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THESIS

**UNITED STATES–NORTH KOREA
DENUCLEARIZATION POLICY: SHOULD IT BE
COMPLETE, VERIFIABLE, AND IRREVERSIBLE?**

by

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December 2020

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IT BE COMPLETE, VERIFIABLE, AND IRREVERSIBLE?**

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ABSTRACT

Relations between the United States and North Korea reached a pivotal point in 2018 when a noticeable *détente* occurred while the United States pursued a foreign policy of denuclearization toward North Korea. The policy was predicated on the complete, verifiable, and irreversible denuclearization of the North Korean nuclear weapons program. This thesis asks whether the current United States policy toward North Korea, which places continued emphasis on the only acceptable condition for denuclearization be that it is complete, verifiable, and irreversible, is the best strategy, or if there are alternatives to this policy that the United States could feasibly pursue? This thesis answers the research question by examining and analyzing nuclear proliferation drivers and inhibitors and conducting a comparative study in which some cases maintain a nuclear weapons program and others have chosen to abandon such efforts. The study of proliferation drivers and inhibitors concluded that North Korea is unlikely to accept the conditions of complete, verifiable, and irreversible denuclearization. However, the United States can likely achieve tangible and genuine results toward denuclearization by changing its perspective on North Korean nuclear weapons and adopting a policy that embraces North Korea's unique reasons for nuclear proliferation.

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DISCLAIMER

This thesis represents the academic views of the author and does not necessarily represent the official policy position of the Naval Postgraduate School, the U.S. Air Force, or the Department of Defense. The thesis contains policy advocacy and assessment in service of the academic mission of NPS.

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I. INTRODUCTION

Relations between the United States (U.S.) and North Korea reached a pivotal point in 2018.¹ Tensions between the countries were on the verge of exploding into kinetic military action the year before because North Korea conducted numerous provocative ballistic missile tests which threatened the United States' own security and its interests in the East Asia region. As a result of the rising tensions, President Donald Trump declared that "Rocket Man [Kim Jung-Un] is on a suicide mission for himself and his regime."² Then, following an intercontinental ballistic missile launch by North Korea, the testing stopped for an extended period of time until May 4, 2019, when North Korea conducted its first ballistic missile test launch in over a year.

During this period of détente, the U.S. continued to enforce a foreign policy centered on the denuclearization North Korea. The ultimate goal of this policy is denuclearization achieved through the "complete, verifiable and irreversible dismantlement" (CVID) of North Korea's nuclear weapons program. In 2018–2019, the U.S. participated in diplomatic engagements with North Korea at the highest level, enforced economic sanctions and displayed military shows of force, all aimed at achieving denuclearization through negotiations. For the U.S., denuclearization is the preferred outcome to ensure the defense and security of the continental United States, its allies in the Pacific, protect U.S. interests and maintain stability in the region.³ To its credit, the strategy prevented a continuation of the downward spiral of 2017, but despite all of the negotiation efforts, full denuclearization was not attained during the 2018–2019 détente. This thesis seeks to answer whether the current United States policy toward North Korea, which places a continued emphasis on the only acceptable condition for denuclearization being that it is complete, verifiable, and irreversible

¹ This thesis represents the academic views of the author and does not necessarily represent the official policy position of the Naval Postgraduate School, the U.S. Air Force, or the Department of Defense. The thesis contains policy advocacy and assessment in service of the academic mission of NPS.

² Alicia Sanders-Zakre, "Chronology of U.S.-North Korean Nuclear and Missile Diplomacy," Arms Control, June 2019, <https://www.armscontrol.org/factsheets/dprkchron>.

³ Van Jackson, *On the Brink: Trump, Kim, and the Threat of Nuclear War* (Cambridge, United Kingdom: Cambridge University Press, 2018), 8–9.

(CVID), is the best strategy, or if there are alternatives to this policy that the United States could feasibly pursue.

To answer the research question, this thesis examines the current policy against what is known of North Korea's nuclear capabilities and its motivations for maintaining nuclear weapons. It will also compare North Korea's case to other states where non-proliferation has been successful and unsuccessful to evaluate if there are alternative policies that will have a better prospect for achieving actual legitimate steps toward North Korea denuclearization. Ultimately, I examine whether the United States should continue with the complete, verifiable, and irreversible denuclearization policy and if there are alternative strategies the United States should select.

A. SIGNIFICANCE OF THE RESEARCH QUESTION

The United States considers a nuclear North Korea as a security threat and the best way to minimize or negate the threat is through denuclearization. In the 2018 State of the Union speech, President Trump claimed North Korea was in "reckless pursuit of nuclear missiles," and added that North Korea "could very soon threaten our homeland."⁴ However, this is just a recent example of the U.S.'s concern over North Korea as a national security threat. To address the nuclear threat, several administrations have vigorously pursued denuclearization on the Korean Peninsula, and some have steadily insisted that complete, verifiable, and irreversible denuclearization is the only acceptable policy outcome.⁵ Curiously, despite years of enforcing CVID through multi- and bilateral negotiations with North Korea, very little has actually been achieved by way of denuclearization. For example, during the second meeting between President Trump and Kim Jung-Un in Singapore, they both signed a Joint Statement which included a stipulation that North Korea "commits to work

⁴ "President Donald J. Trump's State of the Union Address," White House, January 30, 2018, <https://www.whitehouse.gov/briefings-statements/president-donald-j-trumps-state-union-address/>.

⁵ "Remarks on DPRK at Stanford University," United States Department of State, January 31, 2019, <https://www.state.gov/remarks-on-dprk-at-stanford-university/>.

toward complete denuclearization of the Korean Peninsula.”⁶ However, at the time of this writing over two years later, complete denuclearization of the Korean Peninsula is nowhere close to finished. While it was a positive step for the Joint Statement to include an overall goal of denuclearizing, many scholars and critics have observed that the term denuclearization lacks definition and procedural details. The lack of refinement and details may be at least a partial reason for why North Korea continues with nuclear proliferation and why past attempts by the United States to secure North Korea’s denuclearization have been unsuccessful, but it is possible there are other reasons.⁷

Therefore, it is reasonable to examine whether the current denuclearization policy—which stipulates the only acceptable condition being complete, verifiable, and irreversible denuclearization—is the best policy to pursue with North Korea. Some follow-on questions to be considered are: Is denuclearization even attainable? Is CVID the only way to preserve regional stability and ensure U.S. national security? This thesis will look to answer those questions in an effort to ascertain if CVID is the only acceptable outcome and, if not, whether there are alternative means to achieve it. The analysis will consider what denuclearization means to North Korea. From the North Korean perspective, how do North Koreans view the nuclear weapons program, and what conditions must be met in order to see the regime acquiesce to this policy? This thesis may show that complete, verifiable, and irreversible denuclearization is indeed the best policy toward North Korea for the security of the United States and our allies. However, the thesis may reveal that there are better policy options for the United States that will garner the same desired effect. Potential options may be close to CVID without the insistence on attaining perfection. Alternative policies may place greater focus on incremental steps to achieving denuclearization through strategies that target other objectives, such as pursuing policy that accepts North Korea as a defacto nuclear weapons state, engaging in multilateral negotiations, developing arms control measures, using sanctions as

⁶ “Joint Statement of President Donald J. Trump of the United States of America and Chairman Kim Jong Un of the Democratic People’s Republic of Korea at the Singapore Summit,” White House, June 12, 2018, <https://www.whitehouse.gov/briefings-statements/joint-statement-president-donald-j-trump-united-states-america-chairman-kim-jong-un-democratic-peoples-republic-korea-singapore-summit/>.

⁷ Dan Altman and Nicholas L. Miller, “Red Lines in Nuclear Nonproliferation,” *The Nonproliferation Review* 24, no. 3–4 (May 4, 2017): 319, <https://doi.org/10.1080/10736700.2018.1433575>.

leverage in negotiations, and adopting a more diplomatic approach to policy to influence denuclearization. Ultimately, this research question is important because it helps decisionmakers select policy options that will yield the desired outcome, which in the case of North Korea, is to maintain the security of the U.S. and its allies and to preserve stability in the region.

B. LITERATURE REVIEW

The United States clearly expresses concern for a nuclear-armed North Korea, viewing it as a credible national security threat. For example, in the 2017 National Security Strategy, North Korea is explicitly mentioned by name a total of 17 times. On page one in the executive summary, President Trump states that “we are rallying the world against the rogue regime in North Korea.”⁸ Additionally, on four occasions the National Security Strategy highlights that the threat posed by a nuclear-armed North Korea is not just to the United States, but also to our allies and partners in the Indo-Pacific region and all over the world. The Trump administration has taken some unconventional steps to address this threat to include historic bilateral summits and impromptu meetings at the Korean Demilitarized Zone, while running a “Maximum Pressure Campaign” against North Korea. In fact, the United States has a history of implementing various policies and strategies targeted at North Korea in an effort to stop their development and proliferation of a nuclear weapons program.⁹

The national security threat posed by a nuclear North Korea has been studied at length by policymakers and academics for decades. To answer the research question, this thesis aims to complete an assessment of the three major relevant areas that relate to the research question: 1) the current and historic denuclearization policy toward North Korea, 2) the factors and explanations of non-proliferation and proliferation, and 3) North Korea’s strategic thinking

⁸ White House, *The National Security Strategy of the United States of America* (Washington, DC: White House, 2017), 1, <https://www.whitehouse.gov/wp-content/uploads/2017/12/NSS-Final-12-18-2017-0905.pdf>.

⁹ Daniel R. Depetris, “A More Realistic and Restrained U.S. Policy Toward North Korea | 38 North: Informed Analysis of North Korea,” 38 North, August 12, 2019, <https://www.38north.org/2019/08/ddepetris081219/>.

about nuclear weapons. The following will review and discuss the literature that presents those specific areas.

There is little doubt that North Korea has an active nuclear weapons program. North Korea's interest in beginning its own nuclear program started in the mid-1950s.¹⁰ Early development of nuclear capabilities slowed in the 1990s as a result of a strong effort by the non-proliferation regime, but it sped up again in the early 2000s following North Korea's withdrawal from the Non-Proliferation Treaty and similar non-proliferation agreements. North Korea's nuclear arsenal today is estimated to contain approximately 20–30 warheads.¹¹ Siegfried S. Hecker of Stanford University, former Director of the Los Alamos National Laboratory, is one of a few Americans who has been allowed to visit and observe portions of North Korea's nuclear program. Following his 2017 visit, Hecker estimated North Korea had enough plutonium and highly enriched uranium, necessary materials to fuel a nuclear weapon, for “20 to 25 nuclear devices today [2017] and the capacity to produce an additional one every six to seven weeks.”¹² If extrapolated to today, this would suggest an arsenal of approximately 100 nuclear devices. In sum, this account supports the belief that North Korea more than an aspiring nuclear weapons state but, is in fact, a de facto nuclear weapons state.

However, to evaluate nuclear policy toward North Korea, it is necessary to review some of the literature on nuclear nonproliferation with regard to several questions: Why does it work sometimes, but not all the time? What are the common characteristics between states who chose not to attain nuclear weapons and those who had them and gave them up? What are the main factors influencing non-proliferation decisions? Does the non-proliferation regime really influence state proliferation decision-making? These questions are relevant because nuclear non-proliferation has been effective in some cases but not others throughout history. In some extreme cases, states have had nuclear weapons—such as South Africa—and

¹⁰ Nicholas L Miller and Vipin Narang, “North Korea Defied the Theoretical Odds: What Can We Learn from Its Successful Nuclearization?,” *Texas National Security Review* 1, no. 2 (March 2018): 71.

¹¹ Stockholm International Peace Research Institute, *SIPRI Yearbook 2019: Armaments, Disarmament and International Security* (Solona, Sweden: Oxford University Press, 2019), https://www.sipri.org/sites/default/files/2019-06/yb19_summary_eng_1.pdf.

¹² Siegfried Hecker, “Analyze and Act Accordingly,” USNEWS.COM, last modified April 20, 2017, <https://www.usnews.com/opinion/debate-club/articles/2017-04-20/donald-trump-must-analyze-north-koreas-nuclear-crisis-and-act-accordingly>.

given them up. In other cases, states have been on their way to obtaining nuclear weapons—such as South Korea and Taiwan—only to abandon their programs.

Scholars have found there are certain factors associated with nonproliferation decisions. Herman and Peters believe the decisions are often tied to back to both some level of pressure from the United States and the deciding states' security and internal domestic factors.¹³ On the other hand, Coe and Vaynman attribute pressure on a state from the nonproliferation regime as a causal reason. They argue this is successful due to the following reason(s). The state agreeing to non-proliferation perceives this to be in their best interest, or because proliferating states are leery of punishment from the non-proliferation regime, or because there is trust that the regime can contain widespread proliferation.¹⁴ Additionally, Sagan posits that states choose to participate in nonproliferation as a result of changes to their external security, changes to their domestic politics, and the adoption of Nonproliferation Treaty norms.¹⁵ Finally, Altman and Miller offer that nonproliferation policies often fail because the restrictions placed on nuclear weapon programs are either “imprecise, arbitrary, incomplete or unverifiable.”¹⁶ On the other hand, Joseph Cirincione, a nuclear weapons proliferation expert, argues proliferation drivers can be summed in the following five reasons: security, prestige, domestic politics, technology, and economics.¹⁷

For North Korea, the potential motivation for a nuclear weapons program is highly analyzed and seems to fit within the framework of Cirincione's drivers for acquiring nuclear weapons. Other literature attributes proliferation drivers to be more or less focused on just a few drivers. In this regard, Pak, Hass, Cha, Kang, and Hecker are among leading scholars in the field who believe North Korea's nuclear weapons program is mainly about internal and

¹³ Rebecca K. C. Hersman and Robert Peters, “Nuclear U-Turns,” *The Nonproliferation Review* 13, no. 3 (November 1, 2006): 539–53, <https://doi.org/10.1080/10736700601071629>.

¹⁴ Andrew J. Coe and Jane Vaynman, “Collusion and the Nuclear Nonproliferation Regime,” *The Journal of Politics* 77, no. 4 (October 1, 2015): 983–97, <https://doi.org/10.1086/682080>.

¹⁵ Scott D. Sagan, “Why Do States Build Nuclear Weapons?: Three Models in Search of a Bomb,” *International Security* 21, no. 3 (1996): 54–86, <https://doi.org/10.2307/2539273>.

¹⁶ Altman and Miller, “Red Lines in Nuclear Nonproliferation.”

¹⁷ Joseph Cirincione, *Bomb Scare: The History & Future of Nuclear Weapons* (New York and Chichester, West Sussex: Columbia University Press, 2007), 47.

external security for the authoritarian regime. However, others, such as Snyder and Milani, argue there are still additional motivational factors beyond internal and external security concerns such as economic security and domestic ideological legitimization. Nuclear weapons provide economic security because North Korea uses nuclear negotiations to get monetary aid and they act as leverage for reducing economic sanctions.¹⁸ Moreover, they also provide domestic ideological legitimization because they show the strength, power and resiliency of the regime to the North Korean elite and overall population.¹⁹ To further evaluate why some countries proliferate and others do not, Philip Bleek and Etel Solingen each conduct comprehensive case studies. Bleek's study analyzes the behavior of all proliferating countries, while Solingen's looks for proliferation behavior patterns, focusing on Middle East and East Asia cases.

Historically, the United States has undertaken various approaches to enforcing a denuclearization policy with North Korea that is predicated on being complete, verifiable and irreversible. The most significant attempts have been the Agreed Framework, Six Party Talks, the Leap Year Agreement and, most recently, the "Maximum Pressure Campaign" and diplomatic bilateral summits in 2019. Again, scholars and policymakers alike mostly agree the best way to ensure the United States' national security and the security of our allies in the region is through a denuclearized North Korea. The most discord among scholars and experts is on how to achieve denuclearization. Many contend it is unwise for the United States to unconditionally accept a nuclear-armed North Korea and that denuclearizing North Korea is the right end-state but suggest that the strategy to achieve denuclearization should be different. Cha and Kang are both advocates of an engagement strategy but differ on how to exercise engagement—Cha supports a hawkish approach to North Korea, while Kang supports an approach that restrains the pressure on North Korea.²⁰ In another article, Cha argues for more

¹⁸ Marco Milani, *The Evolution of the North Korean Nuclear Program: From Survival Strategy to Ideological Legitimization*, Academic Paper Series (Washington, DC: Korea Economic Institute of America, 2018), 6–7, <https://keia.org/publication/the-evolution-of-the-north-korean-nuclear-program-from-survival-strategy-to-ideological-legitimization/>.

¹⁹ Jackson, *On the Brink*, 50.

²⁰ Victor D. Cha and David C. Kang, *Nuclear North Korea: A Debate on Engagement Strategies*, 2nd ed. (New York: Columbia University Press, 2018).

balance in the most recent approach toward North Korea, advancing a “comprehensive coercive strategy” which blends the confrontational and engagement elements of the last United States’ strategy.²¹ Similarly, Pak and Hass offer a strategy to combine “pressure and engagement” and bring North Korea back into negotiations.²² Overall, the literature offers a mix of strategic approaches for achieving denuclearization.

One major consideration is the North Korean regime itself which should play a significant role in the approach to United States’ foreign policy decisions. To complicate matters, when dealing with North Korea, it is difficult to know with absolute certainty what the regime’s true objectives are and how the government operates. Cha references Byman and Pollack, who claim that in regimes where power is centralized around an individual, “the influence of the leader’s personality and preferences will increase, as well as the impact of the leader on policy decision outcomes.”²³ Cha further argues that this point is amplified in North Korea’s authoritarian regime due to its weak institutions.²⁴ An understanding of the North Korean regime and how it interprets the value of a nuclear weapons program is a key element to developing United States policy.

C. POTENTIAL EXPLANATIONS AND OUTCOMES

This thesis examines the United States’ nuclear policy toward North Korea. The research question is asking if a policy that stipulates the only condition to the North’s denuclearization be that it is complete, verifiable, and irreversible is the best policy option to achieve denuclearization. The literature on nuclear proliferation presents several potential causal reasons to explain why states proliferate nuclear weapons. Additionally, the literature review focused on the nonproliferation of nuclear weapons and why attempts at

²¹ Victor Cha and Katrin Fraser Katz, “The Right Way to Coerce North Korea: Ending the Threat without Going to War Essays,” *Foreign Affairs* 97, no. 3 (2018): 92, <https://heinonline.org/HOL/P?h=hein.journals/fora97&i=519>.

²² Jung H Pak and Ryan L Hass, *Beyond Maximum Pressure: A Pathway to North Korean Denuclearization*, Policy Brief (Washington, DC: Brookings Institute, 2017), 7, <https://www.brookings.edu/research/beyond-maximum-pressure-a-pathway-to-north-korean-denuclearization/>.

²³ Victor D. Cha, “The North Korea Question,” *Asian Survey* 56, no. 2 (2016): 244, <https://doi.org/10.2307/26663696>.

²⁴ Cha, 244–45.

nonproliferation have not always worked. The lessons from both can be extrapolated and applied to the case of North Korea and to the denuclearization policy that the United States has pursued.

There are two potential outcomes for this thesis. First is that the status quo is the best policy. For the purposes of this thesis, the best policy is defined as the policy choice that realizes actual and legitimate steps toward denuclearization. This outcome holds that the current policy should remain unchanged and the demand for North Korea's complete, verifiable, and irreversible denuclearization should continue. The second outcome is that there are other alternatives to achieving denuclearization that are more viable than CVID. This outcome still has the United States pursuing an end goal of denuclearization but utilizes a different strategy to attain the goal, accepting something less than 100 percent denuclearization. To prove any one of the two outcomes will require an analysis of the factors that drive and inhibit nuclear proliferation, an examination of North Korea, to better understand its motivations for a nuclear weapons program, and a comparative study of actual cases of countries with and without nuclear weapons programs to extrapolate any similarities, differences, or commonalities that will indicate how likely North Korea is to denuclearize. Based on the results of the study, this thesis will examine why nonproliferation has not worked with North Korea so far. The research design to accompany the thesis will be discussed in more detail in the next section.

D. RESEARCH DESIGN

To answer the research question, this thesis will assess the empirical evidence from the research utilizing secondary and some primary sources to determine which outcome is most likely. The research design includes four major areas and begins with a presentation of current and historical United States-North Korea denuclearization policy. This review is designed to show the various attempts the United States has made over the last 70 years to denuclearize North Korea and the strategies that have been used to try achieving it. This area specifically looks for any consistencies and inconsistencies in U.S.-North Korea denuclearization policy, agreements, and negotiations over the years.

The design also includes the significant factors for nuclear weapons proliferation and nonproliferation; looking for explanations of why nonproliferation of nuclear weapons works for some states and not others. To test these explanations for applicability toward North Korea, the thesis includes the aforementioned comparative study. The study compares states that have successfully denuclearized with states who retain nuclear weapons programs. The successful denuclearization cases are South Africa, South Korea, Libya, Egypt, and Taiwan. The cases of states with nuclear weapons programs are China, India, and Pakistan.

