understand that the goal in this class, as in any DoD document under review, is always to produce a better product.

Finally, I could not have done it without the love and support of my husband, Jim. Life never slows down, nor would I want it to, and I have my wonderful husband to thank for that.

ABSTRACT

Stability on the Korean Peninsula is at a crossroads. The United States is bound by the 1953 Mutual Defense Treaty written at the end of the Korean War to provide extended deterrence to South Korea in the event of an attack by North Korea. However, in the last decade, North Korean aggression toward the South has escalated dramatically, introducing a remarkable shift to South Korean strategic culture over a short period. This research argues that due to the events of the last ten years and acceleration of North Korea's nuclear program, South Korea has started to question the ability and desire of the United States to continue providing extended deterrence, introducing this change in ROK strategic culture. South Korea recently adopted a *Go Hard* strategy to establish a self-reliant program to defend against an attack from the North. The United States should be concerned with South Korean leadership's perception of waning US commitment to extended deterrence and seek ways to reestablish their confidence. Through the application of game theory and hypothetical alternate future scenarios, the analysis presented here explores the influence of strategic culture, regional relationships, and proposed South Korean defensive capabilities that provide a difficult challenge to the United States in developing extended deterrence strategies. This research concludes that the United States must consider the perceptions of all the regional partners and engage with other nuclear-capable nations to deter North Korea from using its nuclear weapons, while reassuring South Korea of continued extended deterrence, thus enabling the United States to achieve its primary goals of nuclear non-proliferation, peace, and stability in the Asia-Pacific region.

INTRODUCTION

Imagine how an arbitrary line drawn in the summer of 1945 could affect world events for generations to come. The 38th Parallel on the Korean Peninsula did exactly that. As North and South Korea established independent governments, each claimed to be the legitimate government of Korea with a primary goal of reunification and war escalated again. When the fighting ended in 1953, the United States and South Korea signed the Republic of Korea (ROK) Mutual Defense Treaty that provided continued United States (US) support to South Korea against future attacks from the Democratic People's Republic of Korea (DPRK). Because a peace treaty was never signed, the two Koreas remain at war with each other.

The United States adheres to Article II of the 1953 Mutual Defense Treaty by placing troops in South Korea and extending the protection of the US nuclear umbrella in a military altercation with any adversary. Known as extended deterrence, it assures our allies that their security needs will be met, and it supports nuclear nonproliferation by eliminating the need for allies to develop and field their own nuclear arsenals.¹ Extended deterrence applies to the US support given to allies and is supplemental to the classic definition of deterrence, which is the “adversary’s belief that a credible threat of retaliation exists, the contemplated action cannot succeed, or the costs outweigh the perceived benefits of acting.”² The effectiveness of *extended* deterrence with regard to allies is determined by their confidence in the credibility and resolve of the United States to use its nuclear umbrella to protect allied security interests.

Strategic culture is an underlying force in the confidence of the ROK in US assurances about deterrence. Some analysts diminish the importance of studying strategic culture, believing that it is not a significant factor in decision-making. However, deterrence expert Keith Payne writes that deterrence policies can be tailored to specific actors by expanding the study of

strategic culture to include their motivations, goals, and determinations of the party in leadership, as well as the priorities and value trade-off, the regional political and security environment, and the source of power available to the leadership.³ Including these additional factors lays the groundwork for a more realistic approach to tailored deterrence. Surprisingly, these same cultural motivations and goals contribute to the ROK's perception of waning US commitment to support extended deterrence.

The primary instrument of the declining level of ROK confidence in the United States is its assessment of the level of US support received during previous DPRK limited escalations compared to the expectation of future support regarding the imminent DPRK nuclear threat.⁴ North Korea has escalated its aggression toward South Korea using small-scale invasions aimed at destabilizing the region, such as the sinking of the ROK Cheonan Warship and the attack on Yeonpyeong Island in 2010. Since that time, the North has maimed two ROK soldiers in the DMZ Landmine incident and has escalated production of nuclear weapons. The recent nuclear tests indicate that the North Korean program is not slowing down. Furthermore, as the grandson of the "Absolute Ruler", Kim Jong-Un carries on the mission for the reunification of the Korean Peninsula under DPRK rule. He is not likely to abandon his current nuclear negotiating strategy until he has a guarantee of security.⁵ The perception that the United States is not addressing these recent destabilizing events causes apprehension among ROK leadership regarding the commitment of the United States to provide extended deterrence.⁶

The research question for this analysis is "why should the United States be concerned with the ROK perception of waning US commitment under the 2014 US-ROK Tailored Deterrence Strategy (TDS)?" The answer rests on the assertion that a well-defined US strategy for the ROK and the Asia-Pacific region, utilizing the full range of US political and military

capabilities, is necessary to provide and strengthen extended deterrence. The United States should actively take steps to build confidence that the country is still dedicated to long-term extended deterrence in the ROK. Further escalation of tensions on the Korean peninsula will prevent the United States from fulfilling its commitment to promote peace and stability, thereby threatening the *raison d'être* of the Alliance.

However, the ROK believes the United States has not deterred aggression by the DPRK in a manner expected by the ROK leadership. They cite age-old issues of unclear language in the Six Party Talks policy, a diminished sense of urgency in responding to DPRK aggressions, and greater importance being placed on US non-proliferation objectives than support of ROK interests.⁷ To improve the ROK's confidence in US extended deterrence, a 2014 bilateral agreement established a TDS aimed at "detering aggression on the Korean Peninsula and supporting the region's uninterrupted preservation and growth."⁸ The TDS incorporates multiple facets and increasing stages of deterrence both for preventing the DPRK from using a nuclear weapon and for assuring the ROK that the United States will provide continued sanctuary under the nuclear umbrella.

However, some elements of the TDS are inherently less successful than others in convincing the ROK that the US extended deterrence strategy will work. The United States tried diplomatic measures with North Korea first through the Six Party talks, and then through standard deterrence measures such as economic sanctions and using a show of military force, but these actions were unsuccessful. Since supporting the ROK with the US nuclear umbrella is a last resort if diplomacy and conventional options fail, South Korean officials believe that the US would only come to their aid after a nuclear attack has taken place.⁹ This viewpoint indicates a shift in strategic culture by challenging previously held beliefs on the expected level of US

extended deterrence. The agreements in the 1953 Mutual Defense Treaty addressed a far different adversary than the DPRK of today, one who previously did not have a nuclear weapon capability. A change in ROK's strategic culture influences its leadership to make future decisions about establishing their own defensive posture, which could fundamentally change the nature of the US-ROK Alliance.

This research utilizes the Scenario Planning framework to analyze elements that influence ROK leadership decision-making regarding their defensive posture during hypothetical alternate future events. The continued development of the DPRK nuclear program and the ROK diminishing confidence in the ability of US extended deterrence to work are the driving forces for this research. The research begins with the evolution of ROK strategic culture since the 1953 Armistice and a summary of recent hostile events by the DPRK that have influenced a shift in strategic culture.

Strategic culture is a core component in game theory, which is widely used in war-gaming to predict leadership's future decisions. Game theory considers all aspects of rationality without dismissing the adversary as irrational. Therefore, this paper includes an explanation of deterrence theory fundamentals and the benefits of using game theory models to examine the influence of strategic culture on decision-making, so the United States can derive better strategies that reverse ROK negative perceptions of tailored deterrence. Then, components of the current US tailored deterrence strategy are identified, focusing on key elements and objectives. Next, three alternate futures are proposed, describing scenarios where the ROK leadership perceives continued decreasing support from the United States while witnessing deteriorating conditions on the peninsula. Each scenario states an ROK decision point and then uses a game theory-formatted decision model to identify how strategic culture plays a role in

influencing ROK-perceived courses of action. The scenario is summarized with ways in which the United States can influence ROK perceptions and prevent the indicated decision point from happening. Finally, this analysis summarizes steps the United States can take to instill confidence that a tailored deterrence strategy can work and that the United States will provide the full weight of the US nuclear umbrella to deter nuclear attack on the ROK from the DPRK.

FOUNDATIONS OF ROK STRATEGIC CULTURE

Strategic culture is a fundamental belief system about warfare based on a foundation that incorporates a country's historically significant events, the role of geography in developing the nation, and its core cultural and economic factors.¹⁰ It is generally consistent over time and applies to both initiating an offensive use of force and establishing a defensive posture. While the current strategic and political environments are highly influential factors in a senior leader's decision-making process during a crisis, deterrence planners who support strategic culture analysis believe that culture shapes decisions in a way that balances objectives with the desire to maintain positive relationships with neighboring countries. Incorporating strategic culture in the development of extended deterrence policies should allow the United States to build strategies that are advantageous to both countries.

Korean Historical Factors

As the two Koreas divided following World War II, they experienced reverse fortunes regarding the direction of economic advancement. Initially, North Korea flourished while South Korea struggled, then South Korea industrialized while North Korea all but collapsed. The disparity in the pace and direction of economic growth presents a situation where the nation with the least to lose economically has the most to gain from initiating aggression.

The US-ROK Armistice of 1953

Upon the split of the Korean Peninsula, the Soviets appointed North Korea's first absolute ruler, Kim Il-Sung, who had recently served as a captain in the Soviet Red Army. He introduced the philosophy of *juche*: "self-reliance" with the goal of improving his economy with little aid from other nations through a strict isolationist policy. The country's self-sufficiency and isolationist goals reflected sentiments driven by *Mao Zedong's Little Red Book*,¹¹ wherein Chairman Mao prescribes that the road to modernization follows the principles of diligence and frugality, and a nation must become self-reliant to succeed in a revolution. The objectives of the new North Korea followed the guidance of Chairman Mao to transform the nation into an "austere, militaristic, and highly regimented society devoted to the twin goals of industrialization and the reunification of the Korean peninsula under North Korean rule [through a revolution]."¹²

The South's road to an established government was not as smooth, having multiple interim ruling bodies until May 1948 when the ROK adopted a constitution creating a democratic government. Interestingly, Article 4 of the South Korean Constitution identifies its national territory as the entire Korean peninsula and its accessory islands.¹³ The newly formed ROK aspired to similar reunification goals as the North, though under South Korean democratic rule and not North Korean autocratic rule. South Korea's collectivist culture aimed toward accomplishing these goals through a holistic approach: providing security, stability, and prosperity toward a self-reliant economy.