Next, the research design attempts to understand North Korea's strategic thinking, comprehend its interests in relation to nuclear weapons, and determine the prospects for denuclearization. Finally, the design includes a conclusion that answers the research question as well as providing potential alternative strategies to achieving denuclearization that are different from the complete, verifiable, and irreversible strategy.

E. THESIS OVERVIEW

This thesis is organized in four chapters. The next chapter includes an assessment of North Korea's nuclear weapons program. The purpose is primarily to validate North Korea's status as a de facto nuclear state by examining North Korea's perception of the threat, its nuclear weapons program history and current status, and past nonproliferation negotiation efforts. Chapter III is an analysis of nuclear weapons proliferation. It assesses the factors driving and inhibiting nuclear proliferation. Subsequently, the chapter consists of a comparative case study to evaluate why nonproliferation works for some states and not others. The study seeks to identify any similarities, differences, or commonalities between these cases and North Korea to indicate which outcome would be most supportive. Finally, Chapter IV assesses North Korea's motivations for nuclear weapons and identifies potential alternative strategies to achieving denuclearization. These alternatives are different from the current CVID strategy.

II. ASSESSMENT OF NORTH KOREA'S NUCLEAR WEAPONS PROGRAM

The United States has maintained the same principle objective for the national security policy for North Korea since the Bush administration first adopted it in 2004.²⁵ Complete, verifiable, and irreversible denuclearization has stayed the cornerstone of United States-North Korea negotiations for three presidential administrations, despite little actionable or long term results.²⁶ Evaluating whether this approach toward North Korea is the best policy option for the United States, requires an understanding of North Korea's nuclear weapons program. This program is the United States' primary national security concern when dealing with North Korea.

North Korea is a state surrounded in secrecy and shielded from the outside world, but there is little doubt that North Korea has an active nuclear weapons program. It is frequently referred to as a de facto nuclear state: it is not accepted by the non-proliferation regime as a Nuclear Weapons State (NWS) in accordance with the Non-Proliferation Treaty (NPT), yet is still acknowledged by many to have an illicit yet increasingly capable nuclear weapons program.

North Korea's interest in beginning its own nuclear program started in the mid-1950s.²⁷ The evolution of North Korea's nuclear program has been consistently persistent. Some attempts by the non-proliferation regime appear to have at least marginally affected early development of North Korea's nuclear capabilities in the 1990s, but it sped up again in the early 2000s following North Korea's withdrawal from the NPT and similar non-proliferation agreements. North Korea's nuclear arsenal today is estimated to contain approximately 20–30 warheads.²⁸

²⁵ Jackson, *On the Brink*, 53.

²⁶ Robert Jervis and Mira Rapp-Hooper, "Perception and Misperception on the Korean Peninsula: How Unwanted Wars Begin," *Foreign Affairs* 97, no. 3 (May 1, 2018): 104.

²⁷ "North Korea," Nuclear Threat Initiative (NTI), October 2018, <https://www.nti.org/learn/countries/north-korea/nuclear/>.

²⁸ "SIPRI Yearbook 2019," Stockholm International Peace Research Institute, July 2019, <https://www.sipriyearbook-org.libproxy.nps.edu/view/9780198839996/sipri-9780198839996.xml>.

The following chapter proceeds in four main sections. First, I examine North Korea's threat perceptions and how they may motivate North Korea to have a nuclear weapons program. North Korea likely perceives both external threats—the U.S., South Korea, and China—and internal, domestic issues as threatening to the security and survival of the Kim regime. These threat perceptions motivate the existence of North Korea's nuclear weapons program because nuclear weapons ultimately maintains the regime's security and protection. Second, I provide a brief overview of North Korea's nuclear weapons program history and illustrate the persistent evolution of the regime's program to include nuclear weapons and ballistic missiles. Third, I discuss the current status of the nuclear program. Experts estimate the regime's nuclear arsenal today to be small but increasing in capability. Finally, this chapter highlights significant negotiation attempts between the non-proliferation regime and North Korea since the 1990s. Although there have been major negotiations with North Korea over denuclearization, all attempts have either failed or achieved short-term results.

A. PERCEPTION OF THREATS BY NORTH KOREA

As a declining and extremely insular state, North Korea perceives threats both internally and externally. The authoritarian regime under the Kim family has had the odds of survival continuously stacked against it and is primarily concerned with its own security. The North's attempt at forced reunification with the South in 1950 had failed. Following the Korean War, North Korea experienced a brief period of economic and industrial growth, just to find itself rapidly on the decline and increasingly in a semi-permanent defensive posture. Since then, the communist dictatorship in North Korea has watched its immediate neighbors—South Korea and China—flourish both politically and economically. South Korea became a democratic government and has risen in global status under the security provision from the United States' nuclear umbrella as part of the U.S.-South Korea mutual alliance. On the other hand, communist China is also steadily on the rise. Although some experts believe China's economic growth is challenging the United States for global hegemony, it does not change the fact that China is economically

prospering.²⁹ All the while, North Korea, unlike its regional neighbors, has been in a steady state of decline.

Internally, the domestic conditions in the country are horrendous and therefore, potentially poses a threat to the Kim regime. In Kim Jung-Un's 2018 New Year's address, he wished families in North Korea, "good health, happiness, success and prosperity" and that this be the year where "the beautiful dreams of all our people, including the hopes of our children in the new year, would come true."³⁰ The irony of this sentiment is striking because under the dictatorship of Kim Jung-Un, the people of North Korea could never reach their full potential of health, happiness, success, and prosperity. Rather, Kim Jung-Un's family legacy has been to keep the North a withdrawn and insular state. North Korea is inundated by plights of famine and years of harsh economic sanctions, while the government continues to subsidize on the labors of its own people, often at the expense of significant human rights violations, and catering to the elite few. This strategy has not alleviated Kim Jung-Un of the internal domestic threat, but it has mitigated it because even with these atrocities, North Korea carries on.

Externally, North Korea perceives the United States, South Korea, and China as threats. Since the collapse of the Soviet Union, North Korea has been solely responsible for its own security. The United States and South Korea represent a conventional and nuclear threat to North Korea and to the Kim regime's security. China, though often linked to North Korea as a partner communist country, also represents a threat to North Korea because of their shared geographic border, China's superior military, economic, and nuclear strength, and potential shared interest with South Korea and possibly the United States.

To combat these external threats and continue the regime's survival, Cha asserts one of the most significant reasons the regime has not collapsed or gone on the offensive

²⁹ "Tortoise v Hare; China and America," *The Economist*, April 1, 2017, ProQuest Central.

³⁰ "New Year's Address," North Korea Leadership Watch, January 1, 2018, <http://www.nkleadershipwatch.org/2018/01/01/new-years-address/>.

is due to deterrence.³¹ One of North Korea's stated goals has been reunification of the peninsula. However, North Korea's conventional options for reunification are not promising. If it were to launch an attack south of the Demilitarized Zone (DMZ), as it did in 1950, it would result in certain disaster for North Korea and the Kim regime. The North is simply conventionally unmatched compared to the strength of the U.S.- South Korea alliance.³² The alliance's response to an invasion would likely mean the end of the Kim Dynasty. This is something the Kim Family has known and considered. Therefore, North Korea is "deterred from a massive invasion because they know they would lose, and this rational calculation has been at the core of the peace on the DMZ."³³

Regional and nuclear weapons experts tend to agree that the primary reason for developing and maintaining nuclear weapons is based on North Korea's perception of threats to the regime's survival. Joseph Cirincione concludes a crucial concern for North Korea is security.³⁴ Therefore, the strategic conditions of North Korea make it prime for nuclear development.

As a non-democratic state with an isolated economy, North Korea finds itself on the "periphery" of the international system, which is comprised of democratic states with globalized economies that do not have a significant security need for nuclear weapons.³⁵ Cirincione cited Glenn Chafetz' finding of states on the periphery noting that these states "possess strong incentives to acquire or develop nuclear weapons'...they have much to gain and little to lose."³⁶ For the North, nuclear weapons increase the stakes for conflict, to a point that its adversaries will seek conflict avoidance instead. Van Jackson contends that nuclear weapons "limit what adversaries wishing to avoid nuclear war can do to North Korea. They increase the upper-end costs of misperception, miscalculation, and worst-case

³¹ Victor Cha D., *The Impossible State: North Korea, Past and Future*, Updated Edition (New York: Ecco, 2018), 215.

³² Cha, 216.

³³ Cha, 219.

³⁴ Joseph Cirincione, *Bomb Scare: The History & Future of Nuclear Weapons* (New York and Chichester, West Sussex: Columbia University Press, 2007), 53.

³⁵ Cirincione, 53.

³⁶ Cirincione, 53.

scenarios. They grant North Korea greater optionality in pursuing non-nuclear coercive violence, making North Korean offensives more difficult to predict, defend against, and deter.”³⁷

Beyond these security-oriented goals, nuclear weapons “may embolden North Korean officials to adopt more aggressive strategies in the pursuit of political goals.”³⁸ It is North Korea’s perception that the survival of the Kim regime is under threat by both internal domestic and external international factors that drives it toward nuclear weapons for deterrence and assurance purposes.

B. NORTH KOREA’S NUCLEAR WEAPONS PROGRAM HISTORY

This section provides an overview of North Korea’s nuclear weapons program history. The program has actually been in existence for decades. Throughout North Korea’s history, the program has undergone periods of slow nuclear development interspersed with periods of increased attention and intensity. North Korea’s nuclear weapons program has largely been indigenous, but it has been the recipient of international assistance in the development of the program over its lifetime. However, it is the periods of intense research and development, largely without the help of any outside countries, that keeps North Korea in the spotlight for the United States.

1. Nuclear Weapons Development

North Korea’s nuclear weapons program has held the United States’ interest for decades and it has continued to progress despite efforts to curtail or eliminate it. Before the Armistice took effect, North Korea had already indicated early interest in nuclear development when it formally established the Atomic Energy Research Institute and the Academy of Sciences in 1952.³⁹ The nuclear program’s development was initially geared toward nuclear energy and relied on the North’s cooperation with the Soviet Union. This took the form of a nuclear energy cooperation agreement between the two countries which

³⁷ Jackson, *On the Brink*, 42.

³⁸ Jackson, 42.

³⁹ Nuclear Threat Initiative.

included groundbreaking on the North's own nuclear research complex located in Yongbyon.⁴⁰

As the program progressed, North Korea did focus attention on general nuclear technical development and education, but by the 1960s, North Korea also explored broadening its nuclear program to include military purposes. Additionally, the nuclear effort began to transition more direct control to the top leadership, "although the cabinet and the Academy of Sciences were given operational and administrative oversight of the nuclear facilities, then-North Korea leader Kim Il Sung retained ultimate control of the nuclear program and all decisions associated with weapons development."⁴¹ The 1970s and 1980s were periods of slow yet steady growth in North Korea's nuclear program. During this period, the North began working on the key technology that makes nuclear weapons possible such as plutonium reprocessing, a nuclear bomb triggering mechanism, and uranium processing.⁴² Moreover, development in the 1980s was significant for two reasons. First, North Korea began research and design of a light water reactor (LWR), and second, in 1985 North Korea signed the NPT.

LWR research and design was an important step in the North's pursuit of a capable nuclear program. The LWR is the most popular type of power reactor in the world.⁴³ In addition to the LWR, North Korea attained other nuclear power reactors, such as the five-megawatt (5MWe) reactor at the nuclear complex in Yongbyon.⁴⁴ The 5MWe reactor was completed in 1987 and was used to process plutonium; a necessary component for a nuclear weapon.⁴⁵

⁴⁰ Nuclear Threat Initiative.

⁴¹ Nuclear Threat Initiative.

⁴² Nuclear Threat Initiative, "North Korea."

⁴³ "Nuclear 101: How Does a Nuclear Reactor Work?," Office of Nuclear Energy, May 19, 2020, <https://www.energy.gov/ne/articles/nuclear-101-how-does-nuclear-reactor-work>.

⁴⁴ "Yongbyon 5MWe Reactor," Nuclear Threat Initiative (NTI), July 19, 2018, <https://www.nti.org/learn/facilities/766/>.

⁴⁵ Nuclear Threat Initiative, "Yongbyon 5MWe Reactor."

However, while the North was pursuing a route to establish its own LWR, it was simultaneously agreeing to participate as a non-NWS under the NPT. Although, North Korea did sign the NPT, it did not agree to the additional nuclear safety protocols with the International Atomic Energy Agency (IAEA), rather the North “link [ed] adherence to this provision of the treaty to the withdrawal of U.S. nuclear weapons from South Korea.”⁴⁶ In 1991, the Bush Administration removed all tactical nuclear weapons from the Korean Peninsula and, in 1992, North Korea finally agreed to the IAEA’s additional comprehensive nuclear safeguard procedures.⁴⁷ During an IAEA inspection, evidence of plutonium reprocessing was identified. This led to North Korea’s refusal to allow IAEA inspections to continue and the beginning of threats to withdraw from the NPT. Meanwhile, North Korea began clandestine plutonium reprocessing.⁴⁸ Diplomatic action and negotiations between the United States and North Korea in the mid-1990s resulted in a moratorium in the plutonium reprocessing program, but ultimately it could not be sustained.⁴⁹ At the turn of the century, the North’s nuclear proliferation efforts continued, resulting in its investment into a highly enriched uranium (HEU) program. Shortly after, in 2003, North Korea officially withdrew from the NPT.

Even amid nuclear negotiations with the United States and other countries (China, Japan, Russia, and South Korea), North Korea continued with nuclear weapons research and development. In 2006, North Korea conducted the first of six total nuclear tests; the last recorded test was in 2017 near the Punggye-ri nuclear test site. Each subsequent test showed an increase in nuclear yield. In the last test, North Korea proclaimed successful detonation of a hydrogen bomb, although experts believe “North Korea’s claim ... cannot be independently substantiated, but the higher yield could be indicative of a boosted fission

⁴⁶ Alicia Sanders-Zakre, “Chronology of U.S.-North Korean Nuclear and Missile Diplomacy,” Arms Control, last modified June 2019, <https://www.armscontrol.org/factsheets/dprkchron>.

⁴⁷ Sanders-Zakre.

⁴⁸ Nuclear Threat Initiative, “North Korea.”

⁴⁹ Nuclear Threat Initiative, “North Korea.”

or thermonuclear device.”⁵⁰ This further exemplifies North Korea’s relentless pursuit of nuclear weapons capabilities.

2. Ballistic Missile Development

In addition to nuclear weapons development, North Korea has been actively researching, designing, and testing ballistic missile capabilities as a means to deliver a weapon. As North Korea’s conventional capabilities age and become less reliable, North Korea began rigorously investing in the development of a ballistic missile program in the 1960s.⁵¹ North Korea sought outside assistance to boost development. Initially, the Soviet Union and China declined the North’s request for support, until the Soviets eventually agreed to assist.⁵² Ultimately, the North’s cumulative proliferation partners included Egypt, Iran, Libya, and “possibly Syria and Pakistan.”⁵³

Flight testing of ballistic missiles is imperative to obtaining a fully operational inter-continental ballistic missile (ICBM) capable of reaching the United States.⁵⁴ Between 1990–1993, under Kim Jung Il, North Korea conducted several tests of short and medium-range ballistic missiles.⁵⁵ After a brief period of no recorded missile testing, there was an intense period of testing from 2003–2009.⁵⁶ Even during the series of denuclearization negotiations called the Six-Party Talks (2003-2009), North Korea continued with its missile program, conducting six tests in July 2006 alone.⁵⁷ Kim Jung Il died in 2011, and with the regime transitioned under Kim Jung-Un, missile testing increased even more with

⁵⁰ Sanders-Zakre, “Chronology of U.S.-North Korean Nuclear and Missile Diplomacy.”

⁵¹ “Missiles of North Korea,” *Missile Threat*, Center for Strategic and International Studies, June 14, 2018, last modified July 16, 2020, <https://missilethreat.csis.org/country/dprk/>.

⁵² Miller and Narang, “North Korea Defied the Theoretical Odds: What Can We Learn from Its Successful Nuclearization?,” 60.

⁵³ Nuclear Threat Initiative, “North Korea.”

⁵⁴ Michael Elleman, “Why a Formal End to North Korean Missile Testing Makes Sense,” 38 *North*, February 26, 2019, <https://www.38north.org/2019/02/melleman022619/>.

⁵⁵ Elleman.

⁵⁶ Center for Strategic and International Studies, “Missiles of North Korea,” *Missile Defense Project*, July 16, 2020, <https://missilethreat.csis.org/country/dprk/>.

⁵⁷ Miller and Narang, “North Korea Defied the Theoretical Odds: What Can We Learn from Its Successful Nuclearization?,” 65.

the most activity between 2016–2017, consisting of more than forty tests flights in those two years alone. During this time, North Korea began testing the KN-11 submarine launched ballistic missile (SLBM) and in 2017, North Korea tested a new missile called the Pukguksong-2.⁵⁸ From 2010-March 2020, there have been 117 ballistic missile tests conducted by North Korea.⁵⁹ Figure 1 is a graphic representation of North Korea’s missile program’s evolution and overlays the approximate ranges of each missile on the map.

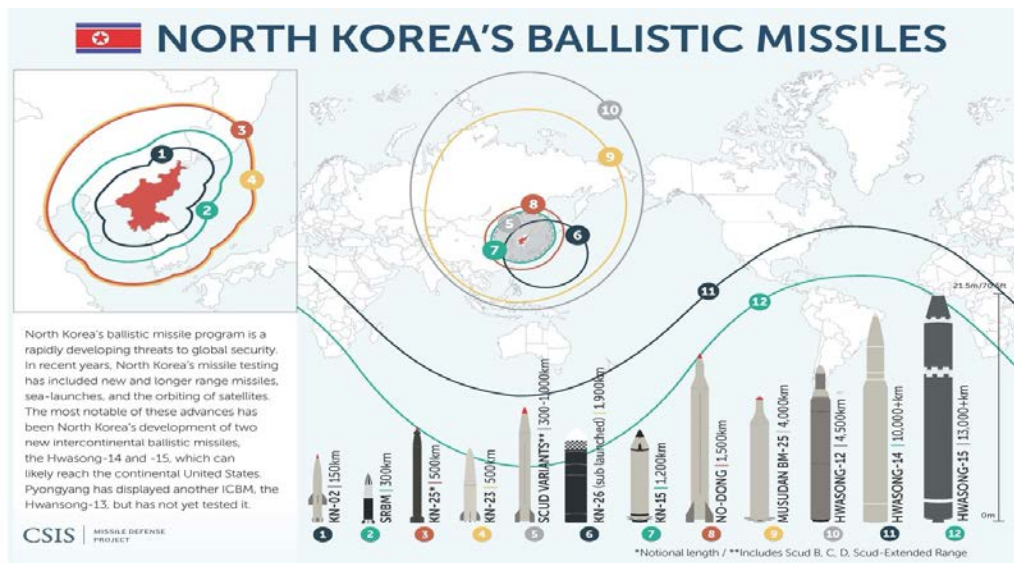


Figure 1. Evolution of North Korea’s Ballistic Missile Program⁶⁰

The North’s nuclear program has greatly evolved since its 1950s origins. With little outside assistance, North Korea has come extraordinarily close to realizing its nuclear goals. Despite many challenges, North Korea has overcome the seemingly impossible and has proven that it may actually possess the capability of reaching United States’ territory. The most alarming feature of North Korea’s nuclear weapons program history has been its undeterred determination. North Korea’s continuous pursuit of nuclear weapons places the

⁵⁸ Sanders-Zakre, “Chronology of U.S.-North Korean Nuclear and Missile Diplomacy.”

⁵⁹ “The CNS North Korea Missile Test Database,” Nuclear Threat Initiative (NTI), March 31, 2020, <https://www.nti.org/analysis/articles/cns-north-korea-missile-test-database/>.

⁶⁰ Source: Missile Defense Project, “Missiles of North Korea,” Missile Threat, accessed November 30, 2020, <https://missilethreat.csis.org/country/dprk/>.

non-proliferation regime in an increasingly challenging position because currently, “no country has ever given up an indigenously developed nuclear arsenal” that is as sizeable or advanced as North Korea’s.⁶¹

C. STATUS OF NORTH KOREA’S NUCLEAR WEAPONS PROGRAM

North Korea’s nuclear program makes it the ninth nuclear state in the world.⁶² There are five NWSs under the NPT: China, France, Russia, the United Kingdom, and the United States. The other four are non-NPT states: India, Israel, Pakistan, and North Korea. North Korea is the only non-NPT nuclear weapons state to have signed the NPT and then withdrawn. (North Korea officially withdrew from the NPT in 2003.) Some states, such as the United States and the United Kingdom, make information about their stockpiles public; others do not.⁶³ In North Korea’s case, it has “acknowledged conducting nuclear weapon and missile tests but provides no information about its nuclear weapon capabilities.”⁶⁴ The exact number of North Korea’s nuclear warheads is unknown; however, it is believed to have approximately 20–30 warheads.⁶⁵ Siegfried S. Hecker of Stanford University, former Director of the Los Alamos National Laboratory, is one of few Americans who has been allowed to visit and observe portions of North Korea’s nuclear program. Following his 2017 visit, Hecker estimated North Korea has enough plutonium and HEU, necessary materials to fuel a nuclear weapon, for “20 to 25 nuclear devices today [2017] and the capacity to produce an additional one every six to seven weeks.”⁶⁶ If extrapolated to today,

⁶¹ Miller and Narang, “North Korea Defied the Theoretical Odds: What Can We Learn from Its Successful Nuclearization?,” 67.