In October 1948, the Korean Worker's Party formally established the DPRK and the Soviet troops withdrew. However, within two years, South Korea had also declared independence, which sparked a North Korean invasion and the Korean War. The war lasted until 1953, when the two Koreas declared a cease-fire, creating an armistice having dual-signatories as

the United States and South Korea, whereby the United States agreed to maintain and develop appropriate means to deter armed attack in the Asia-Pacific region from any adversary.

The Two Koreas Diverge

Following the Armistice, the two Koreas diverged, and each country suffered its own rise and fall. North Korea initially experienced rapid industrial growth and in 1972, the two Koreas issued a joint statement on peaceful reunification. North Korea signed the Nuclear Non-proliferation Treaty in 1985 but then withdrew in January 2003, having seemingly been building its nuclear capability since operationalizing the research nuclear reactor in Yongbyon in 1986. In the late 1980's when the Soviet Union collapsed, the end of trade concessions for the DPRK started a downward spiraling economic crisis. Floods in 1995 led to countrywide famine that devastated North Korea, killing over 3 million of the 22 million citizens¹⁴ and inciting production loss of 85% of its power generation capacity.¹⁵ Today, North Korea ranks 178th with a Gross Domestic Product (GDP) of only \$15.5 billion (USD equivalent) and is considered the world's most repressed economy.¹⁶ Its primary exports are textiles, arms and coal.

South Korea experienced a reverse fate from North Korea following the Armistice. It suffered a military coup in 1961, putting General Park Chung-hee into power. A period of fast-paced industrial development commenced, with parallel constitutional changes that increased General Park's power until his assassination in 1979. Under subsequent frequent martial law, the military kept dissidents from protesting, and elected General Chun to a seven-year term. Finally, in 1986, the constitution changed to allow election of a civilian president serving a four-year term. Subsequently, a significant focus on the high-tech and computer industry and the Korea-US Free Trade Agreement resulted in considerable economic growth for the South Koreans. Today, the ROK holds the world's 13th largest GDP of \$1.37 trillion (USD equivalent in 2016),

is the world's number one producer of smart phones and flat-screen TVs, the number one shipbuilder, and is number one in 4G LTE speed and coverage.¹⁷

Geopolitical Factors

Geography has also played an important role in the evolution of strategic culture and the relationship between the two Koreas. After the Korean War, several major powers surrounded the North and South. Barring immediate reunification, the resulting Koreas could choose one of three options for building regional relationships: balance power between the two Korean nations; unite with one of the major powers such as the United States, the USSR, or China; or resort to isolation. The North chose to enforce a strict isolationist policy, willfully refusing to engage in dialogue with the outside world, and earned the nickname, “The Hermit Kingdom.” The South was dependent on the United States for economic aid and military support to defend against the North and chose to foster that relationship.

Near the end of the 20th century, the economic and political changes following the end of the Cold War introduced stiffened competition and significant nation building on the Korean Peninsula. As a result, distinct relationships among the United States, the ROK, and the DPRK, and among the DPRK, China, and Russia evolved. These regional relationships model a set of triangles, seen in Figure 1.¹⁸



Figure 1 – Regional Relationship Triangles

The sets of triangles do not imply equal influence among the parties, nor do they represent equal strength between the Northern and the Southern Triangles. While the United States is a stable anchor point in the Southern Triangle, and China the anchor in the Northern

Triangle, current day Russian influence is minimal, and the relationship between the two Koreas remains cold despite occasional efforts by the two governments to mend ties.

Cultural Factors

Because the two Koreas were one nation until 1945, the culture they shared over many centuries remains a common characteristic. Those deeply rooted beliefs and values directly influence behavior and decision-making. If an objective of deterrence is to influence a person's behavior, then a comprehensive study into the influence of cultural characteristics on decision-making is necessary to understand a person's perceptions. A tailored deterrence strategy should incorporate those cultural characteristics to shape and influence perceptions. Although it is dangerous to overestimate the association between the cultural philosophies and behavior of a single leader, studying methods of influence provides a more informed basis to predict reactions to specific US tailored deterrence and assurance strategies.

A number of religious and philosophical followings traditionally influence Korean culture, including Shamanism, Buddhism, Confucianism and Taoism. Foundational to Korean decision-making is the concept of *che-myon* (related to "face"). It contains the core elements of ethics, social performance, social personality, social pride, competence, demeanor and shame. Koreans believe "if your *che-myon* fails, you are essentially a failure as a Korean."¹⁹ The shame associated with the failure of one's *che-myon* is so strong it overrides any assumption in US deterrence planning regarding the actor's rationality.

Culture also influences the formation and execution of military strategy. Not all adversaries or allies are predictable on the battlefield. Emotional characteristics such as passion, jealousy, suspiciousness, vengefulness, individual personalities, and group dynamics all influence strategy.²⁰ M. Elaine Bunn, Deputy Assistant Secretary of Defense for Nuclear and

Missile Defense Policy, claims that to tailor deterrence requires a greater level of understanding of these emotional factors. However, since we can never fully understand the adversary's unique behaviors, even tailored deterrence strategies may not be successful.²¹ The former Commander of US Pacific Command, Admiral Samuel Locklear agrees, arguing that it is impossible to deter North Korea because its leadership's actions are irrational and unpredictable.²² Nevertheless, continuing to refer to an adversary's behavior as irrational is a fallacy of mirror imaging. Believing the adversary should respond according to western value systems causes the United States to dismiss the influence of strategic culture, thereby creating deterrence options with varying degrees of success against the adversary. Having an understanding of cultural factors and their influence on military strategy is necessary to define future US tailored deterrence and assurance efforts that are mutually beneficial to both parties.

Economic Factors

Cultural factors play a role in the advancement of a nation's economy through its relationship with other nations that provide economic and military aid. Under the protection of the US nuclear umbrella and resident US forces, South Korea was able to use its economic resources to develop an expansive nuclear energy program. In 1969, the "Nixon Doctrine"²³ asked for a more self-reliant role from the Asian allies and the United States began withdrawing troops from South Korea, despite the late President Park Chung-hee's objections. This shook the confidence of the South Koreans in the resolve of the United States to provide the security blanket they had enjoyed for nearly two decades, leading the ROK to undertake a program of self-reliant national defense with a perceived need for its own nuclear weapons program.²⁴ In response, the United States authorized \$1.5 billion for South Korea for military modernization,

but failed to fulfill the promised schedule of funds,²⁵ again giving pause to the ROK leadership on the commitment of the United States.

In 1970, the ROK began construction on a light water reactor and started a clandestine weapons research effort.²⁶ Over the next six years, South Korea modernized and developed an enrichment capability as well as continued to improve its nuclear energy capability. By 1975, the ROK suggested that it was able to develop its own nuclear weapons if the United States removed its nuclear umbrella.²⁷ The United States put enormous pressure on the ROK and eventually it halted its nuclear weapons research program and signed the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) in exchange for increased protection under US extended deterrence.

The strategic culture of the ROK in the years following was further complicated with the assassination of President Park in 1979, who had advocated for an indigenous nuclear capability. However, its explosive economic and industrial growth contributed to making the ROK an advanced nuclear energy power. To date, the ROK maintains the reversal of its nuclear weapons program. Nevertheless, possessing the ability to enrich elements (uranium and plutonium) to a weapon-grade quality is a key step in transitioning from a nuclear energy capability to a nuclear weapons capability, and thus puts the dominos in place for possible reconstitution of a future ROK nuclear weapons program should the ROK confidence in the United States continue to falter.

In the wake of the December 2016 impeachment of ROK President Park Geun-hye, more worrisome than the political turmoil is the impact of the impeachment on the South Korean economy. The Bank of Korea began holding emergency meetings to discuss possible policy responses to any fallout from the impeachment vote, which could change the direction of its

thriving economy. Only time will reveal the actual impact on the economy and the ability of the ROK Government to continue to advocate for an indigenous defensive posture.

Asia-Pacific Influential Relationships

The dynamic relationships among China, Japan and the two Koreas, combined with their close proximity and historical altercations, significantly influence the ability of the United States to maintain peace and stability in the Asia-Pacific region. The United States considers the relationship between individual nations and itself in current deterrence policy, but it should examine the delicate balance of relationships among the Asia-Pacific nations more thoroughly when formulating future tailored deterrence strategies.

Japanese Influence

The Japanese invasion of Korea in the early 1900s began a century-long period of hatred between the two countries. Until Japan's defeat in WWII, its primary goal was stability on the Korean Peninsula either through occupation or through rivalries with the world powers. Post-war Japan's limited influence as a defeated nation against the victorious WWII allies of Russia, China, and the United States marginalized Japanese participation in regional policy, and the Asian nations never accepted Japan as a trustworthy security partner.²⁸ Japan's alliance with the United States in the second half of the century benefitted Japan economically and politically. However, even to this day, the animosity of previous aggression by Japan against the two Koreas tarnishes Japanese efforts to be a contributing ally toward regional stability in the Asia-Pacific region.

Japan's ties to the United States influences Japanese modern political policy toward the two Koreas. Its primary goal is to maintain the relationship with the United States and to

strengthen the relationship with South Korea. Japan actively takes steps toward advancing global security by improving its defense program, including the unveiling of a new fighter demonstration jet in January 2016. However, due to historical hostilities with China, South Korea, and North Korea, regional advisors see Japan's military modernization as a concern. As a result, Japan maintains a small, defensive-only military to project a non-threatening presence in light of the advancing nuclear threat from North Korea, and Japanese influence in regional decision-making is minimal, lest they become the target *de jure* of North Korean aggression.

Chinese Influence

China leans toward a balanced policy toward the Koreas, fostering peace and stability on the Korean Peninsula that serves the Chinese economic and security interests in the region. In general, China supports North Korean policies and purports to have a good relationship with South Korea. China feels there are no historical or cultural barriers as the three societies share similar cultural roots, traditions, histories, and civilizations founded in the Choson (or Yi) dynasty in 1392. In 1997, due to the decline of Russia's post-Cold War-era international stature, the United States forged a relationship with China to establish the members of the Four-Party Talks aimed at addressing DPRK aggression.²⁹ The US presence on the Korean Peninsula is vital to maintaining the articles of the 1953 Armistice. Thus, from the perspective of the United States, including China seemed like the best chance for success of bringing all parties to the negotiating table, thus creating a balanced relationship between China and the United States that would benefit US interests in the future.