⁶² Stockholm International Peace Research Institute, *SIPRI Yearbook 2019*, 10.

⁶³ “Nuclear Weapon Modernization Continues but the Outlook for Arms Control Is Bleak: New SIPRI Yearbook out Now,” Stockholm International Peace Research Institution, June 15, 2020, <https://www.sipri.org/media/press-release/2020/nuclear-weapon-modernization-continues-outlook-arms-control-bleak-new-sipri-yearbook-out-now>.

⁶⁴ Stockholm International Peace Research Institution, “Nuclear Weapons Modernization Continues but the Outlook for Arms Control is Bleak: New SIPRI Yearbook out Now.”

⁶⁵ Stockholm International Peace Research Institute, *SIPRI Yearbook 2019*, 11.

⁶⁶ Siegfried Hecker, “Analyze and Act Accordingly,” USNEWS.COM, last modified April 20, 2017, <https://www.usnews.com/opinion/debate-club/articles/2017-04-20/donald-trump-must-analyze-north-koreas-nuclear-crisis-and-act-accordingly>.

this would suggest North Korea has enough fissile material for approximately 100 nuclear devices, although most think tanks place their estimates at the aforementioned 20–30.

Similarly, the North’s ballistic missile program is steadily advancing. The significant number of missile tests in the years under Kim Jung-Un demonstrate North Korea’s potential “ICBM capability, putting the U.S. homeland within striking distance.”⁶⁷ Moreover, “North Korea achieved this impressive progress in its nuclear and missile programs despite steadily increasing international sanctions pressure, including six rounds of U.N. sanctions and gradually escalating U.S. sanctions.”⁶⁸

D. NON-PROLIFERATION NEGOTIATION EFFORTS

North Korea’s nuclear weapons program has been a cause for concern by the United States since the mid-1980s, specifically following completion of the Yongbyon graphite reactor. At that time, U.S. Central Intelligence Agency reports expressed increasing concern over North Korea and its potential to pursue nuclear weapons, despite lacking definitive proof.⁶⁹ Since then, every United States’ presidential administration has adopted an engagement or hardline strategy to counter nuclear proliferation in North Korea, beginning with President Reagan, whose strategy led to convincing North Korea to sign the NPT in 1985.⁷⁰ Over the years, there have been several non-proliferation negotiations with North Korea. These have been a mixture of bilateral and multilateral efforts, with some achieving a modicum of success. However, none have achieved the U.S.’s ultimate goal of complete and total denuclearization of North Korea. To date, the most significant negotiations have been as follows: the Agreed Framework, the Six-Party talks, the Leap Day Agreement, and the United States-North Korea Denuclearization Summits.

⁶⁷ Miller and Narang, “North Korea Defied the Theoretical Odds: What Can We Learn from Its Successful Nuclearization?” 66.

⁶⁸ Miller and Narang, 66.

⁶⁹ Robert A. Wampler, ed., “National Security Archive Electronic Briefing Book No. 87,” in *North Korea and Nuclear Weapons: The Declassified U.S. Record* (Washington, DC: The George Washington University, 2003).

⁷⁰ Steve Park, “NS4690: Session 6 (Future of the ROK-US Alliance)” (lecture, Naval Postgraduate School, Monterey, CA, July 23, 2020).

The Agreed Framework was a multilateral nuclear deal led largely by the United States with North Korea. It was negotiated under the Clinton Administration and was in effect from 1994–2002. The major intent of the deal was to dismantle North Korea’s plutonium program by restricting North Korea’s access to nuclear materials in order to prevent the further proliferation of nuclear weapons. Within the Agreed Framework, “the U.S. agreed to arrange for North Korea to receive two light water reactor (LWR) nuclear power plants and heavy fuel oil in exchange for North Korea freezing and eventually dismantling its plutonium program under IAEA supervision.”⁷¹ The parameters of the Agreed Framework deal encouraged North Korea to eventually give up its nuclear weapons program in return for United States energy assistance—the shipping of the heavy fuel oil and construction of the LWRs—lifting of sanctions, and improved relations with the United States. However, the Agreed Framework deal ultimately broke down during the Bush Administration. President Bush changed the direction of policy with North Korea and sought to apply stricter inspection criteria.⁷² Furthermore, the Administration claimed North Korea was cheating on the deal by operating a clandestine HEU program in violation of the “spirit” of the Agreed Framework.⁷³ It resulted in the United States stopping the promised shipments and construction, and North Korea kicking out the IAEA inspectors, withdrawing from the NPT, and eventually starting up its reactor and reprocessing plant again.⁷⁴

Following the collapse of the Agreed Framework, the Six-Party Talks were a multilateral attempt at negotiating for denuclearization. The talks began in 2003 and continued intermittently until 2009. Representatives from the United States, North Korea, China, Japan, Russia, and South Korea (the P5+1) were included in the talks. These negotiations only proved to be marginally successful. For the United States, it entered into

⁷¹ Emma Chanlett-Avery et al., *North Korea: U.S. Relations, Nuclear Diplomacy, and Internal Situation*, CRS Reprt No. R41259 (Washington, DC: Congressional Research Service, 2018), 10, <https://crsreports.congress.gov/product/details?prodcode=R41259>.

⁷² Miller and Narang, “North Korea Defied the Theoretical Odds: What Can We Learn from Its Successful Nuclearization?” 64.

⁷³ Miller and Narang, 64.

⁷⁴ Chanlett-Avery et al., “North Korea: U.S. Relations, Nuclear Diplomacy, and Internal Situation,” 11.

the negotiations with the goal of advancing President Bush's new policy of not accepting anything less from North Korea than complete, verifiable, and irreversible dismantlement.⁷⁵ Jackson claims the CVID objective as part of the Six-Party Talks was "justifiable," even if unlikely because it supported the overall goal of the negotiations—denuclearization.⁷⁶ CVID was the United States' leading demand during these negotiations. Though the probability of attaining CVID was low to begin with, and never realized, there were some significant outcomes to the diplomacy. The crowning achievements of the Six-Party Talks were that it was the first "multilateral institution since 1945 that dealt with security issues and involved all the key powers in Northeast Asia," the first time North Korea publicly admitted that it had a nuclear weapons program, and the September 2005 Joint Statement promised the denuclearization of North Korea which resulted in some actionable objectives such as the dismantlement of some critical components of the nuclear weapons program.⁷⁷ However, the talks were ultimately abandoned in 2009 following North Korea's flagrant violation of the commitments made during the talks to include North Korea's successful nuclear test and its unwillingness to agree to any IAEA dismantlement verification procedures.⁷⁸ Furthermore, even though the North did take some actionable dismantlement steps under the Six-Party Talks such as, the destruction of the Yongbyon nuclear complex cooling tower, Jackson asserts that the action itself had "no meaningful effect on its [North Korea's] ability to produce nuclear weapons, but the symbolism seemed meaningful at the time."⁷⁹

Then, under the Obama Administration, the United States and North Korea signed the Leap Day Agreement on February 29, 2012. This deal was an effort to resume where the Six-Party Talks ended however, this agreement was short lived and failed to achieve much. Both sides were reluctant to call these proceedings a negotiation, but instead referred

⁷⁵ Victor Cha D., *The Impossible State: North Korea, Past and Future*, Updated Edition (New York: Ecco, 2018), 256.

⁷⁶ Jackson, *On the Brink*, 53.

⁷⁷ Cha, *The Impossible State: North Korea, Past and Future*, 259–60.

⁷⁸ Jackson, *On the Brink*, 33–34.

⁷⁹ Jackson, 33–34.

to the discourse as “high-level talks.”⁸⁰ The statements made by both sides were wrought with vague and conflicting language that doomed the agreement from the start.⁸¹ Jackson observes that the United States’ strategy behind the agreement was fundamentally flawed. Upon embarking on the Leap Day Agreement he states, “the Obama administration ha [d] not been clear-eyed about why prior agreements with North Korea had failed.”⁸² Furthermore, he concludes, “the result was the end of the Leap Day Deal, no justifiable theory of the case for a diplomatic approach to attaining CVID, and a newly deep reservoir of bad faith and cynicism among U.S. officials.”⁸³ This analysis suggests that one of the main causal factors to the negotiation’s failure had to do with a fundamental issue of a policy based on CVID that lacked significant diplomatic measures to achieve it.

The Trump administration’s bilateral United States-North Korea summits were the last significant negotiation efforts aimed at denuclearization to date. Two summits were held between President Trump and Kim Jung-Un. The Trump Administration’s engagement strategy culminated in what was labeled as “maximum pressure” and, most importantly, the objective of the negotiations continued to pursue CVID. The outcome of the first summit in 2018 in Singapore, resulted in a joint declaration between the leaders that promised to: further United States-North Korea relations, pursue peace on the peninsula, return the remains of U.S. Prisoners of War/Missing in Action, and to work toward the denuclearization of the North. However, it provided no details on what actions will be to be taken to achieve these objectives or measures of success. Furthermore, with little in return, the U.S. conceded to temporarily cancel future combined U.S.-South Korean military exercises.⁸⁴ Looking to build off the Singapore summit, the second summit was held in Vietnam in 2019. An agreement between the two leaders was highly anticipated, but the summit unexpectedly concluded early, without an agreement. President Trump later

⁸⁰ Jackson, 66.

⁸¹ Jackson, 66.

⁸² Jackson, 67.

⁸³ Jackson, 67.

⁸⁴ “Full Text of Trump-Kim Signed Statement,” CNNPolitics, June 12, 2018, <https://www.cnn.com/2018/06/12/politics/read-full-text-of-trump-kim-signed-statement/index.html>.

commented on the summit, saying, “they wanted the sanctions lifted in their entirety, and we couldn’t do that. They were willing to denuke a large portion of the areas that we wanted, but we couldn’t give up all the sanctions for that.”⁸⁵ Approximately two months later, Kim Jung-Un met with Russia’s President Vladimir Putin and then, on May 4, 2019, North Korea conducted a rocket test and launched a short-range ballistic missile, the first provocations in over a year.

It is unclear what exactly caused North Korea to participate in the denuclearization summits. It may have been because of the maximum pressure campaign or because Kim Jung-Un viewed this as an opportunity to pursue his own agenda. Either way, there was détente in that timeframe during which zero provocations occurred and it undeniably highlights the noticeable change in North Korea’s behavior. However, as witnessed with the preceding denuclearization efforts dating back to the 1980s, the extended period of détente and North Korea’s concessions did not last again. The leading requirement by the United States in these four significant denuclearization efforts emphasized both a freeze-for-freeze strategy or the principal objective of CVID. Is continuing to push CVID as the United States’ leading terms in denuclearization negotiations the best strategy or are there alternate strategies that could achieve long term, successful results?

E. CONCLUSION

Any policy toward North Korea, whether it is CVID or something else, requires a solid and consensus understanding of the capabilities and the purposes of the nuclear weapons program. The secretive nature of North Korea’s program is problematic, as one cannot know with absolute certainty what the regime’s intentions for the program are, but for policymaking and scholarly forecasting and study, it is imperative to consider the aspects that were examined within this chapter: perception of threats by North Korea, its nuclear weapons program history and status, and, finally, a review of non-proliferation negotiation efforts.

⁸⁵ “Remarks by President Trump in Press Conference | Hanoi, Vietnam,” White House, February 28, 2019, <https://www.whitehouse.gov/briefings-statements/remarks-president-trump-press-conference-hanoi-vietnam/>.

What does North Korea view as its threats? The answer to this question could reveal the possible motivations for its nuclear weapons program. The drivers for nuclear proliferation are examined in greater detail in Chapter III, but for the purposes of assessing the North's nuclear weapons program, the key link between North Korea and its nuclear weapons program is the need for regime survival. North Korea's proximity to South Korea, who is allied with the United States—a conventional and nuclear superpower—gives North Korea reason to fear for the regime's security. A nuclear North Korea potentially ensures the survival of the Kim Dynasty. Furthermore, nuclear policy toward North Korea must consider its nuclear history and the current status of its weapons program. North Korea may not be an officially recognized NWS or an NPT participant, but it is a de facto nuclear weapons state. The Kim regime has been developing its nuclear weapons program for nearly 70 years and scholars believe that it possesses at least a small arsenal of nuclear warheads. Moreover, the missile tests in 2017 have demonstrated that it may have or may be rapidly nearing the ability to reach United States territory.⁸⁶

Lastly, an accurate evaluation of current policy and possible recommendations for future policy need to be formulated with the knowledge of previous non-proliferation negotiation efforts and its results. This review identified that there have been four significant negotiation efforts made to either restrain the North's nuclear proliferation or to completely denuclearize it. Many of these efforts have been marginally successful in certain areas however, the fact the United States is still dealing with a nuclear North Korea that is advancing its capabilities indicates that the results have not been long-lasting. The approaches to negotiations and the desired outcomes have been varied, but this review has shown that when it comes to dealing with North Korea's nuclear weapons program, there is no one-size fits all solution to this problem.

Chapter III will examine nuclear proliferation as a concept, looking at the drivers and inhibitors for proliferation and non-proliferation. Additionally, the chapter will include a comparative study in order to ascertain possible similarities and differences between the

⁸⁶ Miller and Narang, "North Korea Defied the Theoretical Odds: What Can We Learn from Its Successful Nuclearization?" 65–66.

cases in the study and North Korea. The study will include a comparison between select cases of states with nuclear weapons and states who have had them and then elected to give them up. This comparative study's findings could help to identify whether a policy the demands CVID upfront from North Korea is the best option.

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III. NUCLEAR WEAPONS PROLIFERATION

North Korea's pursuit of nuclear weapons almost seems counterintuitive. Nuclear weapons are so destructive that NWSs go to great lengths to prevent their usage and limit proliferation. North Korea pursues nuclear weapons, but should it ever use one offensively against the United States or an ally of the United States, it would certainly result in a retaliatory strike that would decimate North Korea and the Kim regime. Why, then, does North Korea or, for that matter, any state pursue nuclear weapons programs at the risk of total devastation? It is reasonable to think that most states do not want to be on the receiving end of a nuclear weapon, therefore, one must consider the other factors driving states to proliferate and conversely, what inhibits proliferation.

This thesis focused on five primary factors driving states to acquire nuclear weapons: security, prestige, domestic politics, technology, and economics.⁸⁷ Cirincione contends that most states will consider one or more of these factors when making decisions about nuclear weapons. Among these five factors, economics is rarely the sole motivator but is more often combined with one of the other four factors.⁸⁸ If a state is looking to prosper and profit in any or all of these five areas; then it seems rather surprising that more states do not pursue nuclear weapons programs. To account for what inhibits proliferation, Cirincione also claims states use the same five drivers as reasons for non-proliferation.⁸⁹ In other words,

states decide to not build nuclear weapons—or, in some cases, to give up weapons they have acquired or programs that they have started—because they decide that the security benefits are greater without nuclear weapons, or that prestige is enhanced by non-nuclear-weapon status, or because domestic politics convinces leaders not to pursue these programs, or

⁸⁷ Joseph Cirincione, *Bomb Scare: The History & Future of Nuclear Weapons* (New York and Chichester, West Sussex: Columbia University Press, 2007), 47. Although other authors parse motivations slightly differently, it is my assessment that this framing is the most useful as it broadly encapsulates the main sources of states' behavior.

⁸⁸ Cirincione, 48.

⁸⁹ Cirincione, 48.

because the technological and economic barriers are too significant to overcome.⁹⁰

In sum, these drivers are also inhibitors. The drivers work to pull countries toward nuclear weapons, while the inhibitors push countries away from them.

This chapter proceeds in two main sections. In the first section, outside of Cirincione's theory, I analyze what drives states to acquire nuclear weapons and reversely, what factors inhibit states. I argue that states tend to weigh its unique domestic determinants, international factors, and material constraints when considering whether to proliferate, and that those considerations closely align to Cirincione's five drivers and inhibitors. In the second section, I present a comparative study of successful and failed denuclearization cases. The case study reveals four major findings. First, domestic determinants are the most common driver of proliferation decisions. Second, international factors are relevant to proliferation decisions, but are not as prevalent. Third, material constraints influence proliferation decisions to a lesser degree than the other two categories. Fourth, there are multiple pathways to denuclearization. The identification of similarities and differences between the proliferation drivers and inhibitors of eight countries in this chapter (and in Chapter IV) will be subsequently applied to North Korea. Future denuclearization policy must incorporate North Korea's nuclear proliferation drivers and inhibitors as will be discussed in the ensuing chapter.

A. DRIVERS AND INHIBITORS OF NUCLEAR PROLIFERATION

Understanding what drives countries to seek nuclear weapons and what restrains them is complicated, but scholars claim there are common drivers and inhibitors among nuclear and non-nuclear states. Cirincione's theory supports that claim and argues there are five drivers of nuclear proliferation: security, prestige, domestic politics, technology and economics.⁹¹ He further argues that these same five drivers are also inhibitors of nuclear weapons proliferation.

⁹⁰ Cirincione, 48.

⁹¹ Cirincione, *Bomb Scare: The History & Future of Nuclear Weapons*, 45.

Cirincione's theory can be further consolidated into three broad categories: domestic determinants, international factors, and material constraints. This theory does not refute Cirincione's, but builds upon it, by offering a more concise way of illustrating what influences decision-makers' choices regarding nuclear weapons proliferation. For example, a heavy influence in either direction in any one of the categories—domestic and international factors or material constraint—may prove to be the critical tipping point of proliferation or non-proliferation decisions.

1. Domestic Determinants

The domestic factors within a given state will be a determinant for driving or inhibiting nuclear weapons proliferation. They can be either broad or narrow in scope. The first consideration is for broad political and economic issues. Several academics such as Sagan, Solingen and Saunders claim proliferation are a result of significant broad political and economic issues. Proliferation decisions are often a result of the state's domestic actors, for example political and military leaders, and their motivations for influencing a given country to attain nuclear weapons or to prevent it.⁹² Additionally, a state's desire for globalization influences proliferation decisions. States that want integration into the global economy are less likely to proliferate. Meanwhile, states that "reject internationalization ... have greater incentives to exploit nuclear weapons."⁹³ Finally, states consider proliferation decisions based on "the degree of threat uncertainty," and how that affects domestic politics and nuclear policy.⁹⁴

On the other hand, determinants may include narrow domestic, political, and economic issues. Jacques E.C. Hymans asserts a state's domestic "veto players" position on nuclear policy will influence proliferation decisions. Veto players are individual or grouped decision-makers who can alter a state's nuclear policy. Players may be domestic

⁹² Sagan, "Why Do States Build Nuclear Weapons?," 63.

⁹³ Etel Solingen, *Nuclear Logics: Contrasting Paths in East Asia and the Middle East* (Princeton: Princeton University Press, 2007), 5, <http://ebookcentral.proquest.com/lib/ebook-nps/detail.action?docID=445551>.

⁹⁴ Elizabeth N. Saunders, "The Domestic Politics of Nuclear Choices—A Review Essay," *International Security* 44, no. 2 (October 2019): 150, https://doi.org/10.1162/isec_a_00361.

actors, such as politicians, or may consist of government institutions, bureaucracies and private industry. Hymans contends that it takes the agreement of a state's veto players to make significant change in nuclear policy.⁹⁵ Furthermore, there seems to be a direct correlation between the number of veto players and proliferation. He argues that "the more institutionalized veto players [are] in a given country, the less likely that any subtle political shifts will lead suddenly to the state's acquisition of nuclear weapons."⁹⁶ In sum, the larger the number of veto players, the less likely a state will be to proliferate because agreement among the players is difficult to achieve.⁹⁷

2. International Factors

Similarly, international factors affecting a state can influence decisions about nuclear weapons. International factors may include concerns over the state's threat perceptions. Sagan's "security model" exemplifies how threat perceptions lead to decisions to proliferate nuclear weapons. The security model implies that states will proliferate to "increase [their] national security against foreign threats."⁹⁸ In other words, if a state perceives an outside threat, in order to ensure its security, the state may decide in favor of proliferation.

Moreover, states may also elect to proliferate nuclear weapons when it harbors alliance concerns. Alexander Lanoszka argues when one state fears abandonment from an ally, that state will be more likely to attempt proliferation. Additionally, he claims that a security agreement between alliances, while helpful, is not enough to prevent an ally from pursuing nuclear weapons, but rather "alliances are more effective in deterring **potential** [emphasis added] nuclear proliferation than in curbing actual cases of nuclear

⁹⁵ Jacques E.C. Hymans, "Veto Players, Nuclear Energy, and Nonproliferation: Domestic Institutional Barriers to a Japanese Bomb," *International Security* 36, no. 2 (October 2011): 155, https://doi.org/10.1162/ISEC_a_00059.

⁹⁶ Hymans, 156.

⁹⁷ Hymans, 155.