However, a fundamental principle of Chinese doctrine is the opposition to military (security) alliances or bloc politics,³⁰ and China feels no need to become part of an alliance to support its relationship with the two Koreas. In contrast to China's position, most nations feel

alliances encourage adversary restraint by declaring that an attack on one is an attack on all. However, China believes that alliances do no better in maintaining peace and stability in a region than having none; citing the failures of alliances during the Vietnam War, Cambodian War, Sino-Vietnamese War, and civil wars in the Philippines, particularly after the establishment of the US-Japan and US-ROK alliances. China was involved in such a relationship just once, the Sino-Soviet Alliance (1950-1964), which was tumultuous with each nation taking opposing positions on regional conflicts and continually vocalizing criticism towards each other. Following the break in relations with the Soviet Union, the Chinese developed an ideological declaration, stating that understanding, maintaining, and strengthening regional peace and stability is best achieved through economic development and the promotion of economic, political, and security dialogue and coordination among Asia-Pacific countries.³¹

China's actions are consistent with Mitchell Hammer's Intercultural Conflict Styles Model for the Accommodation conflict style shown in Appendix A – ICS Model.³² Deterrence analysts use the ICS Model to differentiate cultural characteristics of major countries and to show self-perceived strengths and weaknesses perceived by other conflict styles – an important factor in shaping deterrence messaging. According to the model, the Chinese are sensitive to feelings of the other party and hold a high respect for the use of third-party intermediaries. Since Japan and the two Koreas have shared core cultural aspects with China for centuries, their conflict style is the same. This theoretically should make mediating within the Six Party Talks straightforward. However, China's behavior is inconsistent with the US Direct conflict style in the model, which interprets China's actions as dishonest and uncommitted, with an inability to communicate one's position independently.

Further, China's tepid response to actions on the Korean Peninsula mars its influence on the DPRK in the Six Party Talks. Many believe that China should rein in North Korea, but China's influence in the Six Party Talks faded in the opinion of the United States and South Korea due to China's unwillingness to acknowledge North Korea as the perpetrator in the Cheonan incident.³³ Snyder and Bunn believe that China's efforts to promote peace on the peninsula by remaining neutral has essentially emboldened North Korea, not stifled it. A 2010 DPRK attack on Yeonpyeong Island reinforced the urgency of regional coordination with China on DRPK provocations. Still, China's negotiating credibility had already deteriorated, and the Six Party Talks would continue to fail.

It seems, though, that China may be most interested in preventing North Korean incidents from spilling over into Chinese homeland. Since China is North Korea's only ally, an economic failure in North Korea could mean millions of people seeking refuge across the border. During the time when North Korean aggression continues, China is conflicted over its desire for peace and stability in the region and the necessity to spend more time looking inward at its own economic problems rather than outward. Whether China would actually support another North Korean-initiated conflict with South Korea as voraciously it did with the Korean War in 1950 is unknown.

A SHIFT IN ROK STRATEGIC CULTURE

A shift in strategic culture is generally the result of economically, politically, or militarily significant events. From the first DPRK nuclear test in 2006 throughout the next decade, North Korea's actions to initiate instability and flex its military muscle on the Korean Peninsula seemed to perpetuate uncertainty from the perspective of the South Koreans that the US would

continue to support Article II of the 1953 Armistice, and thus marked a shift in ROK strategic culture. Four major catalysts represent this shift: the DPRK nuclear tests, the sinking of the Cheonan Warship, the artillery attack on Yeonpyeong Island, and the DMZ Landmine incident.

DPRK Nuclear Tests 2006-2016

In the quest to become a nuclear state, North Korea tested its first device in 2006, sending a major signal to the world it would be difficult to deter any nation with a true desire for the pursuit of nuclear weapons. A 2008 RAND Corporation study suggests that a nation's primary reason for acquiring nuclear weapons may be to deter threats or nuclear attack from the United States.³⁴ Additional reasons include enhancing national prestige and influence and ensuring the survival of the regime in the event of war. These reasons are directly in line with the Korean cultural philosophies of *juche* and *che-myon*, and survival of the Kim regime may be North Korea's most compelling reason to go nuclear.

Given the inferiority of the DPRK conventional forces to US forces, it is understandable that the DPRK believes that becoming a nuclear nation-state is the only way for the regime to survive. This continued progression of the DPRK as a regional nuclear power creates a new existential threat to the ROK, potentially forcing the ROK to succumb to the DPRK pressure for reunification or risk a nuclear strike on its homeland. Additionally, the same RAND study warned that US leaders should moderate their interactions with nuclear-armed adversaries to avoid conflict altogether, or in this case, minimize the DPRK's incentives to escalate to nuclear war.³⁵ Ultimately, the assurance to the ROK of the US nuclear umbrella as a piece of extended deterrence may actually incite a limited nuclear exchange with the DPRK, or worse, perpetuate DPRK ambivalence toward the ramifications of an all-out nuclear exchange to secure regime survival.

The DPRK has continued pursuit of nuclear weapons, which represents the most significant threat to the ROK and has led the ROK to spawn the development of a “Kill Chain” philosophy. Kill Chain incorporates military actions using multiple steps of increasing strength and power through the stages of identification, force dispatch to target, decision and order to attack the target, and finally the destruction of the target. To compensate for the growing ROK concern regarding the ability of US extended deterrence to provide such capability from a distance after the DPRK test in February 2013, the ROK President-elect Park vowed to enhance deterrence and security. Her plan incorporated a missile capability as part of the “Kill Chain” system to defend against known North Korean missile launchers and nuclear facilities.³⁶ However, a kill chain’s success is predicated on its preemptive strike capability and regional neighbors can misinterpret these types of defenses. The Chinese may see these systems as offensive rather than defensive, further increasing tensions in the Asia-Pacific region. Additionally, any preemptive strike on North Korea by South Korea would likely be met with a full nuclear retaliation from the DPRK on the ROK, with Japan in the nuclear fallout path.

Cheonan Warship Sinking in 2010

The year 2010 marked a significant turning point on the part of the DPRK in the intensity and provocative nature of aggression against the South. With Kim Il-Sung still leading the nation, DPRK acts of aggression extended implications beyond the peninsula to the whole East Asia region. In March 2010, a torpedo allegedly from a DPRK submarine sank an ROK naval ship. International investigators identified markings on a retrieved piece of the torpedo that match a North Korean design.³⁷ North Korea denied involvement and threatened war if sanctions were imposed. In response, South Korea suspended nearly all trade with North Korea.

The regional neighbors called for restraint. Japan said the action was “unforgivable” but did not firmly articulate how they might respond. China called the event “unfortunate” and showed frustration at South Korea’s ploy to internationalize the event. China attempted to block international censure efforts against North Korea, which then created US doubts about China’s influence in the Six Party Talks³⁸ and its role in the regional and global community. South Korea continued to value the US-ROK alliance and was more concerned with a balanced approach to self-reliance, rather than getting between China and the United States.

Artillery Attack on Yeonpyeong Island in 2010

In November 2010, the North Korean military launched a barrage of shells near Yeonpyeong Island, in the same area where the Cheonan warship was sunk just months earlier. In addition to the 2 South Korean soldiers who were killed, 15 soldiers and 3 civilians were wounded.

The Japanese saw this attack as a warning sign for the need to develop a contingency plan to prepare for possible future provocation from North Korea against Japan. The Chinese minimized their outrage at the event in order to maintain stability, which initiated a US reassessment of the US-Sino relationship. The day following the incident, Secretary of State Clinton hosted a meeting with leadership from South Korea and Japan. The intent of this meeting was both to reaffirm mutual bilateral responsibilities and to send a message to China that the three countries would move forward against North Korea in a way that might not be in China’s best interests.³⁹

Demilitarized Zone (DMZ) Landmine Incident of 2015

Two land mines exploded in the DMZ between North and South Korea in the summer of 2015, maiming two South Korean soldiers. The two mines showed markings indicative of those used by the DPRK, and a South Korean investigator estimated that they were freshly laid, not left over from the Korean War.⁴⁰ South Korea demanded the DPRK apologize, which it refused to do. With tensions remaining high, the two sides met to discuss an end to the crisis and ultimately North Korea expressed regret over the incident.

At a time when both Koreas had celebrated the anniversary from Japanese rule, the brazen attack in the DMZ marked a new level of tension in the relationship between the two nations and in the wider East Asia area. This event brought into focus again the volatility of the 38th Parallel, but now the allied relationships on both sides could easily be drawn into a regional conflict – Japan and the United States on the side of South Korea, and China on the side of North Korea – conceivably progressing into another world war.

Current Strategic State of Affairs

Uncertainty and tension in the Asia-Pacific region remain high. North Korea has not apologized, nor has South Korea forgiven North Korea for the Cheonan, Yeonpyeong Island, and the DMZ landmine incidents. While South Korea previously focused primarily on maintaining stability on the peninsula, it recently adopted a *Go Hard* strategy in dealing with the DPRK – including development of new air, land and sea military technology – representing an increase in the 2016 defense budget by 3.6% over the previous year.⁴¹ Such an aggressive modernization of military capability may well advance tensions across the entire region. South Korea's historical hostilities with China and Japan could transform even a small-scale crisis into something having global impacts.

Furthermore, a recent editorial in the *American Enterprise Institute* journal entitled “South Korea Must Discuss Acquiring Nuclear Arms” should alarm the United States because it confirms the ROK’s diminishing trust in US extended deterrence and suggests an urgent desire for an indigenous nuclear weapon capability.⁴² A nuclear-armed regional ally would present a substantial problem to the United States. The South Korean use of offensive tactical nuclear weapons could pull the United States into a conflict in which it has no intention of participating.

Will the ROK Go Nuclear?

South Korea adheres to the Non-proliferation Treaty in part because the United States originally deployed tactical nuclear weapons in the ROK in 1968. In 1991, then-President Bush removed the weapons, leaving South Korea fully dependent on US extended deterrence since that time. In 2010 and again in 2016, the South Korean defense minister requested the United States reintroduce tactical nuclear weapons onto the peninsula, but the United States has not yet agreed to this arrangement.