⁹⁸ Sagan, "Why Do States Build Nuclear Weapons?," 55.

proliferation.”⁹⁹ Therefore, he concludes that alliances need to reassure partners of their security commitments through other means, such as, conventional military commitments or through economic and technological provisions.¹⁰⁰

3. Material Constraints

A state’s material constraints, such as access to technology and organic technical capability, may also influence nuclear decisions. States tend to support nuclear proliferation when it has a robust technological capacity.¹⁰¹ On the other hand, nuclear capabilities can be negatively affected when the state lacks the ability to foster its own technological prowess and through restrictions levied by international institutions. In light of this reality, the non-proliferation regime has intentionally made technological advancement of nuclear weapons programs difficult, especially for illicit programs. The regime’s efforts have increased security and scrutiny of suspected nuclearizing countries. Therefore, it has kept the total number of nuclear weapons states at status quo over the years, showing the correlation between technology and proliferation; technological restraint on a state lowers proliferation. However, this is not the only way to induce material constraints, the level of innate technological capability is significant to proliferation decisions. Einhorn asserts that “even if states gain access to the necessary nuclear equipment, materials, and technology, those countries with a limited technological and industrial base will find the path to nuclear weapons long, challenging, and uncertain.”¹⁰² Material constraints from within may force countries to look internationally for assistance, but while the initiative to acquire nuclear weapons may be present, attaining outside help does not necessarily always lead to a capable nuclear weapons program.

⁹⁹ Alexander Lanoszka, *Atomic Assurance: The Alliance Politics of Nuclear Proliferation* (Ithaca: Cornell University Press, 2018), 9, <http://ebookcentral.proquest.com/lib/ebook-nps/detail.action?docID=5965031>.

¹⁰⁰ Lanoszka, 6–9.

¹⁰¹ Robert J. Einhorn, “Identifying Nuclear Aspirants and Their Pathways to the Bomb,” *The Nonproliferation Review* 13, no. 3 (November 2006): 489, <https://doi.org/10.1080/10736700601071546>.

¹⁰² Einhorn, 493.

4. Conclusion

There is no mathematical formula to predict which drivers or inhibitors or combination thereof will lead a state to nuclear proliferation or to non-proliferation. Sagan appropriately concludes that decisions to proliferate are generally complex and multicausal.¹⁰³ As difficult as it may be to forecast or interpret a country's proliferation choices, certain domestic determinants, international factors, and material constraints tend to heavily influence proliferation decisions. The following case study compares eight countries; three with active nuclear programs and five with inactive weapons programs. This section details several variables within each of the three broad proliferation categories. In the case study comparison, I ascertain whether any variables of the proliferation categories are present and to what degree. Ultimately, the comparison of each of these countries supports the consensus of many scholars who believe that countries choose to proliferate nuclear weapons based on a variety of drivers and individual circumstances. Furthermore, the study's findings indicate that the drivers and inhibitors of nuclear weapons programs are based predominantly on whether a state believes nuclear weapons support its primary interests.

B. CASE STUDY

Building on these approaches, in this study, I compare eight different states—China, South Africa, India, South Korea, Libya, Iran, Egypt, and Taiwan—to identify which drivers or inhibitors influence proliferation decisions. The results of this comparative study are consistent with the findings of scholars, such as Scott Sagan, in that states make nuclear weapons proliferation choices based on a complex integration of many factors. The study's three major findings are discussed in Part B, Section 3 “Case Study Observations and Findings.” The outcome indicates that North Korea's proliferation decisions likely take into account one or more proliferation drivers. As a result, the current U.S. foreign policy enforcing CVID may not be a viable option to achieve denuclearization if North Korea's particular nuclear proliferation drivers and inhibitors are not addressed.

¹⁰³ Sagan, “Why Do States Build Nuclear Weapons?,” 85.

1. Case Study Design

Other scholars have completed similar comparative studies regarding proliferation but sought to prove different research questions and utilized different cases in the studies. For example, Bleek's 2017 study uses all known proliferation cases over time. His objective is to document their proliferation histories and codify each country's proliferation behaviors.¹⁰⁴ Solingen's 2007 book compares a number of selected East Asian and Middle Eastern countries to analyze what influences proliferation decisions. She focuses on the influence internal security and global economic factors have on proliferation. The design for this theses' comparative case study considers the project's scope, size, and inclusion of a variety of key characteristics. Of the 31 countries who have taken initial steps to develop nuclear weapons programs, I selected eight.¹⁰⁵ Limiting the comparison to eight countries contains the scope and size of the study appropriate for this thesis, but through careful case selection, does not sacrifice the inclusion of variety in the study.

The cases are a broad sampling of locations with circumstantial situations and cultural influences both similar and different from North Korea's. Table 1 illustrates seven characteristics and how they vary among the cases. This study includes countries selected from three main regions of the world: Asia, the Middle East, and Africa. With the sample cases originating from all over these three regions, their geo-political situations vary. A country's security situation changes based on location and its proximity to other regional actors who may or may not be a substantial threat. The Gross Domestic Product (GDP) per capita (using purchasing power parity exchange rates, or PPP) is indicative of how much money an individual in a given country is making off of the country's economic output and also of the country's standard of living quality. Furthermore, there may be a correlation between high PPP and government type. In this study, the only countries with PPP above \$30,000 are Taiwan and South Korea. A country's wealth and its decision to maintain a

¹⁰⁴ Philipp C Bleek, *When Did (and Didn't) States Proliferate? Chronicling the Spread of Nuclear Weapons*, *Managing the Atom Project* (Monterey, CA: Belfer Center for Science and International Affairs, Harvard Kennedy School and the James Martin Center for Nonproliferation Studies, Middlebury Institute of International Studies, 2017), 56, <https://www.belfercenter.org/publication/when-did-and-didnt-states-proliferate>.

¹⁰⁵ Bleek, *When Did (and Didn't) States Proliferate? Chronicling the Spread of Nuclear Weapons*, 1.

nuclear weapons program does not always make logical financial sense because nuclear weapons programs are expensive. In other words, one would expect poorer countries to abstain from expensive nuclear weapons programs. If the GDP per capita is low, then the country's overall economic output per its entire population is low as well. However, in this study, most of the sample countries with low PPP, and even some with higher PPP, do not have active nuclear weapons programs indicating that there is not always a correlation between wealth, government type, and nuclear weapons program decisions. Meanwhile, ethnicity and religion are characteristics included to depict just how diverse the sample cases truly are. Despite the cases' diversity in ethnicity and religion, some states still elected to denuclearize, indicating that level of diversity may only be a marginal factor in proliferation decisions. As previously mentioned, the sample cases also have great variety in government type. This characteristic was highlighted to show that there is not a direct relationship between government type and nuclear weapons decisions. Although it is possible that government type may have an indirect influence on a country's perception of its national security which may affect decisions driving toward or inhibiting nuclear weapons proliferation. Finally, the most important aspect of this study is that the selected cases are a mix of states with active nuclear weapons programs and states that gave up the quest for nuclear weapons or fully capable nuclear weapons programs.

Table 1. Comparative Case Characteristics¹⁰⁶

	Region	GDP per capita (PPP)	Ethnicity	Government Type	Religion	Active Nuclear Weapons Program
North Korea	Eastern Asia	\$1,700 (2015 est.)	Racially homogeneous; small amount of Chinese and ethnic Japanese	Dictatorship; single-party state	Traditionally Buddhist and Confucianist; some Christian and syncretic Chondogyo	Yes
Taiwan	Eastern Asia	\$50,500 (2017 est.)	95%+ Han Chinese	Semi-presidential	35.5% Buddhist, 33.2% Taoist (2005 est.)	No
Egypt	Northern Africa	\$12,700 (2017 est.)	99.7% Egyptian	Presidential republic	90% Muslim	No
Iran	Middle East	\$20,100 (2017 est.)	Persian, Azeri, Kurd, Lur, Baloch, Arab, Turkmen and Turkic tribes	Theocratic republic	99.4% Muslim	No Note: has technical capability for weapons
Libya	Northern Africa	\$9,600 (2017 est.)	97% Berber and Arab	In transition	96.6% Muslim	No
South Korea	Eastern Asia	\$39,500 (2017 est.)	Homogeneous	Presidential republic	19.7% Protestant, 15.5% Buddhist (2015 est.) Note: some Confucian traditions and practices remain	No
India	South-Central Asia	\$7,200 (2017 est.)	72% Indo-Aryan	Federal parliamentary republic	79.8% Hindi	Yes
South Africa	Southern Africa	\$13,600 (2017 est.)	80.9% black African	Parliamentary republic	86% Christian	No
China	Eastern Asia	\$18,200 (2018)	91.6% Han Chinese	Communist Party-led	52.2% unaffiliated, 18.2% Buddhist (2010 est.)	Yes

2. Case Study Analysis

This section provides the analysis for each case. Each country’s nuclear history was examined for evidence of the three proliferation drivers and inhibitors.

I. China. Research into the China case revealed nuclear proliferation decision-making may have been strongly influenced through varying degrees of domestic determinants and international factors. Domestically, both the desire of political leaders and the people’s popular opinion to be a viable contender in a nuclear world, greatly influenced the direction of China’s nuclear program.¹⁰⁷ Additionally, international factors such as China’s perceived security situation, acted as a proliferation driver. China’s view of predominant security threats included the United States, the Soviet Union, and other regional nuclear developments taking place (such as India).¹⁰⁸ Interestingly, China does not have any naturally occurring material constraints. However, China has allegedly manifested certain material constraints in financial and technological areas over the years, in order to manage the program and align it according to its strategic preferences. For

¹⁰⁶ Adapted from “The World Factbook,” Central Intelligence Agency, November 24, 2020, <https://www.cia.gov/library/publications/resources/the-world-factbook/>.

¹⁰⁷ Bleek, *When Did (and Didn’t) States Proliferate?*, 12–13.

¹⁰⁸ Lyle J. Goldstein, “When China Was a ‘Rogue State’: The Impact of China’s Nuclear Weapons Program on US–China Relations during the 1960s,” *Journal of Contemporary China* 12, no. 37 (November 1, 2003): 740, <https://doi.org/10.1080/1067056032000117731>.

instance, from a fiscal perspective, China has consistently prioritized other areas of expenditure over national defense and, subsequently, over nuclear modernization.¹⁰⁹ A 2017 RAND study on China's nuclear deterrence estimated that national defense accounted for only 1.32 percent of China's GDP, quite low considering China's economic surge particularly between 1980–1989.¹¹⁰ Furthermore, China reduced its fissile material reprocessing capabilities through the closure of an already small number of national reprocessing facilities.¹¹¹ Yet, China's ability to maintain a viable nuclear weapons program is undeterred by the conscience reduction of fissile material. Rather, these manufactured material constraints present more of a challenge to the total amount of nuclear weapons China's arsenal can support than to the continuation of the nuclear weapons program itself.

Finally, the China case is valuable to this study because of the similarities it has with North Korea. Specifically, China is an East Asia country, it generally maintains an adversarial relationship with the U.S., and has an active nuclear weapons program as does North Korea. However, unlike North Korea, China's program is officially recognized as one of five NWSs. These similarities, in terms of geopolitical and weapons statuses, offer an insight into China's and North Korea's potential nuclear proliferation drivers.

II. South Africa. The strongest evidence available suggests that domestic determinants and international factors may have significantly influenced South Africa's initial decision to proliferate and later, to reverse that decision. Initial domestic issues include both a desire to explore nuclear power, at first for mining purposes, followed by influential political leaders who expanded South Africa's nuclear capabilities toward weaponization.¹¹² Additionally, international factors favored South Africa's nuclear proliferation because in the 1970s it started to perceive its security situation deteriorating.

¹⁰⁹ Eric Heginbotham et al., *China's Evolving Nuclear Deterrent: Major Drivers and Issues for the United States*, RR-1628-AF (Santa Monica, CA: RAND Corporation, 2017), 123, https://www.rand.org/pubs/research_reports/RR1628.html.

¹¹⁰ Heginbotham et al., 124.

¹¹¹ Heginbotham et al., 125.

¹¹² Bleek, *When Did (and Didn't) States Proliferate?*, 14.

On the other hand, South Africa is a case where domestic determinants and international factors are working as both proliferation drivers and inhibitors. Both of these factors may be at least partially responsible for South Africa's decision to dismantle the nuclear weapons program in 1990. This time, the domestic variables influencing non-proliferation were again South Africa's influential political leaders who were now responding to a new domestic variable: the transformation from an apartheid government to a new system of government. Upon the new government's re-evaluation of the international factors, the new president, Nelson Mandela, assessed South Africa's security to no longer be improved through the ongoing possession of a nuclear weapons program.¹¹³ Lastly, the evidence does not suggest material constraints acted as either significant drivers or inhibitors of nuclear weapons.

South Africa is an interesting case because it differs from North Korea geographically, politically, culturally, and in current proliferation status. South Africa demonstrated two out of three proliferation drivers and inhibitors. This is notable because despite South Africa's and North Korea's many differences, at one point, their proliferation status was the same. Bleek's study claims South Africa acquired nuclear weapons in 1979, then completely denuclearized its nuclear program in 1991, and it remains inactive to this day.¹¹⁴ If policymakers can identify similar proliferation drivers between South Africa and North Korea, they could also look at South Africa's proliferation inhibitors to isolate any similarities with North Korea in order to exploit the same inhibitors that lead to South Africa's denuclearization. Although, the core factor seems to be a radical change in domestic government structure, and ideology, which unfortunately sets a high bar for resolving the North Korea problem with the same strategy used with South Africa.

III. India. Research into India's nuclear history finds evidence of all three proliferation drivers influencing nuclear decision-makers. First, India's domestic determinants are likely to have been, and continue to be, quite influential in proliferation decisions. Perkovich, Abraham, and Bleek claim domestic civilian actors, such as high-

¹¹³ Cirincione, *Bomb Scare: The History & Future of Nuclear Weapons*, 62.

¹¹⁴ Bleek, *When Did (and Didn't) States Proliferate?*, 8.

ranking politicians, strongly influenced the development of India's nuclear weapons program.¹¹⁵ Comparably, Cirincione indicates India's high-level bureaucrats as additional influential actors.¹¹⁶ India's civil-military relationship over nuclear weapons is a key component to proliferation. Moreover, India's civil-military relationship is intriguing and appears to have some similarities with the democratic system in the United States. Sagan expands on how the civil-military relationship affects the nuclear weapons program. He describes it as "an extreme system" where there has been "very little direct military influence on any aspect of nuclear weapons policy," with the overwhelming majority of nuclear decisions under civilian control.¹¹⁷ Second, India's international factors included evidence of a strong perception of regional security threats from adversaries such as Pakistan¹¹⁸ and China.¹¹⁹ To complicate matters, India perceived the U.S. as favoring both of those countries over India.¹²⁰ As a result, domestic nuclear advocates theorized that a capable nuclear weapons program would provide India increased regional security by deterring "sub-conventional and conventional aggression" from Pakistan and China.¹²¹ Finally, India faced material constraint challenges in its nuclear weapons program development. To compensate, it acquired international assistance to realize certain technological and infrastructural achievements.¹²² Furthermore, full acquirement status of the nuclear weapons program was delayed by several years for a deficiency in suitable delivery system capabilities.¹²³

¹¹⁵ Bleek, 91.

¹¹⁶ Cirincione, *Bomb Scare: The History & Future of Nuclear Weapons*, 66.

¹¹⁷ Scott D. Sagan and Kenneth N. Waltz, *The Spread of Nuclear Weapons: An Enduring Debate*, Third (New York and London: W.W. Norton & Company, 2013), 138.

¹¹⁸ Bleek, *When Did (and Didn't) States Proliferate?*, 19.

¹¹⁹ Sagan and Waltz, *The Spread of Nuclear Weapons: An Enduring Debate*, 161.

¹²⁰ Sagan and Waltz, 161.

¹²¹ Christopher Clary and Vipin Narang, "India's Counterforce Temptations: Strategic Dilemmas, Doctrine, and Capabilities," *International Security* 43, no. 3 (February 1, 2019): 11, https://doi.org/10.1162/isec_a_00340.

¹²² Jayshree Bajoria and Esther Pan, "The U.S.-India Nuclear Deal," Council on Foreign Relations, last modified November 5, 2010, <https://www.cfr.org/backgrounder/us-india-nuclear-deal>.

¹²³ Bleek, *When Did (and Didn't) States Proliferate?*, 19.

India is a compelling study because it is another case with an active nuclear weapons program, although this case is not officially recognized as an NWS, and even though it an Asian country, it has few similarities with North Korea. Geographically, India is located in south-central Asia, and this distance accounts to a large degree for India and North Korea's different adversaries. Politically, India and North Korea are different as well. India has a democratic-type government as opposed to North Korea's authoritarian government which leads to the different philosophies in nuclear command and control. India's nuclear programs are civilian run, with little military influence, whereas North Korea, is on the other end of the scale with Kim Jung-Un presumably exerting full command and control. In the case of India and the United States, the civilian-military relationship exists as it does because it is a security measure for proper checks and balances on the nuclear weapons program. Whereas in North Korea, all authority and decision-making for nuclear weapons falls to one individual. Societally, India and North Korea are also very polarized. While North Korea is a distinctly homogenous people, India is a melting pot of ethnicities, languages, and religions. However, despite these differing characteristics, India and North Korea are both states with active nuclear weapons programs. For all their differences, their similarities likely reside in their proliferation drivers. U.S. policymakers should pay particular attention to these similar proliferation drivers and consider what policy mechanisms have been put in place to limit India's nuclear proliferation, and what, if any of the same mechanisms, can be applied to North Korea.

IV. South Korea. The evidence shows South Korea's proliferation and eventual non-proliferation decisions were influenced predominantly by domestic determinants and international factors. Government leaders led South Korea's exploration and pursuit of nuclear weapons based on international factors.¹²⁴ In the late 1960s, South Korea perceived an increasing security threat as the U.S. withdrew some of the military forces previously stationed on the peninsula in the context of a deteriorating Vietnam War.¹²⁵ Domestic actors in South Korea feared U.S. abandonment and vectored toward establishing

¹²⁴ Bleek, 22.

¹²⁵ Bleek, 22.

a nuclear weapons program.¹²⁶ While domestic determinants and international factors led to proliferation, South Korea was unhampered by material constraints in its pursuit of nuclear weapons. In the end, South Korea's proliferation reversal stemmed largely from international pressure from the U.S. to cease its pursuit of nuclear weapons. South Korea finally ended its nuclear program in 1981.¹²⁷

South Korea is an essential case selection because it is North Korea's twin as cohabitor of the Korean peninsula. Together they share an indigenous heritage and language, but since partition, have developed opposing governments as well as differing cultures and societies. While South Korea never completely acquired nuclear weapons, it did rigorously pursue a weapons program.¹²⁸ However, like South Africa, South Korea eventually reversed its proliferation decision. Though for South Korea, the decision to reverse and dismantle its nuclear weapons program was more influenced by international factors. U.S. policymakers must consider the strong sense of abandonment South Korea's government felt in the late 1960s and avoid policy decisions involving North Korea's nuclear program that would recreate this fear of abandonment by our South Korean ally again.

V. Libya. Research into Libya's nuclear proliferation history shows evidence for all three proliferation drivers and inhibitors. Domestically, Libya's political leaders' desire for nuclear weapons acted as a strong catalyst to proliferation. Etel Solingen shrewdly identifies the distinctions in proliferation motivations between Libya's domestic actors. While Libya's political leaders may have alluded to nuclear weapons providing security for Libya and balancing power in the region, it is more likely that nuclear weapons served as Qadhafi's "regime security rather than state security."¹²⁹ Therefore, a large part of the

¹²⁶ Bleek, 22.

¹²⁷ Bleek, 24.

¹²⁸ Bleek, 123.

¹²⁹ Etel, Solingen, *Nuclear Logics: Contrasting Paths in East Asia and the Middle East*. Course Book (Princeton, NJ: Princeton University Press, 2009), Chapter X Libya, Section "What Libyan Security Dilemma," Paragraph 4, <https://doi.org/10.1515/9781400828029>.

reason why nuclear weapons were acquired in Libya was to satisfy the personal ambitions of domestic actors.

The degree to which international factors played a role in proliferation decisions is more mixed. In this case, international factors are more likely to have been a proliferation inhibitor versus a driver, eventually leading to Libya's denuclearization. Pressure on Libya by the U.S. to denuclearize was incentivized with sanctions relief coupled with the promise of improved "relations with the U.S. and internationally."¹³⁰

Prior to Libya's decision to reverse course, it was burdened with significant material constraints. In an effort to overcome material constraints and move its weapons program along, Libya sought to purchase nuclear weapons from several countries, tried to get fissile material through military engagement with a foreign country,¹³¹ and became entangled in the A.Q. Khan nuclear proliferation network.¹³² Libya is one of the most affected by material constraints in this study. However, the most significant inhibitor was actually from domestic and international factors, and not material constraints. By the late 1990s and following the U.S.'s invasion of Iraq and Afghanistan, Libya began to view nuclear proliferation differently.¹³³ For Qaddafi, after seeing what the U.S. was doing in the Middle East, he started to perceive nuclear weapons as an impediment to regime security. One scholar succinctly described Qaddafi's analysis as an exercise in weighing "the increasing costs and risks of nuclear proliferation (both in direct political terms)" and finally reaching "the conclusion that Libya can gain little by becoming a nuclear weapons state."¹³⁴

Libya is a case whose government at one point most resembled North Korea's. Though different, the Qaddafi-run authoritarian government was in many ways similar to North Korea's. The international gains that denuclearization promised was enough of an

¹³⁰ Cirincione, *Bomb Scare: The History & Future of Nuclear Weapons*, 62, 78.