South Korean political and public support of such a move is vital. Although only a small number of ROK leadership currently supports the initiative, public support is tremendous. The South Korean Ministry of Defense announced his “Defense Reform 307” plan in 2011 that initiated a proactive rather than passive deterrence strategy against North Korea.⁴³ In 2013, Representative Chung Mong-joon argued, “South Korea may exercise the right to withdraw from the NPT [and begin to] match North Korea’s nuclear program step by step.”⁴⁴ At a time when public support for the US-ROK alliance was over 94 percent, less than half of respondents to a 2012 poll believed the United States would actually use its nuclear arsenal in a North Korean attack against the South.⁴⁵ In addition, both a *Gallup Korea* poll and the *Asan Public Opinion*

Report in 2013 noted that fully two-thirds of South Koreans feel their security would be better ensured by an indigenous nuclear weapon capability.⁴⁶

If South Korea pursued reconstitution of their nuclear weapons program, Japan would likely follow suit, giving the Japanese an advantage against China on the disputed Senkaku/Diaoyu Islands in the East China Sea.⁴⁷ Japan possesses an enormous stockpile of separated plutonium and the technical expertise to develop a nuclear weapon capability. However, both South Korea and Japan would then be subject to economic and energy sanctions from the United States. Additionally, if the United States deploys tactical nuclear weapons in South Korea again in lieu of an indigenous program, China would likely see this as an imminent threat against the Chinese homeland and could retaliate with a small-scale conflict on the US sites in South Korea or initiate a limited nuclear engagement on the US homeland. As a more economically advanced society, South Korea has more to lose than North Korea in a nuclear standoff on the peninsula, and thus South Korea may be reticent to fire back on the DPRK. Additionally, China is not likely to remain silent, as anyone using a nuclear weapon in the Asia-Pacific region crosses China's nuclear "red line."

Does South Korea's new *Go Hard* strategy include a rejection of the nonproliferation treaty leading to a nuclear standoff? Considering DPRK brinkmanship through increased frequency of nuclear tests and associated media tirades, now more than ever, South Korea desires the guarantee of some sort of nuclear response. A South Korean indigenously developed nuclear capability could be the trump card that North Korea needs to conduct a first strike resulting in massive devastation, likely with neither Korean nation in control at the end. To prevent such a horrendous scenario and ensure non-proliferation, the United States must be resolute in its

commitment to respond to any attack on the ROK from the DPRK with a US nuclear strike. Perhaps the ROK's *Go Hard* strategy is just another cry for stronger US extended deterrence.

US EXTENDED DETERRENCE ACTIONS

Deterrence Theory Fundamentals

USSTRATCOM supports the fundamental mission of deterrence to “detect and deter strategic attacks against the United States and our allies and to defeat those who attack if deterrence fails.”⁴⁸ Although the US nuclear umbrella is the centerpiece of extended deterrence, nuclear superiority is not a magic bullet for either ensuring deterrence or providing assurance. Critics claim that because the past crisis of nuclear war never escalated, the United States falls into the trap of “hindsight-bias,” which creates a false relationship between nuclear superiority and the prevention of nuclear war.⁴⁹ Former Strategic Air Command Commander General Larry Welch once said he truly believes it is only because of our credible nuclear deterrent capability that there has not been a nuclear conflict or another world war since 1945.⁵⁰ Unfortunately, it is impossible to know if deterrence or some other factor has prevented nuclear war. Nonetheless, the United States still uses the full weight of its nuclear arsenal to provide assurance to allies that it will meet their security requirements in the event of nuclear attack.

The effectiveness of those assurances depends on both a believable conviction from the adversary that the United States will actually use its nuclear arsenal *and* the confidence level from the allies that the United States will meet its extended deterrence commitments. However, ROK leadership has reason to question the ability and desire of the United States to provide continued extended deterrence due to historical actions of the United States in the ROK. The frequent withdrawal of troops, cancelling of promised funds, and US inactions in other parts of

the world such as Taiwan and Ukraine, diminishes the ROK confidence in extended deterrence. Without such confidence in extended deterrence, the capability of the US nuclear umbrella does not matter much.

The 2006 *Quadrennial Defense Review* (QDR) addressed a continuing evolution in US senior leader thinking from one-size-fits-all deterrence to a more tailored approach for each adversary.⁵¹ The 2006 *Deterrence Operations Joint Operating Concept* (DO JOC) built upon the language in the QDR and provided a new, foundational framework for creating tailored deterrence strategies. This five-step framework incorporates deterrence using the full range of military capability and integrates diplomatic, informational, military, and economic (DIME) elements. The US deterrence planners understood that priorities and value trade-offs for the United States may not be in line with the strategic culture of other countries or their willingness to initiate acts of aggression. Thus, the new tailored deterrence strategies target perceptions, values, and interests of specific allies and adversaries, while also encouraging allies to abide by counterproliferation goals.⁵²

2014 Tailored Deterrence Strategy

The 2014 US-ROK Tailored Deterrence Strategy (TDS) provides increasing stages of deterrence both for preventing the DPRK from using a nuclear weapon and for assuring the ROK of continued sanctuary under the US nuclear umbrella. The strategy employs economic sanctions, show-of-force, partner-nation exercises, and providing military support such as the newly deployed Terminal High Altitude Area Defense (THAAD) system. Each of these elements is assessed in detail below.

Implementing Economic Sanctions on the DPRK

Economic sanctions are a centerpiece of national security policy and used as the primary diplomatic measure for the ability of the United States to influence behavior of specific nation states.⁵³ The US Office of Foreign Asset Control (OFAC) establishes the policies and actions to initiate economic sanctions. Under the authority of the International Emergency Economic Powers Act of 1977, OFAC institutes a Specially Designated Nationals (SDN) list for specific individuals or governments targeted with economic sanctions. Comprehensive sanctions programs include both primary and secondary sanctions. Primary sanctions are those such that no US person can engage in transactions with persons or entities on the SDN list. Secondary sanctions are those where any person dealing with persons or entities on the SDN list cannot deal with the United States. To enforce these sanctions, any funds used in the transactions of SDNs via primary or secondary sanctions are frozen immediately when they pass to a US financial institution. Freezing funds is the principal diplomatic means to destabilize the targeted economy and influence a behavior change because it restricts imports and exports.

After the United States introduced tough sanctions against the DPRK in 2016, Japan and South Korea quickly followed suit. China initially pushed back on supporting such actions due to its import of coal from North Korea, but conceded in November 2016 and agreed to the terms of the new United Nations sanctions against the DPRK. In February 2017, China fully relented and banned all coal imports from the DPRK.⁵⁴ However, despite these severe economic sanctions and strong condemnation from world leaders, the DPRK continues to build its nuclear program, leaving some critics to believe the United States has applied insufficient pressure on the DPRK leadership to change behavior.⁵⁵ Furthermore, the United Nations top official in charge of human rights in North Korea, Marzuki Darusman, asserts that sanctions target the

wrong group. In a 2016 interview with *Deutsche Welle*, he reflected that when sanctions fully take effect, it is the people who are hurt and not the leadership.⁵⁶ Unfortunately, when a nation is more interested in survival of the regime than its already impoverished economy, its perception of the impact on its economy is negligible. Therefore, the ability of economic sanctions to change DPRK behavior appears to be minimal.

Using Bomber Flyovers as a Show of Force

Airpower provides the United States with a means to influence world situations to support national objectives without necessarily executing a kinetic strike. In conjunction with an annual US-ROK exercise in 2013, the United States sent B-2 Bombers to the East Asia region as a show of force. Because the B-2 can carry both conventional and nuclear weapons, the American message was unmistakable: “to demonstrate the US capability to conduct long range, precision strikes quickly and at will.”⁵⁷

In September 2016, the US flyover objective was the same: to assure the ROK that the US bomber fleet could respond immediately to imminent threats. Having US F-16 and South Korean F-15 fighters join the B-1 bombers clearly enforced the strength of the US-ROK Alliance and underscored the extended deterrence commitment of the United States. Stationing the B-1s in nearby Guam is further assurance of a rapid response.

Regional opinions differ in response to the flyovers. Japanese foreign relations experts see these flyovers as a positive demonstration of strength and solidarity in the joint alliances between the United States, Japan and South Korea in the face of a growing North Korean nuclear threat.⁵⁸ China’s response again asked for restraint by all parties involved to avoid escalating tensions on the peninsula.

While the exhibition of US nuclear power assured the ROK public that the US bomber fleet could respond in a matter of hours, the North Korean public responded with anger "exploding like a volcano."⁵⁹ The US action highlighted the shortfalls of North Korean nuclear readiness by underscoring the disparity in nuclear capability. This event likely caused Kim Jong-Un to lose *che-myon* among his people, which did not deter him, but seemed to only further his resolve to continue his nuclear program. As a result, reassuring the ROK further inflamed the DPRK, presenting a difficult situation for the United States to balance.

Participating in Regional Partner-Nation Exercises

Immediately following the Yeonpyeong shelling in 2010, the United States initiated a four-day joint naval exercise with South Korea in the Yellow Sea. This response was effective in reassuring South Korea of the US commitment to extended deterrence.⁶⁰ Since then, the United States has initiated multiple annual US-ROK exercises. Annual and biennial exercises such as KEY RESOLVE, SSANG YONG, COBRA GOLD, and Rim of the Pacific (RIMPAC) involve the Navy and the Marines from the United States and multiple Asia-Pacific nations. Exercises aside, the mere presence of US troops in South Korea demonstrates unwavering resolve in the face of the growing North Korean asymmetric threat from the perspective of the United States. In November 2016, US Defense Secretary Carter stated, "We will ensure that the strength of our Alliance remains ironclad and we will continue to stand shoulder to shoulder here in the Republic of Korea."⁶¹

Exercises with Japan are equally successful at projecting US power. Focusing on interoperability in the December 2016 Yama Sakura 71 exercise, the Japanese leadership was enthusiastic regarding their enhanced ability to call on multinational air and naval power. According to I Corps Commander, Lt. Gen. Stephen Lanza, "[They've grown] in terms of not

only their interoperability with US forces, but their ability to apply joint resources to an Army operation."⁶² Yet, China was not as pleased with the execution of multiple joint military exercises in the East China Sea. An editorial in China's *Global Times* contended that, "Whatever the explanations the US and South Korea offered, the military drills surrounding China's offshore [East China] sea obviously have the intention of targeting China."⁶³

Additionally, North Korea sees US joint exercises as another act of aggression by the Alliance. As far back as 2005, Kim Il-Sung condemned the exercises, stating "Joint military exercises in South Korea ... should be bitterly denounced by the whole world as they were the ones [responsible] for aggression staged by the hateful US imperialists and the sycophantic and treacherous forces of South Korea to invade the DPRK [in the Korean War]."⁶⁴ However, US conventional forces in the ROK do not really represent a formidable opponent should the DPRK detonate a nuclear weapon on ROK soil in a first strike. While the partner-exercises seemingly work to assure South Korea of US commitment to extended deterrence, the presence of joint exercises in the region constitutes a repeated antagonistic threat to the DPRK.

Deploying Terminal High Altitude Area Defense in the ROK

On the 60th anniversary of the US-ROK Alliance, then-Defense Secretary Chuck Hagel committed to a more future-oriented and comprehensive strategic alliance that included conventional strike options and missile defense capabilities.⁶⁵ After three years of discussion, the White House released a statement in October 2016 to deploy a single Terminal High Altitude Area Defense (THAAD) counter missile battery to the ROK quickly to "more safely defend our ROK ally and US military personnel deployed to the region from the North Korea nuclear and ballistic missile threat."⁶⁶ THAAD provides 8-10 rockets with a range of approximately 150

kilometers. As an addendum to South Korea's Patriot capabilities, it offers additional reach to shoot down incoming missiles from North Korea.

However, a single THAAD battery would not last long in an actual exchange. Estimates show North Korea possesses between 16-20 nuclear weapons already, and anticipates it will build between 50 as a medium-end projection and 100 as a high-end projection by the year 2020 of various sizes and ranges.⁶⁷ Additional estimates are shown in Appendix B. If North Korea successfully produces the weaponry depicted in these estimates and truly wishes to reunify the peninsula, a single THAAD system will not stop the DPRK for long in a future nuclear engagement against the ROK.

Upon hearing the news that South Korea was getting a THAAD battery, Japanese leaders met to discuss procuring one of their own.⁶⁸ Quite differently, China sees the placement of a THAAD system in South Korea as an aggressive move against it by the United States. Chinese President Xi encouraged the United States to show restraint in taking sides on sovereignty issues and emphasized that deploying the THAAD system undermines China's security interests and affects the region's strategic balance.⁶⁹ Asian foreign policy experts are concerned that the radar capability inherent within THAAD may provide early tracking data to other parts of the US Missile Warning system, thereby degrading the ability of China to target the United States.⁷⁰

In summary, economic sanctions do little when a despotic leader does not care much about the state of his economy. Bomber flyovers and partner exercises insult and infuriate the North Koreans. THAAD is threatening to the Chinese. South Korea's strategic culture supports dynamic regional relationships and centuries of shared values with these nations. While extended deterrence provides the arm of the US nuclear umbrella to the ROK, are the recent DPRK actions tipping the scales of the ROK's willingness to continue receiving US assistance?

If the ROK perceives that US extended deterrence upsets the balance of regional strategic culture, will it continue making decisions regarding its defensive posture against the DPRK while risking escalation with China? The following section investigates hypothetical future scenarios for ROK decision points and illuminates how strategic culture plays a role in perceived courses of action it may take, as well as identifying a possible US action that may prevent the original decision point from ever taken place.

HYPOTHETICAL ALTERNATE FUTURES

Considering South Korea's strategic culture, its regional relationships, and current defensive capabilities, it is possible to predict hypothetical decisions made by ROK Leadership in alternate future scenarios using game theory models. Developing a hypothetical alternate future has great potential success when knowing the adversary's primary goals and then taking actions that thwart the success of those goals.

Using Game Theory for Predicting Behavior

The purpose of using game theory in this research is to provide a framework to associate strategic cultural influencers to the decision-making process. While an entire book could be devoted to game theory, and many have done so, a short summary of the fundamentals of game theory is included here to introduce the models used in the section on Hypothetical Alternate Futures.

The origins of game theory date back to the first child bargaining with his mother to get a cookie.⁷¹

Mom, can I have a cookie?
No.
How about a half?
No.
How about a quarter?
No.
Mom, can I please just have a crumb?
Fine, have a cookie.
Can I have two?

In this case, the child bargained to get two cookies by persuading his mother to believe that he would keep pestering her until she gave in. This is classic “salami” tactics: bargaining is not a zero-sum game, and one bargainer can secure a better outcome for himself if he can “credibly persuade the other that the only alternative is mutually undesired failure.”⁷²

Academically, Nobel Prize winner Thomas Schelling enhanced this concept by using game theory to predict strategic commitment of nations both politically and economically. Schelling explained that credibility, commitment, threats and promises, and brinkmanship constitute the most basic concepts and strategies of game theory. A nation’s belief of credible adversary action is deeply rooted in all aspects of its strategic culture. For that reason, game theory is widely used in predicting behavior, and supports this research for anticipating both adversary and allied actions through the study of strategic culture.

In *Thinking About Deterrence*, Major General Chambers stated, “We should retain effective classic methodologies (e.g., game theory) and at the same time integrate newer behavioral approaches outside a *rational* state-based actor construct.”⁷³ To amend Major General Chambers’ statement slightly, integrating newer behavioral approaches outside a rational construct is really *examining those behaviors that the United States perceives as*

unreasonable in order to predict behavior and establish a mutually beneficial extended deterrence strategy.

The ability to consider all aspects of rationality and predict the response of adversaries or allies without dismissing them as irrational offers the possibility that their responses may appear unreasonable. Rationality is distinct from reasonableness in that an external goal motivates a rational thinker. Reasonableness is sharing some perceived or understood set of values, as viewed by the observer.⁷⁴ For example, North Korea is willing to risk harm to its own population (unreasonable) in order to hold on to power and advance its ideological cause (rational) while making decisions compelled by its desire for *juche* and *che-myon* (strategic culture). Therefore, using rational deterrence theory with the sole purpose of inducing an adversary to behave the way we want regardless of that adversary's underlying cultural preferences⁷⁵ fails to recognize the influence of strategic culture on *unreasonable* decision-making.

The game theory models in the scenarios provide a framework for detailing the assumptions and possible influencers the ROK might consider during the scenario. As a series of independent and interdependent decision points, game theory requires multiple assumptions. Over time, these assumptions may become so contrived, that the model it produces is biased toward the assumptions. However, the assumptions and decisions of others consciously influence leadership, and these models provide a structure to show the association between assumptions and decisions.

The DO JOC details a decision-making calculus that explores how the perception of an adversary's actions influences decision-making. It consists of three factors: the benefits of action, the costs of action, and the consequences of restraint, pictured as a fulcrum and scale and

seen in Figure 3.⁷⁶ A decision-maker weighs the benefits versus costs of the action that the United States seeks to deter, based on the consequences he perceives will happen to him if he chooses to restrain from taking action. This model also applies to the extended deterrence policies of the United States. The US ally must analyze its perceptions of the benefits and costs of action before making a judgement about its confidence in US extended deterrence.

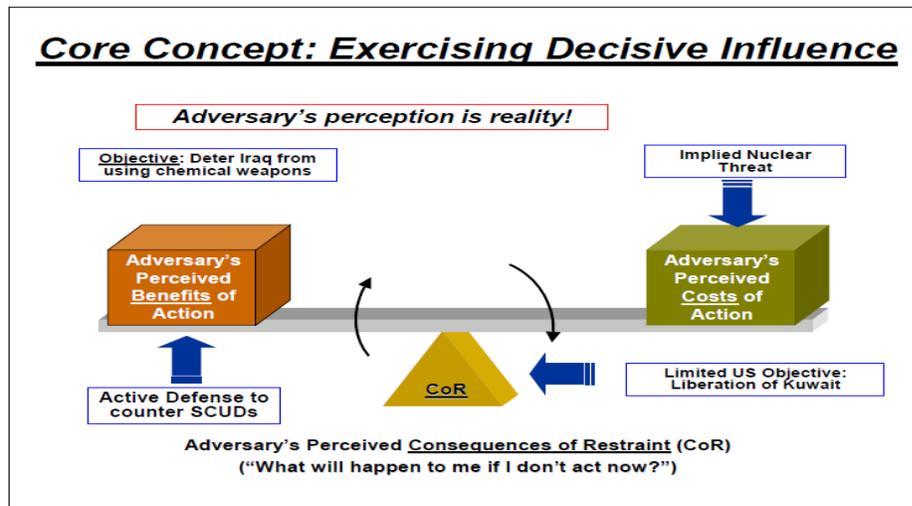


Figure 2 – DO JOC Decision Model

Game theory allows the analyst to split the Consequence of Restraint into the Costs and Benefits of Restraint, understanding that sometimes inaction is the most beneficial action. The models used in this research represent an approach used by some organizations in USSTRATCOM that qualitatively evaluate influencers in all four categories, in which some influencers are rational and reasonable, and some are unreasonable. The format is a simple quad chart, shown in Table 1.

Table 1 - Game Theory Quad Chart

Benefits of Action	Costs of Action
<Influencer 1> <Influencer 2>	...
Benefits of Restraint	Costs of Restraint

The cells within the quad-chart offer a way to identify influencers so the leadership can weigh if the potential costs of an action outweigh the potential benefits of that action. The scenarios identify influencers from the viewpoint of the ROK leadership, using strategic cultural elements, current political environment, regional relationships, and their perception of the current US deterrence strategy.

Scenario Assumptions

Admiral Cecil Haney, former USSTRATCOM commander, stated at the 2014 Prague Convention, “The 21st century then requires a tailored approach that requires us to have an in-depth understanding of each potential adversary, their perceptions, their values, their fears, and their decision-making processes.”⁷⁷ Each of the three hypothetical alternate future scenarios in this analysis incorporate the following assumptions regarding perceptions, values (rationality), and the influence of strategic culture on decision-making.

First, all decision-makers in the scenarios are assumed to possess rationality. Additionally, since none of the leadership displays the same core values as the United States, leadership decisions in these scenarios may appear unreasonable.

Second, strategic culture has medium influence on decision-making of senior leadership. A risk to this assumption is the stereotype that current leadership always behaves based on a tie to the national factors that define a country’s strategic culture. Even when all participants share the same culture, competing norms or sub-cultures influence decisions. Underestimating the impact of a leader’s political environment on his decisions leads to greater uncertainty about the nature of the situation, and tradeoffs among competing values shape the decision-making process. Therefore, both strategic culture and current situational factors contribute to the game theory matrix influencers.