¹³¹ Bleek, "When Did (and Didn't) States Proliferate?," 24–25.

¹³² Solingen, *Nuclear Logics*, 2007, Chapter X Libya, Paragraph 2.

¹³³ Målfrid Braut-Hegghammer, "Libya's Nuclear Turnaround: Perspectives from Tripoli," *Middle East Journal* 62, no. 1 (2008): 71, <http://www.jstor.org/stable/25482472>.

¹³⁴ Braut-Hegghammer, 71–72.

inhibitor to convince Qaddafi to abandon the nuclear weapons program. Cirincione notes one benefit to Libya denuclearizing was an increase in international prestige, citing President George W. Bush and Prime Minister Tony Blair's public recognition of Qaddafi's decision to denuclearize "as 'a model' that other leaders should emulate."¹³⁵ However, the comparisons between Qaddafi and model leadership stop at the decision to denuclearize Libya. Much as the Kim regime is, Qaddafi has been accused of "systematic violations of human rights, including aggressions carried out against civilians both in Libya and abroad."¹³⁶ In 2011, Qaddafi was executed by rebel forces during the NATO-backed Arab Spring intervention.¹³⁷ There is ongoing debate about whether Qaddafi's surrendering of Libya's nuclear weapons program was a necessary step in ending his regime, if Kim Jung-Un has made this correlation, and if he would view a similar Libya-style deal as the beginning of the end of his regime.¹³⁸ However, if Kim Jung-Un desires global recognition and prestige, than U.S. policymakers may be able to use some of the same diplomatic strategies with North Korea that were used with Libya to achieve denuclearization results.

VI. Iran. Research into Iran's nuclear history finds evidence of all three proliferation drivers influencing nuclear decision-makers in a similar manner to India. First, Iran showed evidence of domestic determinants from political leaders, although support for or against nuclear weapons programs varied throughout the 1970s and 1980s. As a result, the program repeatedly started and stopped during that time.¹³⁹ Additionally, Iran's intent for a nuclear weapons program fluctuated. On the one hand, sometimes Iran professed a peaceful intent for a nuclear program, indicating proliferation restraint. On the

¹³⁵ Cirincione, *Bomb Scare: The History & Future of Nuclear Weapons*, 62.

¹³⁶ Santiago Espinosa García and María Patricia Domínguez Echeverría, "Muammar Gaddafi's Legacy: A Domestic & Intellectual Approach," *The Journal of Pan African Studies (Online)*; Los Angeles 11, no. 3 (February 2018): 21, <http://search.proquest.com/docview/2010312243/abstract/553B0AC687FF4DF2PQ/1>.

¹³⁷ Martin Asser, "The Muammar Gaddafi Story," *BBC News*, October 21, 2011, sec. World-Africa, sec. Rebellion, <https://www.bbc.com/news/world-africa-12688033>.

¹³⁸ Brian Choquette, "The Wrong Model: Libya and the U.S.-North Korea Negotiations," *Journal of International Affairs*, July 20, 2018, <https://jia.sipa.columbia.edu/online-articles/wrong-model-libya-and-us-north-korea-negotiations>.

¹³⁹ Bleek, *When Did (and Didn't) States Proliferate?*, 28.

other, it would advocate for a weaponized program to improve things such as “national pride, prestige, nationalism, [and] cultural factors” within Iran.¹⁴⁰ Second, evidence shows that international factors influenced Iran’s proliferation. In the beginning, Iran’s perceived security threat from Iraq first drove proliferation. Later, institutional restraints enforced on Iran by the United Nations Security Council (UNSC) for IAEA infractions hampered the nuclear weapons program.¹⁴¹ Ultimately, the non-proliferation regime negotiated a multilateral nuclear deal called the Joint Comprehensive Plan of Action (JCPOA) which limited Iran’s nuclear capabilities and proliferation. Finally, Iran had chronic issues with material constraints in certain areas such as technological knowledge; impacting Iran’s ability to reprocess fissile material.¹⁴² Cirincione uses Iran to exemplify the impact material constraints could have on nuclear proliferation claiming the more technical barriers placed on a country then “the more difficult it is for other nations to pursue nuclear weapons quickly or successfully.” Such is the case with Iran.

Iran is a great comparison study with North Korea. The cases are similar because they both have active nuclear programs and, at one point, the non-proliferation regime took similar diplomatic measures for each, negotiating the 2015 JCPOA with Iran and the 1994 Agreed Framework with North Korea. The key points of the JCPOA are that it does not denuclearize Iran but limits its nuclear capabilities while addressing many of Iran’s interests. All without divesting Iran of its entire nuclear program. For these reasons, the agreement is appealing. The JCOPA is still in existence but is less stable since the U.S. withdrew from the deal. The major focus of the Agreed Framework was the restriction of nuclear material via the dismantlement North Korea’s plutonium program to prevent further proliferation. In exchange, the U.S. agreed to “the establishment of better political relations and the lifting of economic sanctions.”¹⁴³ Additionally, both Iran and North Korea have been signed to the NPT. The areas where the cases differ are in the development

¹⁴⁰ Solingen, *Nuclear Logics*.

¹⁴¹ Solingen, *Nuclear Logics*, 150.

¹⁴² Cirincione, *Bomb Scare: The History & Future of Nuclear Weapons*, 75–76.

¹⁴³ Robert L Gallucci and Joel S Wit, “North Korea’s Real Lessons for Iran,” *New York Times*, April 10, 2015, <https://www.nytimes.com/2015/04/11/opinion/north-koreas-real-lessons-for-iran.html>.

status of nuclear weapons and the outcomes of the non-proliferation deals. Political and academic estimates vastly agree that North Korea's nuclear program has developed nuclear weapon devices, but the general consensus is that Iran's nuclear program has not developed weapons, but is not far from this achievement.¹⁴⁴ Furthermore, Iran remains under the NPT while North Korea withdrew from it in 2003. North Korea's withdrawal vice Iran's continued agreement to it, offers the world better visibility on Iran's nuclear program and is a signal of a potentially more stable commitment to adhering to the promises it has made the non-proliferation regime.

Scholars continue to debate the success of the Agreed Framework and the JCPOA. Therefore, one can question whether either deal is an ideal model to apply to North Korea today. One argument claims the Agreed Framework is a failure because it ultimately broke down, thus the U.S., and the rest of the world should not expect the JCPOA to succeed either.¹⁴⁵ Another argument claims that the Agreed Framework was actually a success despite its demise and if the lessons learned from the Agreed Framework period are applied, the JCPOA could turn out to be a contemporary success.¹⁴⁶ Considering both deals and looking at North Korea today, if denuclearization is the goal, then using the Agreed Framework and the JCPOA as a model is not likely to achieve that goal outright because they were both written to contain nuclear proliferation as the objective. In this regard, both deals account for the other party's interest and include incentives in the form of concessions for the proliferating country, giving each motivation for agreeing and adhering to the limitations and restrictions placed on the nuclear programs. The Agreed Framework and JCPOA could eventually lead to denuclearization, but that should be the long-term goal, not the short-term one. This case illustrates that focusing on North Korea's proliferation drivers and inhibitors, as with Iran, could make future policy more successful.

¹⁴⁴ Paul K Kerr, "Iran's Nuclear Program: Status," *Current Politics and Economics of the Middle East* 9, no. 1 (January 1, 2018): 211, ProQuest.

¹⁴⁵ Gallucci and Wit, "North Korea's Real Lessons."

¹⁴⁶ Sue Mi Terry and Max Boot, "The Wrong Lessons From North Korea Avoiding a Nuclear Iran," *Foreign Affairs*, April 22, 2015, <https://www.foreignaffairs.com/articles/north-korea/2015-04-22/wrong-lessons-north-korea>.

VII. Egypt. Egypt is somewhat unique to this study. The evidence shows that domestic determinants, international factors, and material constraints were major inhibitors of nuclear proliferation. First, domestic determinants were clearly influential in Egypt's non-proliferation choices. Egypt's political leaders are partially responsible for both driving, and later, inhibiting its nuclear weapons program.¹⁴⁷ Additional domestic determinants included internal bureaucratic issues and significant financial issues.¹⁴⁸ Moreover, domestic political actors applied internal pressure to eventually move Egypt to sign the NPT.¹⁴⁹ Second, this study finds evidence of international factors that support Egypt's early drive toward proliferation. Bleek states Egypt displayed an increased motivation for beginning its nuclear weapons program as a result of a perceived regional security threat, specifically after Israel showed signs of nuclear progress.¹⁵⁰ Finally, material constraints were a critical component to Egypt's non-proliferation decisions. In addition to internal financial struggles, Egypt was deficient in technical capacity. According to Solingen, Egypt sought foreign assistance in missile development and nuclear infrastructure.¹⁵¹

It is difficult to find commonalities between Egypt and North Korea. Aside from the fact that both countries have ancient histories going back thousands of years, they have disparate geographies, politics, and cultures. Perhaps the most significant lesson from an Egypt-North Korea comparison is that domestic actors had the most influence on Egypt's decision to join the NPT and to not nuclearize. Even though some advocated for retaining a nuclear weapons program, there were enough veto players to favor nuclear restraint.¹⁵² For this to occur in North Korea, domestic veto players would need to rise up, potentially from the North Korean elite. Therefore, future U.S. policy should account for and address

¹⁴⁷ Bleek, *When Did (and Didn't) States Proliferate?*, 35.

¹⁴⁸ Bleek, 35.

¹⁴⁹ Bleek, 36.

¹⁵⁰ Bleek, 35.

¹⁵¹ Solingen, *Nuclear Logics*, 2007, Chapter XI Egypt, Introduction.

¹⁵² Bleek, *When Did (and Didn't) States Proliferate?*, 128.

the potential influence of North Korean elites on the status of North Korean nuclear doctrine.

VIII. Taiwan. There is strong evidence that Taiwan was being driven towards nuclear proliferation, but like South Korea, Taiwan demonstrated nuclear restraint and abandoned proliferation efforts. Currently, Taiwan does not have an active nuclear weapons program.

This study finds domestic determinants crucially influenced proliferation driving decisions. First, domestic political and military leaders were strong advocates for a nuclear weapons program. However, domestic determinants were also a significant factor for later inhibiting Taiwan's nuclear weapons program. Solingen claims the restraint Taiwan showed in reversing proliferation was partially due to Taiwan's domestic actors changing interests.¹⁵³ In other words, nuclear weapons no longer supported Taiwan's interests. The Taiwanese regime capitulated to U.S. pressure and abandoned its nuclear program because it sought a better chance at "regime survival...economic growth, prosperity, [and] stability," through denuclearization.¹⁵⁴

International factors and material constraints were also influential in proliferation decisions. In particular, international factors played both a driving and inhibiting role in Taiwan's proliferation decisions. The perceived security threat from China following the 1964 nuclear test was a driving catalyst toward nuclear weapons in Taiwan.¹⁵⁵ However, international pressure by the U.S. on Taiwan in 1976 culminated in a "proliferation freeze."¹⁵⁶ Finally, material constraints were a nuclear proliferation driver. Taiwan had the necessary material resources for a nuclear weapons program.

Taiwan makes a good case study because it is an East-Asia country, and is partitioned with mainland China, in a similar way that North Korea and South Korea are partitioned. Furthermore, Taiwan is a classic security dilemma case between China and the

¹⁵³ Solingen, *Nuclear Logics*, 2007, Chapter V Taiwan (Republic of China), Conclusion, Paragraph 1.

¹⁵⁴ Solingen, Chapter V Taiwan (Republic of China), Conclusion, Paragraph 1.

¹⁵⁵ Solingen, Chapter V Taiwan (Republic of China), Introduction, Paragraph 1.

¹⁵⁶ Bleek, *When Did (and Didn't) States Proliferate?*, 39–40.

U.S. Under the “One China” policy, the U.S. recognizes the People’s Republic of China as the official government, and Taiwan as part of China. The U.S. also “insists on the peaceful resolution of cross-Strait differences, opposes unilateral changes to the status quo by either side, and encourages both sides to continue their constructive dialogue on the basis of dignity and respect.”¹⁵⁷ The current political climate is what makes denuclearization in Taiwan stick.

3. Case Study Observations and Findings

Several observations can be made from the case study data. All eight cases had evidence of domestic determinants, but only three have active weapons programs today (China, India, and Iran). Additionally, all eight cases had evidence of international factors, but again only three have active weapons programs (Libya possibly has driving international factors). Lastly, four cases had no inhibiting material constraints and three of those cases have no active programs (South Africa, South Korea, Taiwan, and China is the outlier).

There are four major findings from this study. First, domestic determinants may have the most significant influence on why a country decides to keep an active weapons program or not. Proliferation decisions are independently made by each country. The decision, however, may come from or be influenced by a variety of domestic actors within each country. For example, many of the sampled countries made proliferation decisions based on the will of high-level political leaders. Often, political leaders believe nuclear weapons serve the political regime’s interests. Although, in some cases, countries with enough domestic veto players such as Egypt, are able to change the country’s nuclear policy.

Second, in almost all cases, countries with and without active nuclear weapons programs at some point perceived international factors to be a relevant proliferation driver. The only country inconclusive in this category is Libya. Otherwise, each of the other sampled cases at least initiated a nuclear weapons program; while some barely amounted

¹⁵⁷ “U.S. Relations With Taiwan,” U.S. Department of State, 2018, <https://www.state.gov/u-s-relations-with-taiwan/>.

to anything, others became fully developed with entire arsenals of weapons. Therefore, international factors are a critical component in proliferation decisions. It is likely that countries who start nuclear weapons programs do so at least partially because they perceive an international security threat and nuclear weapons are a viable deterrent. Additionally, some countries are perhaps looking to improve their global standings among nuclearized countries to be included and relevant in the international community.

Third, material constraints have a measurable impact among the sampled cases regardless of nuclear weapons program status, but are less of a proliferation determinant. Material constraints can be a make it or break it component to proliferation. For countries who want to develop nuclear weapons programs, material constraints will either support that endeavor, or will prove to be a challenge that if not overcome, will likely end the country's pursuit of nuclear weapons, as was the case for Egypt. However, several countries who eventually chose non-proliferation were unaffected by negative material constraints at the onset of their nuclear weapons programs development and eventually still opted for denuclearization.

Finally, the study identified several paths to undoing nuclear programs with varying and, in some instances, debatable success rates. Particular paths are dependent on the circumstances surrounding each case as identified in this section. Table 1 in Part B, Section 1 of this chapter charts just how different North Korea's circumstances are from the other cases in this study. As a result, the factors that led to South Africa, South Korea, Libya, Egypt, and Taiwan's denuclearization are not precisely replicated in the case of North Korea. Furthermore, the direct application of any policy on North Korea based on a case in this study without revision, may not realize much if it fails to address North Korea's specific proliferation drivers and inhibitors. Even still, there are however, cases from this study with nuclear programs (possessing or close to having nuclear weapons) that the U.S. and the rest of the non-proliferation regime choose to accept and live with such as China, India, and Iran. In the China, India and Iran cases, the U.S. has not adopted and pursued purely coercive policy that enforces one goal—denuclearization—rather, the U.S. has utilized diplomatic strategies and measures to contain nuclear proliferation. For example, China and Iran both signed, and remain in, the NPT and the U.S. reached nuclear deals

with both India and Iran. These deals uniquely and distinctly permitted the retention of their nuclear programs, but restricted proliferation in exchange for U.S. concessions that met their interests. Furthermore, the nuclear deal with India sets precedent for negotiating nuclear agreements with non-NPT countries.¹⁵⁸ Applying elements of nuclear policy to North Korea from these three cases, combined with an acute knowledge of what led the other cases to pursue denuclearization, may be the U.S.'s best option for seeing actual results. Positive, viable results may be possible as long as the policy goal is focused on nuclear proliferation restriction and containment versus complete denuclearization.

C. CONCLUSION

Proliferation decisions are complex. Rarely is there a singular driving or inhibiting factor. In fact, the same drivers of proliferation are often the same inhibitors of it as well. This study offered a macro view of proliferation outcomes across a varied sampling of cases from around the world. While the results of the case study are not absolute, it can be a useful tool in examining nuclear proliferation in North Korea. More specifically, it can help policymakers understand why North Korea decided to pursue nuclear weapons and if a foreign policy that demands denuclearization is likely to achieve viable results.

Chapter II, Section A discussed the perception of threats by North Korea noting that North Korea most likely views threats coming from both international and domestic sources. North Korea irrefutably has evidence of domestic determinants, international factors, and material constraints that have impacted Kim Jung-Un's, his father's, and grandfather's proliferation decisions. Like the sample countries in the study, nuclear weapons programs are the result of a confluence of drivers, stemming from domestic actors faced with international factors. For these countries, nuclear weapons were deemed to be suitably aligned to the country's interests. For those countries who no longer have active nuclear weapons programs, something among the driving proliferation factors changed; nuclear weapons no longer served the interests of the country in the same way it did before. North Korea may be more elusive and more mysterious than the cases studied, but the value

¹⁵⁸ Bajoria and Pan, "The U.S.-India Nuclear Deal."

North Korea places on its nuclear weapons program is still at its roots driven by domestic determinants, international factors, and material constraints. U.S. policy toward North Korea must recognize the sources driving proliferation in any policy designed to combat it.

The next chapter examines CVID and assesses its feasibility of achieving viable denuclearization results. The chapter presents an analytical discourse on the prospects of North Korea denuclearizing. Finally, this chapter will evaluate the future viability of continuing with CVID and concludes with recommendations for alternative policies to CVID that maintain the U.S.'s security and protect the U.S.'s interests in the South East Asia region.

IV. NORTH KOREA DENUCLEARIZATION PROSPECTS AND ALTERNATIVE POLICY RECOMMENDATIONS TO CVID

Kim Jung-Un's nuclear test in 2016 changed the circumstances of the U.S.-North Korea relationship. Chapter II detailed how the U.S. was focused on North Korea's complete denuclearization before it even became capable of producing a weapon and how U.S. policy reflected that stance. However, U.S. policy maintains continued emphasis on complete denuclearization remaining virtually unchanged and unadjusted to the new circumstances of the U.S.-North Korea relationship. Therefore, this thesis advocates that future policy should consider the U.S.'s adversary as a de facto nuclear weapons state because that is the current reality of the situation.¹⁵⁹ The 1994 Agreed Framework, the Six Party Talks, the Leap Day

¹⁵⁹ There is a small but growing chorus of voices on this point, in particular, Brad Roberts, former Deputy Assistant Secretary of Defense for Nuclear and Missile Defense Policy (2009-2013) under the Obama Administration; Brad Roberts, "Living With a Nuclear-Arming North Korea: Deterrence Decisions in a Deteriorating Threat Environment | 38 North: Informed Analysis of North Korea," 38 North, last modified November 2020, <https://www.38north.org/reports/2020/11/broberts110320/>. Victor Cha, former Director for Asian Affairs at the National Security Council (2004-2007) under the Bush Administration; Victor D. Cha, Andrew Schwartz, and Sui Mi Terry, "The Impossible State," November 24, 2020, in *The Impossible State: A New Strategy for North Korea*, produced by CSIS, podcast, MP3 audio, 29:18:00, <https://www.csis.org/podcasts/impossible-state>. Scott Sagan, former special assistant to the director of the Organization of the Joint Chiefs of Staff in the Pentagon (1984-1985) and former consultant to the office of the Secretary of Defense and at the Sandia National Laboratory and the Los Alamos National Laboratory. Benjamin Valentino, Associate Professor of Government at Dartmouth College; Scott D. Sagan and Benjamin A. Valentino, "Living With a Nuclear North Korea; Most Americans Aren't Interested in a Military Solution to the Threat—but Also Overestimate the U.S. Ability to Counter It.," Wall Street Journal (Online), March 8, 2019, <http://libproxy.nps.edu/login?url=https://www-proquest-com.libproxy.nps.edu/newspapers/living-with-nuclear-north-korea-most-americans/docview/2189000093/se-2?accountid=12702>. Ankit Panda, the Stanton Senior Fellow in the Nuclear Policy Program at the Carnegie Endowment for International Peace; Ankit Panda, "Denuclearization, Diplomacy, and Beyond: North Korea Plans for 2021," October 29, 2020, in *The Diplomat's Podcast on Asia Geopolitics*, produced by The Diplomat, MP3 audio, 29:21:00, <https://thediplomat.com/2020/10/denuclearization-diplomacy-and-beyond-north-korea-plans-for-2021/>. Joshua Shiffrin, Assistant Professor of International Relations with Boston University's Pardee School of Global Studies; Joshua Shiffrin, "Security in Northeast Asia: Structuring a Settlement," *Strategic Studies Quarterly* 13, no. 2 (Summer 2019): 23–47, <http://libproxy.nps.edu/login?url=https://www-proquest-com.libproxy.nps.edu/trade-journals/security-northeast-asia-structuring-settlement/docview/2310622545/se-2?accountid=12702>. Additional panels of experts and scholars such as, Christine Ahn, Founder and Executive Director, Women Cross DMZ; Co-Founder, Korea Peace Network; Suzanne Dimaggio, Chair, Quincy Institute for Responsible Statecraft; Senior Fellow, Carnegie Endowment for International Peace; Markus Garlauskas, Former National Intelligence Officer for North Korea, Office of the Director for National Intelligence, Nonresident Senior Fellow, Atlantic Council; Van Jackson, Former Senior Defense Strategist, U.S. Department of Defense, Senior Lecturer in International Relations, Victoria University of Wellington; Frank Aum, Senior Expert, North Korea, U.S. Institute of Peace. Christine Ahn et al., "A New Direction for U.S. Policy on North Korea," in *United States Institute of Peace* (Washington, DC: USIP, 2020), <https://www.usip.org/events/new-direction-us-policy-north-korea>.

agreement—deals of the past—all focused on the non-proliferation of North Korea through the prevention of nuclear weapons attainment. Those days have past, but incongruity with today’s policy aims toward North Korea remains.