Third, North Korean goals remain the same as originally espoused: peninsula reunification under North Korean rule and survival of the Kim family regime, and prioritizing national security over all other policy concerns, even over meeting basic human needs of its people. North Korea views the US-ROK Alliance as its greatest threat and believes that if it can break the Alliance, reunifying the peninsula under conditions favorable to the Kim regime is more likely.⁷⁸

Fourth, South Korean goals change for each scenario, initiated by a specific DPRK or US action. While in reality the ROK leadership may not its change goals for the reasons provided, the hypothetical scenarios provide an ROK decision point that the United States can influence before the ROK makes its decision.

Fifth, the top priority for the commander of the United Nations Command/Combined Forces Command/United States Forces Korea (UNC/CFC/USFK) is always to continue strengthening the US-ROK Alliance.

Finally, the recommended US action considers an approach that is most beneficial to restoring ROK confidence in US extended deterrence and *not* what realistically may be the most beneficial to the US posture in the East Asia region.

Scenario Strategy Overview

The hypothetical scenarios each begin with an overview and objectives for the ROK and United States. It then considers an ROK proposition with a decision point that is dependent on perceived consequences for an event that might never occur. Next, it proposes possible outcomes for the proposition in a decision calculus using a game theory quad-chart. The scenario does not numerically weigh these items in the game theory model, nor does it specify a decision from the ROK. However, Schelling also proposed that it is possible to make strategic

moves to alter the game before the opponent is able to move.⁷⁹ Therefore, the three scenarios suggest a US action that could prevent the ROK from ever having to make a decision on the proposition.

Hypothetical Scenario 1 – The United States Continues to Reduce Its Nuclear Arsenal

The United States provides the arm of the nuclear umbrella to respond to an attack on the ROK from the DPRK, and optimizes its operational targeting to accommodate this obligation. In this scenario, the New START Treaty with the Russians renews in 2021. Russia negotiates with the United States for reducing the number of nuclear weapons in each of their arsenals to 1,150, down from 1,550 of the 2011 New START Treaty, which the ROK perceives may strain the ability of the United States to continue to provide extended deterrence. Due to the desire for *juche*, the ROK leadership decides to use the shrinking stockpile of US nuclear weapons as an excuse to restart its own nuclear weapons program.

Scenario Objectives

The ROK objective is to fill the gap in its defensive posture to provide a defense against DPRK attacks. The US objective is to enforce nuclear non-proliferation and assure the ROK of extended deterrence.

ROK Proposition

Should the ROK covertly reconstitute a nuclear weapon capability and perform tests of its technology?

Influencing Factors

A 2016 Congressional Research Study states, “South Korea often hesitates to take steps that antagonize China and has shown mistrust of Japan’s efforts to expand its military capabilities.”⁸⁰ Still, due to South Korea’s uniquely dependent relationship with the United

States for security now, it is not likely to prioritize relations with China at the expense of the US Alliance. However, subtle changes in regional conditions can substantially alter decisions by leadership. In September 2016, South Korean President Park Geun-hye issued another tough statement against North Korea, ordering her military to be ready to “finish off” the country should it fire a nuclear-tipped missile toward South Korea.⁸¹

Decision Calculus for ROK Action

Table 2 - Game Theory Model for Scenario 1

Benefits of Action	Costs of Action
<ul style="list-style-type: none"> • A covert nuclear program supports the basic Korean concept of <i>juche</i>, self-reliance. • The public supports an indigenous nuclear capability. • ROK planned options ensures ROK targets are considered. 	<ul style="list-style-type: none"> • A covert nuclear program requires a considerable shift in government spending. • China may perceive this as a US-sponsored covert program and turn hostile toward the ROK. • The ROK may be subject to US sanctions. • DPRK senses they have broken the US-ROK Alliance.
Benefits of Restraint	Costs of Restraint
<ul style="list-style-type: none"> • US investment in military presence in the ROK continues. • China’s trade with the ROK remains positive. 	<ul style="list-style-type: none"> • DPRK thinks they are “untouchable.”

Recommended US Action

The United States desires restraint from the ROK in pursuing a covert nuclear program. Therefore, US action should support the ROK’s Benefits of Restraint in Table 1. To reduce the perception that the ROK needs its own covert nuclear weapon capability, the United States should engage ROK planners for developing targeting options that incorporate ROK objectives as well. The involvement of ROK planners in the targeting phase alleviates the concern that the US is focused more on nonproliferation than on ROK assurance, and removes the need for the

ROK to initiate its own covert nuclear weapons program.⁸² This action supports the UNC/CFC/USFK Commander's goal to strengthen the US-ROK Alliance, and the overall US goal of nuclear non-proliferation. Additionally, it supports the ROK Accommodation style in the ICS model because the action provides the ROK an active role in stating its opinions regarding the threat from the DPRK, thus shifting ROK strategic culture back toward having trust in the US extended deterrence policy.

Hypothetical Scenario 2 – DPRK Tests a Fully Functioning Nuclear Missile

The DPRK launches a nuclear weapon mounted on an intercontinental ballistic missile, which detonates on the surface of the water at the intersection of the 38th parallel and the international dateline.⁸³ Because the United States targets its nuclear missiles to open-ocean points as explained by former President Clinton in a 1994 agreement with Russia,⁸⁴ North Korea feels it is entitled to test a fully functioning nuclear missile in a non-populated ocean area as well. The latitude is symbolic of annihilating the border between the two Koreas to signify reunification under DPRK rule, and the longitude is a signal that the DPRK expects to be revered as a nuclear-capable international power. This nuclear test represents the first aboveground test by any nation since the Chinese in 1980.

Scenario Objectives

ROK goals are to enhance military security while reducing the likelihood of DPRK attack on ROK soil. The US objective is to maintain escalation dominance, a state where the United States controls the pace of escalation and prevents the DPRK from acting due to a perception that it will be no worse off than it already is should the United States retaliate in kind. By de-escalating, the United States supports its commitment to extended deterrence.

ROK Proposition

Should the ROK break the US-ROK Alliance and pursue a stronger relationship with China to achieve a better defensive posture and negotiating advantage over the DPRK?

Influencing Factors

Former Secretary of Defense Ash Carter stated, "Make no mistake, any attack on America or our allies will not only be defeated, but any use of nuclear weapons will be met with an overwhelming and effective response."⁸⁵ This type of US rhetoric seems to add to the DPRK determination to achieve a fully functioning nuclear weapon by developing commensurate capability with the United States. The ROK leadership feels that the determination by the DPRK to attack the US is so strong that if they distance themselves from the United States and strengthen their relationship with China, the animosity from the DPRK toward the ROK would lessen.

Decision Calculus for ROK Action

Table 3 - Game Theory Model for Scenario 2

Benefits of Action	Costs of Action
<ul style="list-style-type: none"> • China’s intercultural conflict style is better suited to influence the DPRK. • Because China is North Korea’s only ally, China can control the fate of North Korean trade. 	<ul style="list-style-type: none"> • The United States could pull all forces out of Korea, rendering the ROK completely vulnerable. • Trade with the US would be severely restricted and significantly slow the economy. • DPRK goal of breaking the Alliance is met.
Benefits of Restraint	Costs of Restraint
<ul style="list-style-type: none"> • The US-ROK Alliance stays intact. 	<ul style="list-style-type: none"> • DPRK is emboldened to attack the ROK.

Recommended US Action

The United States desires maintain escalation dominance. The US action should encourage continuation of the Alliance, listed in the ROK’s block for Benefits of Restraint in

Table 1. The 1968 Non-Proliferation Treaty (NPT) acknowledges five nations as legitimate nuclear powers: the United States, China, France, Russia, and the United Kingdom. If Kim Jong-Un wishes to maintain his *che-myon* and achieve recognition as a nuclear capable nation-state, then he should expect to be subject to the NPT, the test ban treaty, and other international norms, with or without signature. Acting responsibly as a new nuclear-state is a learned behavior. If the DPRK nuclear program advances to a real-world capability, the five NPT nations have a responsibility to “teach” appropriate behavior and establish rules of engagement for prohibition of targeting non-nuclear states with nuclear weapons. With cooperation from other NPT nations, the pledge that all five nations will oversee North Korea’s newfound nuclear prowess represents the US assurance to South Korea that security of the ROK is the highest priority in the US extended deterrence strategy.

Hypothetical Scenario 3 – DPRK Detonates a Low-Yield Nuclear Weapon in the ROK

North Korea believes that it is entitled to greater influence and respect, so it takes action intended to test the responses and limits of other powers. The attack is on Ulleungdo Island in the Sea of Japan, east of the Korean Peninsula. The weapon was a small-yield warhead on a short-range ballistic missile resulting in a ground burst. All island inhabitants die immediately, but the fallout goes out to sea and dissipates by the time the wind reaches Japan so there are no additional casualties.

Scenario Objectives

In this scenario, the ROK objective is to minimize further loss of life for ROK citizens and maintain its statehood. The US objective is to honor Article 2 of the 1953 Mutual Defense Treaty and provide the nuclear umbrella to the ROK upon the attack by the DPRK.

ROK Proposition

Should the ROK retaliate with a nuclear weapon built under its covert program or demand the United States respond instead?

Influencing Factors

Kim Jong-Un inherited his power from his father, who inherited leadership of the DPRK from his father. His family legacy and *che-myon* are the chief motivators in this scenario. If Kim Jong-Un can convincingly threaten South Korea that any nuclear response originating from within the ROK and detonating inside the DPRK will likely result in the DPRK launch of full-scale nuclear strikes on all major ROK cities, he could coerce the ROK into surrendering and submitting to reunification under DPRK rule. In addition to fulfilling his grandfather and father's wishes to reunite the Korean Peninsula, Kim Jong-Un fully realizes *juche*.

Decision Calculus for ROK Action

Table 4 - Game Theory Model for Scenario 3

Benefits of Action	Costs of Action
<ul style="list-style-type: none">• South Korea would not become a victim of oppression under North Korean rule.• South Korea might achieve decapitation of North Korean leadership.	<ul style="list-style-type: none">• Major cities in South Korea and possibly Japan would be hostages to further attack if ROK responds.• China could severely punish South Korea for perpetuating the destruction of the entire Korean Peninsula.
Benefits of Restraint	Costs of Restraint
<ul style="list-style-type: none">• China would likely react harshly to North Korea, who just crossed a nuclear red line. Focus would be on punishing North Korea and South Korea would be seen as the unarmed victim.	<ul style="list-style-type: none">• South Korea would likely survive, but may have to surrender and be subject to North Korean rule.

Recommended US Action

The United States has a difficult decision for a response option. A nuclear strike on the ROK from the DPRK demands a nuclear response from the United States per Article II of the 1953 US-ROK Alliance. If the ROK has developed an indigenous nuclear capability, it may still be hesitant to respond with its own nuclear weapon because of the consequences of escalated attack by the DPRK and the ramifications to the regional relationships with China that are tied so tightly by cultural and economic bonds.

If the United States responds according to its obligations in the 1953 Mutual Defense Treaty and attacks the DPRK, China will likely intervene. To be clear, if directed by the president, the United States would absolutely respond with a full-scale nuclear attack. However, China has repeatedly exclaimed that any use of weapons of mass destruction (WMD), especially nuclear strike, is unacceptable. This creates a greater problem between the United States and China who, determined to prevent the United States from interfering in the region, could reasonably respond to a US nuclear attack on North Korea with a corresponding strike from China on the United States.

To quote the 1983 classic movie, *War Games*, “The only winning move is not to play.”⁸⁶ The United States cannot respond to a nuclear strike in the ROK from the DPRK without first considering the response from China. The best course of action is to focus US efforts on deterring the DPRK from firing any nuclear missile. The original goal of the Six Party Talks was to dismantle the North Korean nuclear program. That goal is no longer applicable. The membership must now include all nuclear capable nations, and the goals modified to communicate the responsibilities of nuclear powers to all members.

RECOMMENDATIONS

The three hypothetical scenarios identify a mounting drop in the ROK confidence level for the US extended deterrence policy. However, while the United States considers the relationship between individual nations and itself when developing current deterrence policy, every US action creates a multinational reaction. Based upon the findings of the scenarios, US deterrence policy should reflect strategic culture and the dynamic relationships among all the Asia-Pacific nations more thoroughly when formulating future tailored deterrence strategies, to include replacing bilateral strategies with multilateral strategies.

The United States should more actively address DPRK aggression against the ROK to reassure the ROK's perception that deterrence on the Korean peninsula can be achieved. The United States should secure the full complement of nuclear nations (nuclear proliferation treaty-designated (NPT) states – China, France, Russia, United Kingdom, United States, and other states with nuclear weapons – India and Pakistan) to collaborate to ensure all nations understand that even without treaties or alliances, a nuclear attack on one nation crosses the red line for all nations. South Korea must be confident that *the world* cannot allow the DPRK to execute a nuclear attack against a non-nuclear armed nation.

Additionally, the United States should continue professing that non-proliferation is important to the global landscape. If both North and South Korea attain nuclear weapons, what is to prevent proliferation of those capabilities to other regional nations or terrorist groups? If Japan follows suit, China may step up economic sanctions against both Japan and South Korea that essentially destroys trade in the Asia-Pacific region. North Korea has diligently followed *Chairman Mao's Little Red Book*, establishing self-reliance in the pursuit of nuclear revolution. The United States can no longer pretend that North Korea will stop short of a fully functioning

nuclear arsenal. Nor can it pretend that South Korea will sit idly by and watch it happen without establishing its own defense. The United States must refocus the ROK extended deterrence policy on the reality of the DPRK becoming a nuclear-capable state and involve the ROK in all deterrence planning to provide the confidence that extended deterrence can work, and to prevent proliferation of nuclear capability into the ROK.

CONCLUSION

The 2014 US Tailored Deterrence Strategy is a combination of actions to deter the DPRK from first-use of nuclear weapons and to assure ROK of continued extended deterrence. The focus of this research was to suggest ways in which the United States could instill continuing ROK confidence in US extended deterrence. Deterring adversaries and assuring allies through extended deterrence go hand-in-hand to achieve peace and stability across the world and especially on the Korean Peninsula. The United States provides assurance to the ROK by offering the weight of the nuclear umbrella in retaliation should the DPRK attack the ROK. The 2014 Tailored Deterrence Strategy provides mechanisms to deter North Korea from nuclear first-use. However, the South Korean strategic culture, the DPRK nuclear threat, and the possible damage to regional relationships, contributes to the ROK leadership's perception of waning US commitment for extended deterrence. Their perceptions are their reality, and the United States should effect ROK perceptions in addition to reality.

As this research neared completion, the DPRK launched an intermediate-range missile that landed in the Sea of Japan,⁸⁷ hauntingly similar to Scenario 3. This event was significant because the DPRK now has a solid-fuel engine for land-based short-range missiles, which permits quick launches and provides little warning time. Thus, the current pieces of the US

extended deterrence as reflected in the 2014 Tailored Deterrence Strategy seem to have little effect on the DPRK's nuclear-nascent leadership. The responsibility of controlling nuclear weapons is a learned trait. If the possession of nuclear weapons by the DPRK is inevitable, then the US extended deterrence policy must contain a provision for current nuclear-capable major powers to train DPRK leadership on the obligation of restraint regarding their use. Additional research should be done on the feasibility of a "Tower of Babel" approach to bring everyone back into the "city" and speak the same language again regarding nuclear use. The United States has the ability to make strategic moves that alter the game from the DPRK's rational desire for *juche* to the DPRK's rational responsibility associated with the possession of nuclear weapons. Influence from other regional players is also critical in the game of deterrence and extended deterrence to change behavior. When the ROK sees a change in DPRK behavior regarding the ownership of nuclear weapons, the ROK strategic culture will shift back to having confidence in the US-ROK tailored deterrence strategy.

Notes

(All notes appear in shortened form. For full details, see the appropriate entry in the bibliography.)

¹ AFDD 3-72, *Nuclear Operations*, 3.

² JP 3-0, *Joint Operations*, V-10.

³ Payne, *Fallacies of Cold War Deterrence*, 102.

⁴ Department of Defense, *Military and Security Developments*, 9.

⁵ Klingner, "Deny, Deceive, and Delay," 1-24.

⁶ *Military and Security Developments*, 10.

⁷ Park, *US and the Two Koreas*, 59 and 71-72 (Footnote 29). Also note: The Six Party Talks members are China, Japan, North Korea, Russia, South Korea, and the United States, and the talks were created to encourage dialogue on dismantling North Korea's nuclear program. (<https://www.armscontrol.org/factsheets/6partytalks>).

⁸ Scaparotti, "Sharpening the tool," 2 October 2015.

⁹ Auslin, "Will South Korea go Nuclear?" 15 February 2016.

¹⁰ Johnston, "Thinking about Strategic Culture," 34.

¹¹ French, *Paranoid Peninsula*, 75.

¹² *Encyclopedia Britannica*, Online Biographies, s.v. "Kim Il-Sung," <https://www.britannica.com/biography/Kim-Il-Sung>, (accessed 9 Sept 2016).

¹³ Dull, "South Korean Constitution," 205-207.

¹⁴ "North Korea profile – Timeline."

¹⁵ Von Hippel, "North Korean Energy Sector," 89.

¹⁶ "2016 Index of Economic Freedom: North Korea."

¹⁷ "Republic of Korea as a World Leader," In *United States Forces Korea Strategic Digest* (2016): 10.

¹⁸ Map background from Google, World Map of Asia, <https://www.google.com/search?q=world+map&ie=utf-8&oe=utf-8#q=world+map+asia>, (accessed 28 November 2016).

¹⁹ Tae-Seop and Soo-Hyang, "Interpersonal Relationships in Korea," 124.

²⁰ Schneider, *Tailored Deterrence*, 13.

²¹ Bunn, "Can Deterrence Be Tailored?," 7 .

²² Shinkman, "Top US Officer," 23 January 2014.

²³ The three key points of the Nixon Doctrine are 1.) The United States will keep all of its treaty commitments, 2.) The United States shall provide a shield if a nuclear power threatens the freedom of a nation allied or of a nation whose survival is considered vital to national security, and 3.) In cases involving other types of aggression, the United shall furnish military and economic assistance when requested in accordance with treaty commitments. However, the nation directly threatened will assume the primary responsibility of providing the manpower for its defense. Richard M. Nixon (November 3, 1969). "President Nixon's Speech on "Vietnamization."

²⁴ Hersman and Peters, "Nuclear U-Turns," 540-541.

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- ²⁵ Reiss, *Without the Bomb*, 81.
- ²⁶ Englehardt, “Rewarding Nonproliferation,” 32.
- ²⁷ Reiss, 93.
- ²⁸ Park, 232.
- ²⁹ *Ibid.*, 4. Also note: the Four Party Talks were created in 1997 and included China, the United States and the two Koreas. It was expanded in 2003 to include Russia and Japan.
- ³⁰ Chu, “China and the US–Japan and US–Korea Alliances,” 5.
- ³¹ *Ibid.*, 7.
- ³² Hammer, “The Intercultural Conflict Style Inventory,” 675-695. See Appendix A for the full ICS Model.
- ³³ Snyder and Buhn, “Cheonan and Yeonpyeong,” 76.
- ³⁴ Ochmanek and Schwartz, *Challenge of Nuclear-Armed Regional Adversaries*, 15.
- ³⁵ *Ibid.*, 7.
- ³⁶ Yoon, “Park Lists Top Priorities,” 21 February 2013.
- ³⁷ Lynam, “North Korean torpedo,” 20 May 2010.
- ³⁸ Snyder and Buhn, 76.
- ³⁹ State, *Trilateral Statement*, 1.
- ⁴⁰ Choe, “South Korea Accuses the North,” 10 August 2015.
- ⁴¹ Gale, “Seoul Questions Own Defense Strategy,” 13 October 2016.
- ⁴² Auslin, 15 February 2016.
- ⁴³ Raska, “Tailored Deterrence,” 23 April 2016.
- ⁴⁴ “S. Korea should weigh departure from NPT,” 10 April 2013.
- ⁴⁵ Jiyoong, Friedhoff, and Kang, “The Fallout: South Korean Public Opinion,” 8.
- ⁴⁶ Jiyoong, Friedhoff, and Kang, “Asan Public Opinion Report,” 7.
- ⁴⁷ Hyung-A, “South Korea’s THAAD crisis,” 9 September 2016.
- ⁴⁸ Haney, 2016 HASC Posture Statement, 6.
- ⁴⁹ Shultz and Goodby, *The War That Must Never Be Fought*, 15.
- ⁵⁰ Welch, Address, United States Strategic Command.
- ⁵¹ *Quadrennial Defense Review*, 6 February 2006, vi.
- ⁵² *DO JOC*, 71.
- ⁵³ O’Harrow, Jr., Grimaldi, and Dennis, “Sanctions in 72 hours,” 23 March 2011.
- ⁵⁴ Jiang, “China Bans All Coal Imports from North Korea,” 20 February 2017.
- ⁵⁵ Manyin, Chanlett-Avery, Nikitin, Rinehart, and Williams, “US-South Korea Relations,” ii.
- ⁵⁶ Freund, “Sanctions against North Korea are not working,” 24 May 2016.
- ⁵⁷ Mullen, “US says it sent B-2,” 28 March 2013.
- ⁵⁸ Johnson, “US flies Bombers over South Korea”, 13 September 2016.
- ⁵⁹ Pearson and Ju-min, “US bombers fly over South Korea,” 13 September 2016.
- ⁶⁰ Snyder and Byun, 78.
- ⁶¹ “Introduction from the Commander,” In *United States Forces Korea Strategic Digest* (2016): 1.
- ⁶² Lopez, “US, Japanese forces enhance interoperability,” 14 Dec 2016.
- ⁶³ “Military Drills Leave S. Korea Insecure,” 20 August 2010.
- ⁶⁴ Ochmanek and Schwartz, 27.