The U.S.’s thinking about North Korean relations and resulting actions appear to be primarily driven by U.S. national security interests. Those interests include both the “need to maintain U.S. strategic presence and influence in the Asia-Pacific region” and homeland defense.¹⁶⁰ For the U.S., denuclearization is a means to this end. To that point, one scholarly report assessed that to the U.S., denuclearization is viewed as the “linchpin” to the “security situation on the Peninsula.”¹⁶¹ However, the other side of the argument is that denuclearization is in fact a detriment to U.S. security interests.¹⁶² Continuation of the complete, verifiable, irreversible denuclearization policy towards a de facto nuclear weapons state will do nothing but permit more time for North Korea to advance its weapons capabilities. Denuclearization is in direct opposition to Kim Jung-Un’s strategic goals. To understand what factors influence a state’s nuclear weapons decisions, Chapter III provided an in-depth analysis on the drivers and inhibitors of nuclear proliferation. The key findings illustrated that individual country proliferation decisions are complex and multicausal, a view commonly shared among nuclear proliferation experts. What drives one country to seek nuclear weapons, may not be the same drivers for another. Furthermore, they may be the exact reasons why some countries elect to denuclearize or display nuclear restraint. Ultimately, both proliferation and non-proliferation can be motivated by domestic issues, international issues, or material constraints. The core implications of these findings mean that there is more than one pathway to denuclearization as demonstrated in the Chapter III case study. Moreover, these non-proliferation paths are circumstantial, meaning that unless North Korea shares the same circumstances of another country, the policy that worked for one may not make a viable option for North Korea.

¹⁶⁰ Frank Aum et al., “A Peace Regime for the Korean Peninsula,” *Peaceworks* (Washington, DC: United States Institute of Peace, February 2020), 11, <https://www.usip.org/publications/2020/02/peace-regime-korean-peninsula>.

¹⁶¹ Aum et al., 11.

¹⁶² Van Jackson, “Risk Realism: The Arms Control Endgame for North Korea Policy” (Washington, DC: Center for a New American Security, September 24, 2019), 1, <https://www.cnas.org/publications/reports/risk-realism>.

The ensuing chapter presents the core conclusions of this thesis. It begins by expanding on that line of thought that North Korea's unique circumstances drive its proliferation decisions. The first section assesses the prospects for North Korean proliferation and based on that assessment, if denuclearization is likely. The next section presents the central conclusion of the thesis that CVID is no longer a viable policy option for the U.S. and also provides recommendations for alternative policies that may achieve more realistic and attainable results.

A. PROSPECTS FOR NORTH KOREAN PROLIFERATION

Knowing the causes and reasons for North Korea's choice to proliferate nuclear weapons and improve weapons capability is a critical element to nuclear policy. As discussed in the previous chapter, proliferating states base these decisions on three main factors: domestic determinants, international factors, and material constraints. Therefore, to determine why North Korea maintains a nuclear weapons program, one must decipher what issues Kim Jung-Un considers drivers. To this, this thesis advocates that North Korea is driven mostly by domestic determinants and international factors. Four main reasons contribute to North Korea's drivers which are regime survival, conflict evasion due to the high costs of war, the desire for global recognition and globalization, and the possession of a credible bargaining and negotiating chip.

The great conflict of interest between the U.S. and North Korea, coupled with the stagnant coercion strategy to achieve complete denuclearization, has left North Korea's nuclear weapons program largely intact and unchecked. As much as the U.S. wants North Korea to completely denuclearize, it is unlikely to happen because it is not in North Korea's interest to do so. For North Korea, a capable nuclear weapons program is a means to achieving a specific end—security.

First, it is highly theorized that North Korea's perspective is that nuclear weapons increase the survivability of the Kim regime. Cha argues, nuclear weapons are used as a shield because North Korea "thinks it needs such weapons for its survival."¹⁶³ North Korea's nuclear infrastructure is carefully maintained, and the logic is often hidden behind claims of North

¹⁶³ Victor D. Cha, "North Korea's Weapons of Mass Destruction: Badges, Shields, or Swords?," *Political Science Quarterly* 117, no. 2 (June 2002): 220, <https://doi.org/10.2307/798181>.

Korea's leader's irrationality. However, many North Korea experts and scholars have a different opinion. Lankov claims Kim Jung-Un comes from a family of "ultimate political survivors."¹⁶⁴ Moreover, interpreting Kim Jung-Un or the Kim family differently and their desire for a capable nuclear weapons program, will result in failed policy by the U.S. He argues, "successful policy should be based on understanding the logic of the opposite side, not on discarding it as 'irrational.' Seeing the Kim family as lunatics with nukes makes them more threatening, and raises the risk of war, but it can also promote unrealistic expectations of compromise—if only the North comes to its senses [and denuclearizes]."¹⁶⁵ For North Korea, nuclear weapons are beneficial because they act as a deterrent to potential adversaries, therefore, increasing the chances of the Kim regime's survival. Kim Jung-Un likely "presumes that no great power would risk attacking a nuclear state or sticking a hand into its internal strife—especially if it has delivery systems and a second-strike capability."¹⁶⁶

Second, nuclear weapons ensure North Korea's security by reducing the chances of the U.S. initiating conflict due to the high cost of war. U.S. decision-makers consider cost factors to war such as casualties, financial costs, domestic political costs, international reputation costs, humanitarian and moral costs, escalation risks, and opportunity costs to the U.S. and allies.¹⁶⁷ Lankov argues nuclear weapons keep outside countries from initiating an attack, responding to North Korean provocations with a devastating kinetic offensive, and ultimately from collapsing the North Korean regime. The deterrence rendered through the threat of North Korea's nuclear weapons, keeps the U.S. and other adversaries from attacking it. Should the U.S. attack or respond, the cost of war will potentially outweigh the benefits of war. A continuation of a kinetic war on the peninsula could result in a catastrophic number of casualties, in the millions, and devastating economic damage for the U.S. and East Asia. Additionally, the political costs could be sky-high. If the tolerance and support for an overseas

¹⁶⁴ Andrei Lankov, "Kim Jong Un Is a Survivor, Not a Madman – Foreign Policy," *Foreign Policy*, last modified April 26, 2017, <https://foreignpolicy.com/2017/04/26/kim-jong-un-is-a-survivor-not-a-madman/>.

¹⁶⁵ Lankov.

¹⁶⁶ Lankov.

¹⁶⁷ Steve Park, "NS4690: Session 6 (Future of the ROK-US Alliance) " (lecture, Naval Postgraduate School, Monterey, CA, July 23, 2020).

war do not have public support or if war is initiated and the strategic goals are unattained, it could cost the U.S. domestic and international political support. Moreover, war with North Korea to achieve denuclearization could amount to a nuclear conflict which quickly increases the humanitarian/moral risks, as well as escalation risks.

Third, nuclear weapons work toward North Korea's global status and recognition in order to ensure security. North Korea may be motivated to acquire and maintain a capable nuclear weapons program because it seeks international recognition and prestige. Cha argues North Korea may view the importance of the nuclear weapons program as a badge.¹⁶⁸ Nuclear weapons "serve as marks of modernity and power" and include "aspirations to rise in the international prestige hierarchy and to be treated as a great or major power."¹⁶⁹ Recognition as a de facto nuclear weapons state forces North Korea's adversaries to do two things. First, to consider the possibility North Korea may use nuclear weapons in aggressive scenarios. Second, it forces the global community to consider giving North Korea a seat at the international table.

While security remains the primary end for North Korea, prestige is a secondary goal that works to maintain security. Prestige is one of Cirincione's five drivers of nuclear proliferation. "Possession of nuclear weapons, proponents of the prestige model would argue, makes states feel more powerful, relevant, and respected."¹⁷⁰ Also, prestige provides Kim Jung-Un validation of his regime both domestically and internationally because "nuclear weapons and ballistic missiles were symptomatic of a system trying to fulfill its *kangsong taeguk* (strong and prosperous power) vision."¹⁷¹ Despite the coercive measures consistently applied to prevent nuclear proliferation by the U.S. and the international community, North Korea has continued to advance its program.¹⁷²

Fourth, nuclear weapons ensure North Korea's security because they can be used as a credible bargaining and negotiating chip. As discussed earlier, a weaponized North Korea

¹⁶⁸ Cha, "North Korea's Weapons of Mass Destruction," 227.

¹⁶⁹ Cha, 227.

¹⁷⁰ Cirincione, *Bomb Scare: The History & Future of Nuclear Weapons*, 59.

¹⁷¹ Cha, "North Korea's Weapons of Mass Destruction," 228.

¹⁷² Cha, "North Korea's Weapons of Mass Destruction," 228.

naturally imposes limits on the U.S. and its allies' options for dealing with North Korea. The U.S. seeks conflict avoidance and chooses coercive strategy options to pressure North Korea into denuclearization precisely because the risk of nuclear war is too great. This, in turn, is one of the means to maintain the security nuclear weapons provide. Nuclear weapons are as much a political tool as they are a tactical tool. Bermudez remarks that "greater instability in the [Asia] region" may be on the horizon given the "combination of a growing nuclear weapons inventory, a developing ballistic missile force and a nuclear strategy that may be evolving into including an option or limited use of these weapons" by North Korea.¹⁷³ Whether North Korea's nuclear strategy includes the usage of these weapons, their usage in the political arena for negotiating and bargaining to their advantage, has been plentiful.

B. ALTERNATIVES TO CVID

We must face problems which do not lend themselves to easy or quick or permanent solutions. And we must face the fact that the United States is neither omnipotent or omniscient—that we are only 6 percent of the world's population—that we cannot impose our will upon the other 94 percent of mankind—that we cannot right every wrong or reverse each adversity—and that therefore there cannot be an American solution to every world problem.¹⁷⁴

—President John F. Kennedy,
Address at University of Washington

It is clear that North Korea's nuclear weapons program is driven by domestic determinants and international factors. Nuclear weapons serve the Kim regime's interests and is a satisfactory means for achieving the regime's primary ends—security and survival. The U.S. and other countries in the international community have sought to denuclearize North Korea through a coercive deterrence strategy despite North Korea's interests. Over the last four U.S. administrations, the U.S. has sought to end North Korea's nuclear weapons program through diplomatic negotiation attempts backed by harsh economic sanctions and the threat of

¹⁷³ Joseph S. Bermudez, *North Korea's Development of a Nuclear Weapons Strategy*, North Korea's Nuclear Future Series (United States: US-Korea Institute at SAIS, 2015), 7, <https://www-jstor-org.libproxy.nps.edu/stable/resrep11154?refreqid=excelsior%3Af8726c0d4238860fad13205d26fb0bc7>.

¹⁷⁴ John F. Kennedy, "Address at University of Washington - Transcript," JFK Library, November 16, 1961, <https://www.jfklibrary.org/node/11671>.

military action in order to pressure North Korea to denuclearize, but to no avail. Knowing North Korea's ultimate goal and the value of nuclear weapons makes it highly unlikely that North Korea will ever willingly completely, verifiably, and irreversibly denuclearize.

The comparative case study conclusion in Chapter IV determined that there are multiple pathways to managing nuclear proliferation and even getting to denuclearization. Therefore, the U.S. could consider possible alternative policies to CVID that may yield different results. This thesis presents three major recommendations for consideration in the generation of future U.S.-North Korea policy. First, the United States could adopt a policy that accepts North Korea as a de facto nuclear state. This is a controversial proposal. Accepting North Korea as an unofficial nuclear weapons state would require a fundamental shift in thinking by the U.S., a task that would be difficult to do, but necessary to reduce the nuclear threat if North Korea refuses to comply with CVID. Second, the U.S. accepts other countries as official and unofficial nuclear weapons states; therefore, this recommendation is for policymakers to consider utilizing the non-proliferation lessons learned from other nuclearized states. Those lessons are the institution of both nuclear command and control and risk reduction measures, the utilization of a multilateral approach to policy, the pursuit of arms control initiatives, and the utilization of economic sanctions as collateral leverage. Third, a general shift in policy off CVID toward a less coercive approach, adopting a more diplomatic policy by balancing out the carrots and sticks approach. This recommendation could yield short-term nuclear containment results that could evolve into long-term denuclearization results.

1. North Korea As a de facto Nuclear Weapons State

Any alternative policy to CVID should be foundationally based in the acceptance that North Korea has possession of nuclear weapons. Policy thus far has been for the purposes of denying North Korea nuclear weapons and has not accomplished much in the way of denuclearization, but perhaps delay the inevitable, which was eventually realized in 2016. Since then, Kim Jung-Un has propelled North Korea toward improved nuclear weapons capability, the antithesis of the U.S. goal. This recommendation would not be easy for U.S. decisionmakers to accept as it is a significant departure from the conventional thinking about the direction of North Korea policy and at the surface, seems to run contrary to the U.S.'s

beliefs. However, if security is the primary concern for the U.S., then a policy that accepts North Korea as a de facto nuclear weapons state versus trying to strip North Korea of its most valuable assets and works to contain proliferation would render results more in line with the U.S.'s ultimate objective of preserving national security. National security encompasses both homeland defense and regional stability in the Southeast Asia. Containment of North Korea's nuclear proliferation would support the U.S.'s national security interests because it provides the opportunity for the U.S. and North Korea to develop a rapport based on trust and may potentially open a pathway to conflict resolution through diplomacy and negotiation instead of coercion and aggression.

Acceptance of North Korea as a de facto NWS by the U.S. government and the public at large may be a difficult undertaking, and that issue should not be taken lightly. There are pros and cons to adopting such a fundamental policy shift. The pro-con list for this recommendation includes four points for each side of the argument starting with the pros. First, Kim Jung-Un may interpret such a policy move as less threatening and coercive to the regime's security. The U.S.-North Korea summits in Singapore and Hanoi were full of all the pageantry expected surrounding the leaders of adversarial countries meeting about the topic of North Korea denuclearization. However, while it may have been the U.S.'s goal to begin negotiations resulting in North Korea denuclearizing, North Korea allegedly had other motives. Jackson's position on the motives of North Korea is that it put on a front during the summit, showing a receptivity to denuclearization, but behind the scenes was looking at the summit as an opportunity to "consolidat [e] North Korea's status as a 'global nuclear strategic state,'" a goal that is quite "the opposite of denuclearization."¹⁷⁵ This concealed motive illustrates Kim Jung-Un's utter desire to retain North Korea's nuclear weapons and also eludes to a secondary motive of global recognition as a nuclear weapons capable state. Therefore, it is not surprising that the Hanoi summit did not produce the progress toward denuclearization that the U.S. wanted because denuclearization is incompatible with Kim Jung-Un's interests. One can reasonably conclude that Kim Jung-Un will not voluntarily negotiate to comply with CVID in

¹⁷⁵ Jackson, "Risk Realism: The Arms Control Endgame for North Korea Policy," 5.

any future diplomatic meetings because ridding North Korea of nuclear weapons makes the Kim regime vulnerable.

Second, showing an acceptance of North Korea as a de facto NWS in U.S. policy may reduce provocations and subsequently also reduce the homeland security threat. In 2011, five years before North Korea's first nuclear weapons test, then Secretary of Defense Robert Gates identified North Korea as an emerging nuclear threat, remarking that it was a "direct threat to the United States" due to North Korea's relentless pursuit of improved nuclear weapons capabilities and delivery systems. Nearly ten years after Secretary Gates made his assessment, North Korea has achieved this challenging milestone and the U.S. has been able to affect very little change to North Korea's nuclear weapons program through its policy. Additionally, after a two-year détente period surrounding the U.S.-North Korea summits, North Korea reengaged in provocative by launching a series of rocket and short-range ballistic missile tests in May 2019, signaling an end of any sort of nuclear moratorium.¹⁷⁶ North Korea also reached a point in its program's delivery systems technology where it is feasible for a North Korean ICBM to reach the U.S.¹⁷⁷

Provocations are a key tool in Pyongyang's strategy of brinkmanship—the practice of one state to forcibly push a political position or objective on another state through confrontation, often achieved through acts of aggression. Like his father and grandfather before him, Kim Jung-Un has continued a provocation campaign against the U.S. However, under his reign, these provocations are different, and demonstrate a link to nuclear proliferation. Analysts have studied the relationship between provocations and possible "triggering" events. Foreign Affairs Officer Ashley A.C. Hess, PhD from the Bureau of International Security and Nonproliferation conducted a study of North Korean provocations and perceived trigger events. The study concluded that there was not a significant correlation between provocations and trigger events, but there did appear to be a cyclic trend to provocations. In other words, a pattern emerged depicting that after an initial provocation, it was common for North Korea to

¹⁷⁶ Sanders-Zakre, "Chronology of U.S.-North Korean Nuclear and Missile Diplomacy."

¹⁷⁷ Eleanor Albert, "What's the Status of North Korea's Nuclear Program?," Council on Foreign Relations, November 16, 2020, <https://www.cfr.org/backgrounder/north-koreas-military-capabilities>.

make another one or more shortly thereafter of lesser intensity.¹⁷⁸ Similarly, Lisa Collin's study at the Center for Strategic and International Studies, specifically analyzed the relationship between U.S.-North Korea negotiations and North Korea provocations from 1990–2017. She concluded that there is a correlation between negotiations and provocations; specifically, when negotiations occurred, provocations decreased.¹⁷⁹ Based on the findings of both studies, it is possible to conclude the détente period surrounding the two summits was a result of the normal cyclic pattern of provocations, but Collins' argues it is more likely that this was the result of the correlation identified between negotiations and provocations. Knowing that there is a glimmer of consistency in the timing of provocations leads to uncovering what North Korea really wants to achieve with provocations. The most probable of answers is, North Korea wants to build a capable nuclear weapons program; the provocations are a pathway to continue nuclear research and development in order to protect the Kim regime.¹⁸⁰

To the naked eye, accepting North Korea as a de facto NWS appears to indicate an expectation of increased provocations and homeland security threat, but that is a matter of perspective. If U.S. policy approaches North Korea diplomatically, through continued talks and negotiations in recognition of its nuclear status, North Korea will potentially be less threatened by the U.S. and weary of potential U.S. actions to denuclearize North Korea by force. Therefore, becoming more amenable to negotiating realistic nuclear weapons containment measures with the potential to lead to denuclearization one day.

Third, de facto NWS status may actually lower proliferation as opposed to CVID which has not curtailed North Korea's proliferation. North Korea's proliferation drivers are predominantly due to domestic determinants and international factors. Section A outlined the reasons behind these proliferation drivers as concern over regime security and survival, decreasing the chances of the U.S. instigating war against North Korea, improving global recognition status and globalization of North Korea, and using nuclear weapons as a credible

¹⁷⁸ Ashley A.C. Hess, "Why Does North Korea Engage in Provocations?," *Journal of Asian Security and International Affairs* 5, no. 1 (April 1, 2018): 62, <https://doi.org/10.1177/2347797017749044>.

¹⁷⁹ Lisa Collins, "25 Years of Negotiations and Provocations: North Korea and the United States," CSIS Beyond Parallel, October 2, 2017, <https://beyondparallel.csis.org/25-years-of-negotiations-provocations/>.

¹⁸⁰ Cha, *The Impossible State: North Korea, Past and Future*, 300, 303.

bargaining and negotiating chip. Similarly, Cirincione's theory argues that the reasons states are driven to proliferate, are the same reasons states restrain against proliferation. CVID does not address North Korea's specific proliferating drivers, in fact, it appears to ignore North Korea's proliferation drivers completely by taking away the very thing North Korea sees as its best way to maintain its interests. Whereas the acceptance of North Korea as a de facto NWS will recognize North Korea's drivers, while not necessarily condoning or advocating for its nuclear weapons program. Policy toward North Korea would diplomatically say that the U.S. recognized North Korea has a nuclear weapons program and that instead of only negotiating for denuclearization, the U.S. wants to take steps that will contain North Korea's nuclear program and reduce the threat it causes to the U.S. and its regional allies. This is a subtle change, but one that does two things to reduce North Korea proliferation. First, it actually recognizes North Korea as an NWS, rather than treating North Korea as though it does not have a capable nuclear weapons program or undermine the value North Korea sees in its nuclear weapons program. Second, while it addresses North Korea as a de facto nuclear weapons state, the policy should not and does not automatically mean the U.S. is a champion of North Korea's nuclear weapons program. This change is a step toward bridging the gap in trust between the U.S. and North Korea and through a reenforced relationship, can take steps that will, at a minimum, contain North Korea's proliferation, to lay the necessary pathway to ultimately eliminate it.

Fourth, U.S.-North Korea diplomatic relations may be improved. The CVID approach has never been fully realized and, at best, it has resulted in intermittent diplomacy between the two countries. Over time, North Korea has made vague and often superficial statements about denuclearizing and the actions it will take towards that end. However, under this policy objective, the U.S. would be negotiating from a position of de facto NWS recognition that can be viewed as a relatively easy concession which, as discussed earlier, does not outright condone North Korea's nuclear weapons program. This policy change could lead to "a more constructive, long-term US-[North Korea] DPRK relationship," that "should no longer be a reward for the North's complete nuclear dismantlement but would be treated as an explicit U.S.

security objective in its own right.”¹⁸¹ In sum, North Korea would no longer be relegated to entering diplomatic meetings with the sole objective of preserving its nuclear weapons; therefore, North Korea may be more inclined to negotiate toward containment and, ultimately, threat reduction.

There is no action that can be taken with regard to North Korean nuclear weapons, diplomatic or otherwise, that is perfect in all aspects. With that in mind, accepting North Korea as a de facto nuclear weapons state in the United States’ foreign policy does have four drawbacks. First, and perhaps the most obvious, is North Korea will still retain nuclear weapons. This is a negative aspect that has to be well understood and accepted by policymakers and is a departure from prior beliefs that negotiating anything but denuclearization is a failure leading to a less secure homeland and less stable region.¹⁸² Denuclearizing North Korea is a long-term objective, not a short-term one. Therefore, policy must work within those objectives and towards ridding North Korea of nuclear weapons, eventually, not demanding it upfront.

Second, it is possible that Kim Jung-Un and the world may interpret this as a weak foreign policy move. North Korea may view this as a signal of victory in the achievement of its ultimate goal. Whether this creates a less secure situation for the United States or develops into jarring regional instability is a bit of a risk. However, the likelihood Kim Jung-Un will react negatively seems to be low according to some North Korea experts. Van Jackson’s perspective supports a change from CVID policy and believes Kim Jung-Un will be more receptive to a different strategy. He argues “as long as disarmament of North Korea remains America’s professed goal, Kim Jong Un has every incentive either to avoid the negotiating process or favorably manipulate it at America’s expense.”¹⁸³ Furthermore, the lack of success with CVID has been attributed to a deficient understanding of Kim Jung-Un and his true intentions, and the value he places on the continuation of his nuclear weapons program.¹⁸⁴ The

¹⁸¹ “A More Realistic and Restrained U.S. Policy Toward North Korea | 38 North: Informed Analysis of North Korea,” 38 North, August 12, 2019, <https://www.38north.org/2019/08/ddepetris081219/>.

¹⁸² Jackson, “Risk Realism: The Arms Control Endgame for North Korea Policy,” 5.

¹⁸³ Jackson, 4.

¹⁸⁴ *Confronting the North Korea Threat: Reassessing Policy Options: Hearing before the Committee on Foreign Relations*, 115th Cong. 1 (2017) (statement of Nicolas Eberstadt, Ph.D., Henry Wendt Chair in Political Economy, American Enterprise Institute, Washington, DC.), 4.

question of whether the world will see the U.S. as weak seems to be relatively moot because this policy direction keeps the door open for diplomacy with not just the U.S. but other countries with invested interest in seeing the North Korea threat reduced. Furthermore, this type of ongoing cooperation with North Korea could spark cooperation with China on the North Korea nuclear issue. Through approaching diplomacy from a position of acceptance of the fact that North Korea is a de facto NWS, North Korea is more likely to continue negotiations and this new approach may also entice China to uphold its end of the deal and stop swaying back and forth on the issue.¹⁸⁵

Third, de facto NWS based policy may weaken the nonproliferation regime and the NPT. This is certainly possible, but policymakers must evaluate the cost-benefits of a reduced North Korea threat versus the potential weakening of the NPT. Consider Iran as an example of U.S. policy that recognizes the foreign state as a de facto NWS. In this example, some critics of the JCPOA with Iran claim the deal—a multilateral deal which restricts Iran’s acquisition of nuclear weapons by limiting Iran’s ability to develop its nuclear program—undermines nonproliferation and does not reenforce the goal of “nonproliferation and strengthening of the NPT.”¹⁸⁶ However, others conclude overall, and prior to the U.S. withdrawal from it, the deal was proving quite successful and was on the road to accomplishing its goals of restricting Iran from becoming a nuclear weapons state for a decade and beyond.¹⁸⁷ According to Siegfried Hecker, when it comes to North Korea the U.S. should pursue “freezing the sophistication” of North Korea’s nuclear weapons program, concluding that it “is a necessary precursor to rolling it back in a step-by-step process.”¹⁸⁸ This proposed alternative policy would be based on the fact that North Korea has nuclear weapons and would no longer demand denuclearization up front. It does not mean that the U.S.’s ultimate goal is not the elimination of North Korea’s

¹⁸⁵ Eberstadt, testimony on *Confronting the North Korea Threat*, 8.

¹⁸⁶ Kian Tajbakhsh, “Who Wants What from Iran Now? The Post-Nuclear Deal U.S. Policy Debate,” *The Washington Quarterly* 41, no. 3 (July 3, 2018): 45, <https://doi.org/10.1080/0163660X.2018.1519347>.

¹⁸⁷ Robert Einhorn, *Non-Proliferation Challenges Facing the Trump Administration*, Arms Control and Non-Proliferation Series Paper 15 (Washington, DC: The Brookings Institution, 2017), 23, <https://www.brookings.edu/research/non-proliferation-challenges-facing-the-trump-administration/chac>.

¹⁸⁸ Siegfried Hecker, “Why Insisting on a North Korean Nuclear Declaration Up Front Is a Big Mistake,” 38 North, November 28, 2018, <https://www.38north.org/2018/11/shecker112818/>.

nuclear weapons, but instead approaches denuclearization through a proliferation containment policy objective in accordance with the aims of the NPT.

Fourth, this alternative policy may have the opposite effect and heighten nuclear tensions. Allowing North Korea to keep its nuclear weapons program, at least initially, may be interpreted as a green light to Kim Jung-Un to raise nuclear tensions. This possible drawback though seems unlikely when one considers again that the suspected primary role that nuclear weapons play in North Korea is for security assurances. Cha further emphasizes a few objectives North Korea may also want such as getting a peace agreement with the U.S., international community recognition and inclusion, sovereign statehood status, and a political relationship with the U.S.¹⁸⁹ On the status of its nuclear weapons, Cha asserts that at best North Korea “may part with some, not all of their weapons capacity” and he suspects North Korea may actually be interested “in arms control negotiations with the United States to reduce mutual threat, but it will not give up all of its weapons.”¹⁹⁰

There are considerable potential advantages and drawbacks to infusing U.S.-North Korea policy with a foundation that recognizes North Korea as a de facto nuclear weapons state. Of the cons, the most significant ones that will have to be dealt with is the foremost fact that North Korea will still have nuclear weapons and also the perspective that this weakens the non-proliferation regime and the NPT. Arguments can be made for and against leaving North Korea with nuclear weapons, but considering the current situation, how is it any different? The NPT will continue to exist, and the non-proliferation regime has adopted policies and strategies with other non-NPT NWS’s that are less coercive and hardline than CVID in efforts to contain and reduce nuclear proliferation. Continuation of the same CVID policy with no results, or worse, counter results, indicated that policymakers are in the trap Victor Cha warns about happening when “policymakers...adhering to familiar policy templates and then, rather than reassessing the nature of the North Korean threat, they simply assume that the threat continues

¹⁸⁹ *Next Steps on U.S. Policy toward North Korea: Hearing before the Subcommittee on East Asia, the Pacific, and International Cybersecurity Policy of the Committee on Foreign Relations, Senate, 115th Cong. 2 (2018)* (statement by Victor Cha, Ph.D., Professor of Government, Georgetown University Senior Adviser and Korea Chair, Center for Strategic and International Studies, and Fellow in Human Freedom, George W. Bush Institute), 3.

¹⁹⁰ Cha, testimony on North Korea, 3.

to fit with these templates.”¹⁹¹ This repetitive attempt to enforce CVID could become even more counterproductive in the end. “Fitting threats to policies rather than policies to threats in this manner is dangerous because the successful strategy that brought peace in one era could bring the opposite result in another.”¹⁹² Adjusting the policy mindset to deal with North Korea not as a perspective nuclear state but as a nuclear state is step one to achieving a viable policy that results in genuine movement toward denuclearization. The next step is selecting a policy strategy that moves away from CVID and looks to engage with North Korea incrementally to effect change. The next section takes an in depth look at this challenge and recommends five policy strategies or a combination thereof to reduce the proliferation threat. To begin, the U.S. could apply lessons learned from other nuclear powers. Some possible options include command and control organization and methods of risk reduction, adopting a multilateral approach to policy, engaging in arms control initiatives, continuing with a sanctions strategy to tighten the grip on North Korea’s material constraints, and embracing a more diplomatic approach to policy to balance out the carrots and sticks approach.

2. Lessons Learned from Other Nuclear Powers

This thesis’s case study in Chapter III included a few nuclear weapons states. The U.S. is able to live with and accept that some countries are indeed nuclear powers or are ambitiously working toward that goal. China has a nuclear weapons program and the U.S. accepts it. India has one and the U.S. has learned to live with it as well. Perhaps the U.S.-Russia dyad is the most storied of the nuclear relationships. Even after the Cold War, the U.S. still accepts a certain level of risk living with a nuclear armed Russia. The U.S. manages to accept the nuclear weapons programs from all of these examples, like it or not, and this thesis identifies five lessons learned from the U.S.’s interaction with other NWSs. A key element to that acceptance is nuclear security. There are two possible lessons learned in nuclear security from these nuclear weapons states that can be applied to the U.S.-North Korea nuclear dyad: the importance of ensuring positive command and control and active engagement in risk reduction. Furthermore, some of the most successful nuclear negotiations have been multilateral over

¹⁹¹ Cha and Kang, *Nuclear North Korea: A Debate on Engagement Strategies*, 100.

¹⁹² Cha and Kang, 100.

bilateral approaches to policy. In particular, the Agreed Framework and the JCPOA both achieved many of its objectives and therefore are good examples to model future policy from. Arms control initiatives have achieved similar successes in reducing the nuclear threat and containing proliferation as exemplified with Russia. Moreover, the U.S. and the non-proliferation regime have a long history of imposing a variety of sanction to minimize nuclear proliferation threats. Sanctions as a tool to enforce policy have worked in the past and should continue to be utilized as necessary.

a. Nuclear Command and Control

Nuclear command and control (NC2) is a key feature in nuclear security. Knowing and declaring within the organization and in policy who the key players are in the nuclear weapons program is crucial and is defined by the U.S. as

the exercise of authority and direction by the President, as Commander in Chief, through established command lines, over nuclear weapon operations of military forces; as Chief Executive over all Government activities that support those operations; and, as Head of State over required multinational actions that support those operations.¹⁹³

NC2 is important because it is a mechanism that ensures there is both positive and negative control over the nuclear weapons. Positive control meaning, when command authorities want to use nuclear weapons, they are available, and negative control meaning, nuclear weapons will not be used until the command authority directs it.¹⁹⁴ There are two primary aspects to NC2, the human and technical components.¹⁹⁵ Human components include the command authority for the use of nuclear weapons and it looks different for different countries. In the U.S. the command authority is the President, in China it is believed to be with the Chairman of the Central Military Commission,¹⁹⁶ in India command authority consists of

¹⁹³ Robert D Critchlow, *Nuclear Command and Control: Current Programs and Issues*, CRS Report No. RL33408 (Washington, DC: Congressional Research Service, 2006), 1, <https://fas.org/sgp/crs/nuke/RL33408.pdf>.

¹⁹⁴ Michael Tkacik, "India Nuclear Weapons: No First Use of No Full Disclosure?," *Defense Studies* 17, no. 1 (March 23, 2016): 93, <https://doi-org.libproxy.nps.edu/10.1080/14702436.2016.1271721>.

¹⁹⁵ Tkacik, 94.

¹⁹⁶ Ian Hall, "The Requirements of Nuclear Stability in South Asia," *The Nonproliferation Review* 21, no. 3–4 (October 2, 2014): 360, <https://doi.org/10.1080/10736700.2014.1072991>.

“two elements, the ‘political council headed by the prime minister and an executive council presided over by the national security advisor,’”¹⁹⁷ and in Iran, the human component of NC2 is slightly more complicated. It is believed the Atomic Energy Organization of Iran operates the nuclear program, but “acts upon decisions made by the country’s Supreme National Security Council.”¹⁹⁸ This indicates that the executive command decisions are made at least at the National Security Council level.

The other side of NC2 is the technical component. As with the human side, this part appears differently for different countries. Examples of technical NC2 are “command posts, communication networks, early warning systems, attack assessment means, surveillance systems, and safety mechanisms such as permissive action links.”¹⁹⁹ In a discussion about nuclear stability, specifically in South Asia, Ian Hall stresses the importance of technical NC2 components and observes that overall, it is an area that needs improvement, claiming a fundamental requirement for nuclear stability is the “general confidence that the weapons and the command-and-control systems that are declared to work actually do work.”²⁰⁰

Therefore, this thesis recommends the U.S. consider the NC2 lessons of other nuclear capable countries and ensure future policy based on acceptance of North Korea as a de facto NWS include measures for positive NC2. As Hall suggests, the existing NC2 in the region may need improvement, but the key observation is that there is precedent for it in the region. The U.S. could lean on that as a way to entice North Korea into accepting this condition.

b. Risk Reduction

The other lesson learned from nuclear powers that contributes to nuclear security is risk reduction efforts. In this area, China is a good example. China reduces nuclear security risk through multiple methods. The first method is nuclear weapons program transparency. China does not publicly release all information of its nuclear arsenal and capabilities, but it

¹⁹⁷ Tkacik, “India Nuclear Weapons: No First Use of No Full Disclosure?,” 94.

¹⁹⁸ Kerr, “Iran’s Nuclear Program: Status,” 54.

¹⁹⁹ Tkacik, “India Nuclear Weapons: No First Use of No Full Disclosure?,” 97.

²⁰⁰ Hall, “The Requirements of Nuclear Stability in South Asia,” 361.

does release some.²⁰¹ For example, SIPRI reports “China now publicly displays its nuclear forces more frequently than in the past but releases little information about force numbers or future development plans.”²⁰² Some academics give China slightly more credit regarding transparency crediting China with an unusually high amount of transparency for a country whose “nuclear weapons program developed in a closed political environment.”²⁰³ The fact that China’s program originated and is contained within China’s authoritarian government makes it a good comparative example with North Korea’s authoritarian government and also shows, that it can be done. Moreover, China has also engaged in risk reduction through the participation in international nuclear security summits, the development of nuclear security policies, the development of a nuclear security legislation and regulations, and through the creation of a system of nuclear security management, monitoring, and emergency response.²⁰⁴ Lastly, Kutchesfahani claims China’s own self-image plays a significant role in China’s steps toward nuclear security risk reduction. This is demonstrated in China’s progressive improvement in the rankings on the Nuclear Threat Initiative’s Nuclear Security Index.²⁰⁵ She claims the improvements are related to how China views itself as a nuclear power and wants the rest of the world to view China, concluding that China’s position on “nuclear risk reduction are likely motivated by two factors: First, its long-standing nuclear weapons history. And second, its self-image as the most responsible of the nuclear powers, as opposed to one that is dangerous and expansionist.”²⁰⁶

China and North Korea are not mirror images of each other, but they do have some similarities besides variations of authoritarianism. One similarity may be how North Korea wants to be perceived by the rest of the world: as a modern nuclear power. Playing into North Korea’s self-image and desire for the spotlight in the international community as a legitimate

²⁰¹ Stockholm International Peace Research Institute, *SIPRI Yearbook 2019*, 11.

²⁰² Stockholm International Peace Research Institute, 11.

²⁰³ Sara Z. Kutchesfahani, “And the Prize for Global Nuclear Security Goes To...China,” *Bulletin of the Atomic Scientists Nuclear Notebook*, December 6, 2019, Taylor & Francis.

²⁰⁴ Kutchesfahani.

²⁰⁵ Kutchesfahani.

²⁰⁶ Kutchesfahani.

nuclear power may be a useful tactic for the U.S. in an alternative policy for North Korea. By giving this aspect of North Korea's interests attention within U.S. policy, it may create more opportunity to then negotiate nuclear constraint measures that reduces risk to U.S. national security. As China exemplifies through its risk reduction actions, it is possible to safely and securely maintain nuclear weapons and be a legitimate nuclear power.

c. Multilateral Approach to Policy

Another recommended alternative to CVID is utilizing a multilateral approach to policy. International and multilateral diplomacy can be effective non-proliferation tools. The goal of this approach is two-fold. First, as the name implies, this would be an effort with multiple parties involved. Second, this approach looks to immediately slow down North Korea's nuclear proliferation efforts and make denuclearization an ultimate goal versus an immediate and solitary goal.

Past multilateral efforts such as the Agreed Framework and Six Party Talks (see Chapter II) had some better results than the U.S.'s bilateral efforts of 2018–2019. However, there were gaps with those strategies as well. Yet there are elements to these examples that make them good models for a new multilateral approach to policy. Consider the Agreed Framework with North Korea and the JCPOA with Iran. The Agreed Framework was a multilateral agreement and although it broke down, it did last for nearly a decade and had long periods of compliance. Additionally, the international, multilateral JCPOA between the remaining P5+1 and Iran has remained intact, although on shaky ground, for two years following the U.S.'s withdrawal. In the meantime, the other United Nations Security Council members have applied pressure to keep Iran in the agreement. Einhorn gives international and multilateral diplomacy a great deal of credit for progress in non-proliferation. He advocates for the application of this diplomacy in future nuclear agreements with North Korea. Einhorn still finds room from bilateral negotiations within the context of multilateral negotiations, citing that “embedding bilateral talks in a multilateral framework, such as the previous Six Party

Talks, could give any outcome greater international standing and facilitate implementation and enforcement.”²⁰⁷

d. Arms Control Initiatives

A policy that pursues an arms control objective over CVID is an alternative that may do a great deal to minimize the nuclear security risk and make progress toward eventual denuclearization. An arms control focus would not rid Kim Jung-Un of his highly valuable nuclear weapons, but would “cap North Korea’s arsenal of nuclear and long-range missiles and prevent their export.”

Such a policy has been a successful strategy in the post-Cold War environment with Russia and may be applicable and gain positive traction with North Korea as well. Arms control measures are not always successful, and some research has shown that democratic governments are more likely to abide by arms control agreements, however, that is a tendency and not a political science truth.²⁰⁸ Arms control agreements are more likely to be successful if certain prerequisites are met. The U.S. should pursue arms control if: the outcomes are in the interest of national security,²⁰⁹ it includes a built-in expectation of and plan for when North Korea cheats on the agreement,²¹⁰ and it incentivizes arms control cooperation and verification with something that will motivate North Korea.²¹¹

The first step in arms control is looking for consensus among U.S. decision-makers. Gottemoeller argues for “treaty-based arms control.”²¹² Treaty-based arms control should be pursued because they are “among the most authoritative documents in the land.”²¹³ The

²⁰⁷ Einhorn, *Non-Proliferation Challenges*, 16.

²⁰⁸ Susan Koch et al., “Securing Compliance with Arms Control Agreements,” *Comparative Strategy* 38, no. 1 (January 2, 2019): 3, <https://doi.org/10.1080/01495933.2019.1559637>.

²⁰⁹ Rose Gottemoeller, “Rethinking Nuclear Arms Control,” *The Washington Quarterly* 43, no. 3 (July 2, 2020): 140, <https://doi.org/10.1080/0163660X.2020.1813382>.

²¹⁰ R. Scott Kemp, “Unblock the Path to Peace in North Korea,” *Nature; London* 558, no. 7710 (June 21, 2018): 368, <http://dx.doi.org.libproxy.nps.edu/10.1038/d41586-018-05383-8>.

²¹¹ Jackson, “Risk Realism: The Arms Control Endgame for North Korea Policy,” 13.

²¹² Gottemoeller, “Rethinking Nuclear Arms Control,” 156.

²¹³ Gottemoeller, 156.

ratification process “requires both executive and legislative branches” which means proponents of arms control must make a clear bipartisan argument for how these arms control measures are in the interest of national security.²¹⁴ Nuclear arms control advocates must base this recommendation on an outcome that protects the U.S.’s national security interests to induce support across party-lines.