⁶⁵ DOD Joint Press Conference with Secretary Hagel and Minister Kim Kwan-jin, 2 October 2013.

⁶⁶ Wasserbly, “White House sending THAAD to South Korea,” 12 October 2016.

⁶⁷ Wit and Sun, “North Korea’s Nuclear Futures,” 25.

⁶⁸ Johnson, “Former U.N. chief throws weight behind THAAD,” 16 January 2017.

⁶⁹ “US: China calls Obama, Xi talks 'constructive',” 1 Apr 2016.

⁷⁰ Lyon, “The Hard Truth About THAAD,” 24 February 2016.

⁷¹ The dialog represents a story recounted by my father in the 1980s, occurring originally circa 1940. My grandmother’s next answer was “NO!”

⁷² Dixit, “Thomas Schelling’s Contributions to Game Theory,” 217.

⁷³ Lowther, *Thinking about Deterrence*, xii.

⁷⁴ Knopf, “Rationality, Culture and Deterrence,” 24.

⁷⁵ *Ibid.*, 8-9.

⁷⁶ *DO JOC*, 22.

⁷⁷ Haney, “Fifth Annual Generation Prague Conference,” 3.

⁷⁸ “The North Korean Threat,” In *United States Forces Korea Strategic Digest* (2016):

13.

⁷⁹ Schelling, 117.

⁸⁰ Manyin, et. al., 24.

⁸¹ Johnson, 13 September 2016.

⁸² Park, 59 and 71-72 (Footnote 29).

⁸³ This scenario was constructed before the DPRK missile test event on 12 February 2017. The test on that date did not include a weaponized warhead on the missile. The missile splashed down in the Sea of Japan. See Peter Baker, “Trump Responds to North Korean Missile Launch With Uncharacteristic Restraint”, *New York Times*, 12 February 2017, https://www.nytimes.com/2017/02/12/us/politics/donald-trump-north-korea-missile.html?_r=0 (accessed 12 February 2017).

⁸⁴ “US, Russia stop pointing missiles,” 30 May 1994.

⁸⁵ “US warns of 'overwhelming' response,” 19 October 2016.

⁸⁶ The statement was digitally expressed by the War Operation Plan Response (W.O.P.R.) system in the 1983 movie *War Games* after a simulated exchange of nuclear weapons that escalated into worldwide nuclear holocaust.

⁸⁷ An intermediate-range missile has a range of 3,000–4,500 kilometers. See the Missile Defense Agency site for targets and countermeasures: <https://www.mda.mil/system/targets.html>.

APPENDIX A – ICS MODEL

Mitchell R. Hammer’s Intercultural Conflict Style Inventory Model

Associating the ICS conflict styles shown in Figure A-1 with the nations in the Asia-Pacific region helps US deterrence efforts by aligning the conflict styles to strategic culture to predict the interpretation of US messaging, therefore shaping deterrence strategy to better target a nation’s perceptions. Japan, China and the two Koreas fall into the Accommodation conflict style, which reflects their centuries of shared cultural values. A key component of the Accommodation style is the use of intermediaries. The United States capitalized on this cultural dynamic when first prescribing the Four-Party Talks.

	Emotionally Restrained	Emotionally Expressive
Direct	<p>Discussion Conflict Style</p> <ul style="list-style-type: none"> ▪ Direct ▪ Emotionally Restrained <p>Self-Perceived Strengths</p> <ul style="list-style-type: none"> ▪ Confronts problems ▪ Elaborates arguments ▪ Maintains calm atmosphere <p>Weaknesses Perceived by Other Styles</p> <ul style="list-style-type: none"> ▪ Can’t read “between the lines” ▪ Logical, but unfeeling ▪ Uncomfortable with emotional arguments <p>(Representative Nations/Cultures: e.g., U.S., Canada, Sweden, Norway, Denmark, Germany, Australia, New Zealand)</p>	<p>Engagement Conflict Style</p> <ul style="list-style-type: none"> ▪ Direct ▪ Emotionally Expressive <p>Self-Perceived Strengths</p> <ul style="list-style-type: none"> ▪ Gives detailed explanations, instructions, info ▪ Expresses opinions ▪ Shows feelings <p>Weaknesses Perceived by Other Styles</p> <ul style="list-style-type: none"> ▪ Unconcerned with views/feelings of others ▪ Dominating or rude ▪ Uncomfortable with dispassionately expressed opinions <p>(Representative Nations/Cultures: e.g., France, Greece, Italy, Spain, Cuba, Puerto Rico, Russia, Israel)</p>
Indirect	<p>Accommodation Conflict Style</p> <ul style="list-style-type: none"> ▪ Indirect ▪ Emotionally Restrained <p>Self-Perceived Strengths</p> <ul style="list-style-type: none"> ▪ Considers alternative meanings to ambiguous messages ▪ Able to control emotional outbursts ▪ Sensitive to feelings of other party ▪ Uses third party intermediaries <p>Weaknesses Perceived by Other Styles</p> <ul style="list-style-type: none"> ▪ Difficulty in voicing own opinion ▪ Appears uncommitted & dishonest ▪ Difficulty in providing elaborated explanations <p>(Representative Nations/Cultures: e.g., Mexico, Costa Rica, Peru, China, Japan, Thailand, Indonesia, Malaysia)</p>	<p>Dynamic Conflict Style</p> <ul style="list-style-type: none"> ▪ Indirect ▪ Emotionally Expressive <p>Self-Perceived Strengths</p> <ul style="list-style-type: none"> ▪ Uses third parties to gather information and resolve conflicts ▪ Skilled at observing changes in nonverbal behavior ▪ Comfortable with strong emotional displays <p>Weaknesses Perceived by Other Styles</p> <ul style="list-style-type: none"> ▪ Rarely “gets to the point” ▪ Appears unreasonable & devious ▪ Appears “too emotional” <p>(Representative Nations/Cultures: e.g., Kuwait, Egypt, Saudi Arabia, Lebanon, and Pakistan)</p>

Figure A-1 – Mitchell Hammer's ICS Model

APPENDIX B – NORTH KOREAN NUCLEAR WEAPON PROJECTIONS

North Korean projections for nuclear forces predict it will build between 50 as a medium-end projection and 100 as a high-end projection by the year 2020 of various sizes and ranges.

Delivery System Projections: Three Nuclear Forces for 2020

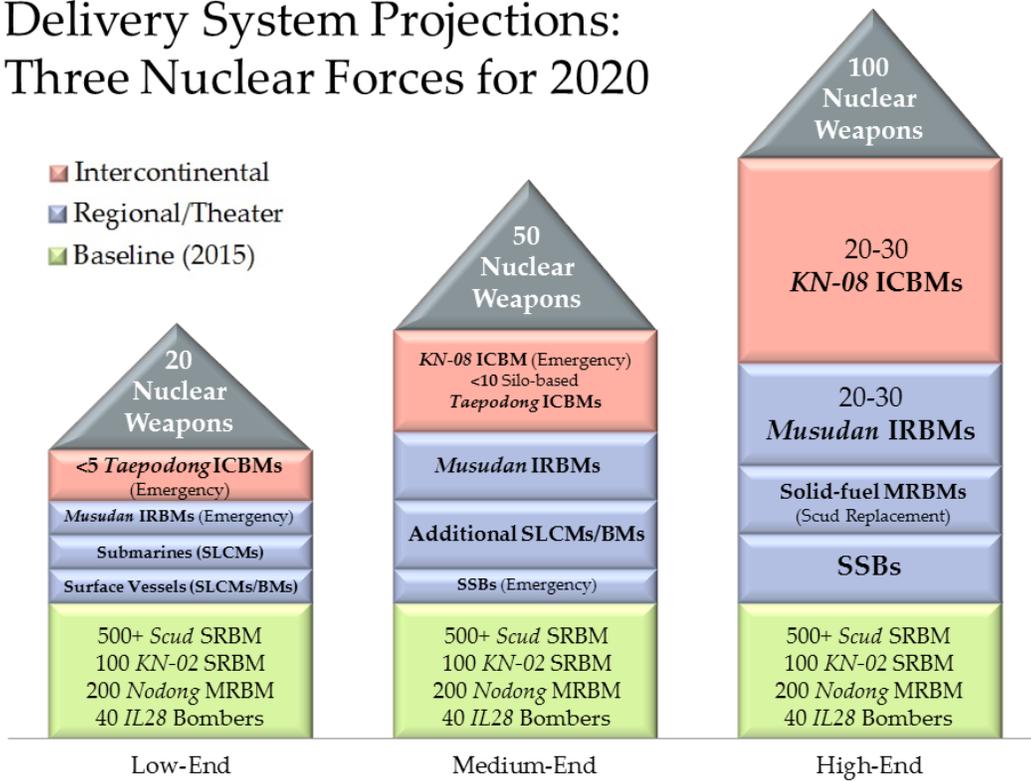


Figure B-1 – North Korean Nuclear Weapon Projections

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