Any nuclear arms control policies should contain an expectation that at some point, North Korea will cheat on the policy terms and how the U.S. will handle such a situation. Mistrust and competing priorities of the authoritarian government may propel Kim Jung-Un to become delinquent on the agreement as Russia has done several times in the past.²¹⁵ Knowing that this scenario is likely, the U.S. can include a plan for dealing with such infractions. In this area, U.S.-Russia arms control history provides as a worthy illustration. “For example, the United States stood by the 1972 Anti-Ballistic Missile Treaty in 1985 when the administration of then U.S. President Ronald Reagan learnt that the Soviet Union had built prohibited radars. Instead of tearing up the treaty, Reagan used the evidence to pressure the Soviets into accepting a subsequent agreement that placed more restrictions on their arsenal.”²¹⁶

Lastly, it is unrealistic to expect any country to completely cooperate with nuclear arms control terms and submit to verification of compliance without there being a strong perception of adequate incentive. This thesis has established that Kim Jung-Un places such a high value on North Korea’s nuclear weapons program, it is impractical to anticipate that he will negotiate with them unless he sees value in doing so. Because Kim Jung-Un prioritizes the security of the regime at the top, the U.S. must assume that he will protect that at all costs and must find another area that both sides are willing to deal in. For example, the U.S. may be able to motivate North Korea to not only cooperate but permit verification of adherence to the policy through the following measures. The U.S. could offer a “peace regime process, phased troop reduction in South Korea, cooperative threat reduction funds, snapback sanctions relief, and a sanctions

²¹⁴ Gottemoeller, 156.

²¹⁵ Kemp, “Unblock the Path to Peace in North Korea,” 368.

²¹⁶ Kemp, 368.

removal working group.”²¹⁷ There is precedent for doing something similar to this and it may have been marginally responsible for the peaceful period in 2019 when President Trump agreed to stop combined U.S.-South Korea military exercises on the peninsula.²¹⁸ The next alternative further analyzes sanctions relief as a driving motivation for North Korea to comply with arms control initiatives.

e. Sanctions as Leverage

Sanctions are an economic tool at the disposal of states and institutions to affect the will and actions of another state. Most experts believe that sanctions are a limited resource that should be carefully and strategically applied for a specific period of time. Sanctions that are too light or too severe could have unintended consequences and not achieve the desired effect as countries under sanctions look for workarounds and ways out from underneath them. Additionally, sanctions are subject to time: Some experts argue that sanctions take years to render their full effect, and it is common for the end goal to never be achieved because the enforcing entity(s) becomes impatient and therefore, weakens or rescinds the sanctions before any significant impacts have taken their toll.²¹⁹ Sanctions are not new to North Korea. Both unilateral and bilateral sanction have been applied to North Korea for several years particularly due to North Korea’s “activities related to weapons proliferation.”²²⁰ The U.S. specifically has the following economic sanctions on North Korea still in place: limits and prohibitions on trade, arms sales and transfers, financial transactions and banking restrictions, U.S. new investment, U.S. foreign aid, blockage of U.S.-based assets, dealings with the Kim Jung-Un regime, and U.S. travel to or through North Korea.²²¹ Clearly these sanctions have not been able to prevent nuclearization, but they have been observed to have “exacted a heavy toll on

²¹⁷ Jackson, “Risk Realism: The Arms Control Endgame for North Korea Policy,” 13.

²¹⁸ “Historic Meeting in Singapore Marks a Change in Relations Between the United States and North Korea and Generates a North Korean Commitment to Work Toward Denuclearization,” *The American Journal of International Law*; *Washington* 112, no. 4 (October 2018): 763–64, <http://dx.doi.org.libproxy.nps.edu/10.1017/ajil.2018.89>.

²¹⁹ Eleanor Albert, “What to Know About Sanctions on North Korea,” Council on Foreign Relations, last modified July 16, 2019, <https://www.cfr.org/background/what-know-about-sanctions-north-korea>.

²²⁰ Dianne E. Rennack, *North Korea: Legislative Basis for U.S. Economic Sanctions*, CRS Report No. R41438 (Washington, DC: Congressional Research Service, 2020), 1.

²²¹ Rennack, 5–6.

the economy.”²²² In fact, the second U.S.-North Korea summit in Vietnam unexpectedly concluded early, without an agreement due to disagreement over sanctions relief. President Trump commented on the summit, saying, “they wanted the sanctions lifted in their entirety, and we couldn’t do that. They were willing to denuke a large portion of the areas that we wanted, but we couldn’t give up all the sanctions for that.”²²³ This indicates that North Korea does feel the effects of heavy economic sanctions. Therefore, economic sanctions, applied properly and consistently can become a useful leveraging tool in U.S. foreign policy with North Korea.

North Korea’s current economic state appears to be in a weakened status and may be an opportunity for the U.S. to take advantage of a perceived vulnerability to pursue denuclearization by using sanctions as leverage. During a speech delivered on October 10, 2020 at the 75th Anniversary of the Korean Workers’ Party celebration, Kim Jung-Un expressed “feel [ing] sorry for his people for not delivering, not catering for their economic needs.”²²⁴ As was witnessed in the Hanoi Summit, Kim Jung-Un is emphasizing a desire to bolster North Korea’s economy, but “sanctions are still influencing economic woes in North Korea.”²²⁵ There is an opening here with North Korea’s economic status, to look for a trade between North Korea’s steps toward denuclearization and the U.S. offering up more sanctions relief than it has in recent years. The U.S. could develop a “compensation package” which consists of multiple items to include relief from “certain sanctions.”²²⁶ Furthermore, any offer of sanctions relief becomes void should North Korea not comply with the terms.²²⁷ In sum, sanctions relief alone is unlikely to convince Kim Jung-Un to denuclearize and, realistically,

²²² Albert, “What to Know About Sanctions on North Korea.”

²²³ Donald J. Trump. *Remarks by President Trump in Press Conference* (Washington, DC: The White House. 2019).

²²⁴ Ankit Panda and Jeongmin Kim, “Denuclearization, Diplomacy, and Beyond: North Korea Plans for 2021,” October 29, 2020, in *The Diplomat’s Podcast on Asia Geopolitics*, produced by The Diplomat, podcast, 22:05, <https://thediplomat.com/2020/10/denuclearization-diplomacy-and-beyond-north-korea-plans-for-2021/>.

²²⁵ Panda and Kim, “Denuclearization, Diplomacy, and Beyond: North Korea Plans for 2021.”

²²⁶ Robert Einhorn, “US-DPRK Negotiations: Time to Pivot to an Interim Agreement,” 38 *North*, last modified August 2019, 8.

²²⁷ Jackson, “Risk Realism: The Arms Control Endgame for North Korea Policy,” 14.

nothing on its own likely will. But if Kim Jung-Un is making an improved economy a priority, then a promise of sanctions relief in exchange for incremental steps toward denuclearization may be an alternative strategy to nuclear policy that the U.S. can capitalize on and will yield viable and tangible results.

3. Diplomatic Policy Approach Over Coercive Policy Approach

Finally, this recommended alternative pathway to denuclearization advocates for the U.S. to pursue a policy approach that is more focused on diplomacy than coercion. To accomplish this, policy would be based on a blend of carrot and stick strategies, carrots being promises made in the event of positive behavior and sticks being threats made in the event of negative behavior. The 2017–2019 Maximum Pressure Campaign was a strategy used to impose CVID and a significant portion of Maximum Pressure relied on coercive strategies. It “included strong UN and U.S. sanctions on key North Korean entities and certain Chinese banks and facilitators...aggressive measures against the North’s global illicit activities, an international diplomatic effort, and increased emphasis on the military deterrence capabilities of the ROK-U.S. alliance.”²²⁸ In this recommendation, instead of backing CVID through coercion which seeks to attain behavior modification of the adversary through threats of violence; this strategy would seek to entice behavior modification through the inclusion of more diplomatic gestures.

The blended carrot and stick approach will likely appeal more to North Korea if it considers North Korea’s intent and interests. Additionally, with this new approach, the U.S. should seek to improve the durability of North Korea’s agreements by making equally significant concessions to North Korea and following through with them. Lastly, any strategy will find success difficult if the U.S. does not approach the strategy with its allies, specifically South Korea, in mind. For a new strategy to make any progress, the U.S. must remain engaged and supportive of the U.S.-South Korea Alliance.

²²⁸ Bradley Bowman and David Maxwell, *Maximum Pressure 2.0: A Plan for North Korea* (Washington, DC: Foundation for Defense of Democracies, 2019), 9, <https://www.fdd.org/analysis/2019/12/3/maximum-pressure-2/>.

In short, the U.S. can still pursue denuclearization but may see more success with a different strategy that blends some current strategy aspects and the recommended ones that have been discussed in this section of the thesis. For example, utilizing areas such as sanctions and military deterrence (sticks) with some more diplomatic gestures (carrots) such as arms control agreements, sanctions relief, and multilateral negotiations to elicit North Korean cooperation.

C. CONCLUSION

This thesis asked if continuing to pursue a policy with North Korea which demanded CVID—complete, verifiable, irreversible denuclearization—is the best policy to achieve viable results. The research determined that there are alternatives to CVID that would yield more concrete results in the future. Curbing nuclear proliferation in North Korea will take more than what has been done thus far. It is well understood that North Korea’s track record for nuclear agreement compliance is bad and it rarely fully complies with the terms of the agreements. It is difficult to ascertain with complete certainty what North Korea’s true motives and intentions are due to its reclusive characteristics, but it is widely accepted that Kim Jung-Un places extreme value in the benefits of a nuclear weapons program for a variety of probable reasons that this thesis explored. This thesis finds that policy that supports the goal of containing and reducing North Korean nuclear proliferation, instead of only eliminating it, is likely to be more successful. The recommendations for alternative policy in this thesis are not all inclusive, but it is a new direction to explore for building diplomatic relations and repour that will mitigate and reduce the immediate North Korea nuclear threat, maintain U.S. security, national interests and stability in the region, and be a pathway toward denuclearization in time.

This thesis further recommends that future policy—whatever it may be—consider doing the following:

- Reconsider North Korea’s threat perception and what its interests in nuclear weapons are.
- Develop policy grounded in the acceptance of North Korea as a defacto nuclear weapons state and consider the factors that drove North Korea and other states to nuclearize and similarly, to abort nuclearization.

- Develop policy that considers Kim Jung-Un as a rational actor who will be extremely unlikely to roll back his nuclear weapons program for what may be considered an uneven trade and of much lesser value than the nuclear weapons program.
- View denuclearization as a long-term goal and take policy action that addresses near-term goals that are less than full denuclearization.

Moreover, this thesis recognizes that the best option for U.S. national security is the complete dismantlement of North Korea's nuclear weapons program. However, through the research, especially through the comparative case study, it also recognizes that the pathways to denuclearization are unique to the circumstances of the country involved. Therefore, it is in the interests of the U.S., the non-proliferation regime, and the international community to work together to resolve the unique nuclear proliferation threat posed by North Korea. Cooperation from the non-proliferation regime will be a critical component to strengthen any future denuclearization policy.

LIST OF REFERENCES

- 38 North. "A More Realistic and Restrained U.S. Policy Toward North Korea | 38 North: Informed Analysis of North Korea," August 12, 2019. <https://www.38north.org/2019/08/ddepetris081219/>.
- Albert, Eleanor. "What to Know About Sanctions on North Korea." Council on Foreign Relations, July 16, 2019. <https://www.cfr.org/background/what-know-about-sanctions-north-korea>.
- . "What's the Status of North Korea's Nuclear Program?" Council on Foreign Relations, November 16, 2020. <https://www.cfr.org/background/north-koreas-military-capabilities>.
- Altman, Dan, and Nicholas L. Miller. "Red Lines in Nuclear Nonproliferation." *The Nonproliferation Review* 24, no. 3–4 (May 4, 2017): 315–42. <https://doi.org/10.1080/10736700.2018.1433575>.
- Asser, Martin. "The Muammar Gaddafi Story." *BBC News*, October 21, 2011, sec. World-Africa. <https://www.bbc.com/news/world-africa-12688033>.
- Aum, Frank, Jacob Stokes, Patricia Kim M., Atman M. Trivedi, Rachel Vandenbrink, Jennifer Staats, and Joseph Y. Yun. "A Peace Regime for the Korean Peninsula." Peaceworks. Washington, DC: United States Institute of Peace, February 2020. <https://www.usip.org/publications/2020/02/peace-regime-korean-peninsula>.
- Bajoria, Jayshree, and Esther Pan. "The U.S.-India Nuclear Deal." Council on Foreign Relations, November 5, 2010. <https://www.cfr.org/background/us-india-nuclear-deal>.
- Bermudez, Joseph S. *North Korea's Development of a Nuclear Weapons Strategy*. North Korea's Nuclear Future Series. United States: US-Korea Institute at SAIS, 2015. <https://www-jstor-org.libproxy.nps.edu/stable/resrep11154?refreqid=excelsior%3Af8726c0d4238860fad13205d26fb0bc7>.
- Bleek, Philipp C. *When Did (and Didn't) States Proliferate? Chronicling the Spread of Nuclear Weapons*. Managing the Atom Project. Monterey, CA: Belfer Center for Science and International Affairs, Harvard Kennedy School and the James Martin Center for Nonproliferation Studies, Middlebury Institute of International Studies, 2017. <https://www.belfercenter.org/publication/when-did-and-didnt-states-proliferate>.

Bowman, Bradley, and David Maxwell. *Maximum Pressure 2.0: A Plan for North Korea*. Washington, DC: Foundation for Defense of Democracies, 2019. <https://www.fdd.org/analysis/2019/12/3/maximum-pressure-2/>.

Braut-Hegghammer, Målfrid. “Libya’s Nuclear Turnaround: Perspectives from Tripoli.” *Middle East Journal* 62, no. 1 (2008): 55–72. <http://www.jstor.org/stable/25482472>.

Center for Strategic and International Studies. “Missiles of North Korea.” Missile Defense Project, July 16, 2020. <https://missilethreat.csis.org/country/dprk/>.

Central Intelligence Agency. “The World Factbook.” Central Intelligence Agency, November 24, 2020. <https://www.cia.gov/library/publications/resources/the-world-factbook/>.

Cha, Victor D. “North Korea’s Weapons of Mass Destruction: Badges, Shields, or Swords?” *Political Science Quarterly* 117, no. 2 (June 2002): 209–30. <https://doi.org/10.2307/798181>.

Cha, Victor, D. *The Impossible State: North Korea, Past and Future*. Updated Edition. New York: Ecco, 2018.

Cha, Victor D. “The North Korea Question.” *Asian Survey* 56, no. 2 (2016): 243–69. <https://doi.org/10.2307/26663696>.

———. *Next Steps on U.S. Policy toward North Korea: Hearing before the Subcommittee on East Asia, the Pacific, and International Cybersecurity Policy of the Committee on Foreign Relations, Senate, 115th Cong. 2* (2018) (statement by Victor Cha, Ph.D., Professor of Government, Georgetown University Senior Adviser and Korea Chair, Center for Strategic and International Studies, and Fellow in Human Freedom, George W. Bush Institute).

Cha, Victor D., and David C. Kang. *Nuclear North Korea: A Debate on Engagement Strategies*. 2nd ed. New York: Columbia University Press, 2018.

Cha, Victor D, Andrew Schwartz, and Sui Mi Terry. “The Impossible State.” Podcast. *The Impossible State: A New Strategy for North Korea*, n.d. <https://www.csis.org/podcasts/impossible-state>.

Cha, Victor, and Katrin Fraser Katz. “The Right Way to Coerce North Korea: Ending the Threat without Going to War Essays.” *Foreign Affairs* 97, no. 3 (2018): 87–102. <https://heinonline.org/HOL/P?h=hein.journals/fora97&i=519>.

- Chanlett-Avery, Emma, Mark E Manyin, Mary Beth D Nikitin, Caitlin Elizabeth Campbell, and Wil Mackey. *North Korea: U.S. Relations, Nuclear Diplomacy, and Internal Situation*. CRS Reprt No. R41259. Washington, DC: Congressional Research Service, 2018. <https://crsreports.congress.gov/product/details?prodcode=R41259>.
- Choquette, Brian. “The Wrong Model: Libya and the U.S.-North Korea Negotiations.” *Journal of International Affairs*, July 20, 2018. <https://jia.sipa.columbia.edu/online-articles/wrong-model-libya-and-us-north-korea-negotiations>.
- Christine Ahn, Suzanne Dimaggio, Markus Garlauskas, Van Jackson, Ankit Panda, and Frank Aum. “A New Direction for U.S. Policy on North Korea.” In *United States Institute of Peace*. Washington, DC: USIP, 2020. <https://www.usip.org/events/new-direction-us-policy-north-korea>.
- Cirincione, Joseph. *Bomb Scare: The History & Future of Nuclear Weapons*. New York and Chichester, West Sussex: Columbia University Press, 2007.
- Clary, Christopher, and Vipin Narang. “India’s Counterforce Temptations: Strategic Dilemmas, Doctrine, and Capabilities.” *International Security* 43, no. 3 (February 1, 2019): 7–52. https://doi.org/10.1162/isec_a_00340.
- CNNPolitics. “Full Text of Trump-Kim Signed Statement.” CNNPolitics, June 12, 2018. <https://www.cnn.com/2018/06/12/politics/read-full-text-of-trump-kim-signed-statement/index.html>.
- Coe, Andrew J., and Jane Vaynman. “Collusion and the Nuclear Nonproliferation Regime.” *The Journal of Politics* 77, no. 4 (October 1, 2015): 983–97. <https://doi.org/10.1086/682080>.
- Collins, Lisa. “25 Years of Negotiations and Provocations: North Korea and the United States.” CSIS Beyond Parallel, October 2, 2017. <https://beyondparallel.csis.org/25-years-of-negotiations-provocations/>.
- Critchlow, Robert D. *Nuclear Command and Control: Current Programs and Issues*. CRS Report No. RL33408. Washington, DC: Congressional Research Service, 2006. <https://fas.org/sgp/crs/nuke/RL33408.pdf>.
- Depetris, Daniel R. “A More Realistic and Restrained U.S. Policy Toward North Korea | 38 North: Informed Analysis of North Korea.” 38 North, August 12, 2019. <https://www.38north.org/2019/08/ddepetris081219/>.
- Eberstadt. *Confronting the North Korea Threat: Reassessing Policy Options: Hearing before the Committee on Foreign Relations, 115th Cong. 1 (2017)* (statement of Nicolas Eberstadt, Ph.D., Henry Wendt Chair in Political Economy, American Enterprise Institute, Washington, DC.), 2020.

- Einhorn, Robert. *Non-Proliferation Challenges Facing the Trump Administration*. Arms Control and Non-Proliferation Series Paper 15. Washington, DC: The Brookings Institution, 2017. <https://www.brookings.edu/research/non-proliferation-challenges-facing-the-trump-administration/chac>.
- . “US-DPRK Negotiations: Time to Pivot to an Interim Agreement.” 38 North, August 2019. <https://www.38north.org/reports/2019/08/reinhorn080219/>.
- Einhorn, Robert J. “Identifying Nuclear Aspirants and Their Pathways to the Bomb.” *The Nonproliferation Review* 13, no. 3 (November 2006): 491–99. <https://doi.org/10.1080/10736700601071546>.
- Elleman, Michael. “Why a Formal End to North Korean Missile Testing Makes Sense.” 38 North, February 26, 2019. <https://www.38north.org/2019/02/melleman022619/>.
- Gallucci, Robert L, and Joel S Wit. “North Korea’s Real Lessons for Iran.” *New York Times*, April 10, 2015. <https://www.nytimes.com/2015/04/11/opinion/north-koreas-real-lessons-for-iran.html>.
- García, Santiago Espinosa, and María Patricia Domínguez Echeverría. “Muammar Gaddafi’s Legacy: A Domestic & Intellectual Approach.” *The Journal of Pan African Studies (Online)*; *Los Angeles* 11, no. 3 (February 2018): 4–25. <http://search.proquest.com/docview/2010312243/abstract/553B0AC687FF4DF2PQ/1>.
- Goldstein, Lyle J. “When China Was a ‘Rogue State’: The Impact of China’s Nuclear Weapons Program on US–China Relations during the 1960s.” *Journal of Contemporary China* 12, no. 37 (November 1, 2003): 739–64. <https://doi.org/10.1080/1067056032000117731>.
- Gottmoeller, Rose. “Rethinking Nuclear Arms Control.” *The Washington Quarterly* 43, no. 3 (July 2, 2020): 139–59. <https://doi.org/10.1080/0163660X.2020.1813382>.
- Hall, Ian. “The Requirements of Nuclear Stability in South Asia.” *The Nonproliferation Review* 21, no. 3–4 (October 2, 2014): 355–71. <https://doi.org/10.1080/10736700.2014.1072991>.
- Hecker, Siegfried. “Analyze and Act Accordingly.” USNEWS.COM, April 20, 2017. <https://www.usnews.com/opinion/debate-club/articles/2017-04-20/donald-trump-must-analyze-north-koreas-nuclear-crisis-and-act-accordingly>.
- . “Why Insisting on a North Korean Nuclear Declaration Up Front Is a Big Mistake.” 38 North, November 28, 2018. <https://www.38north.org/2018/11/shecker112818/>.

- Heginbotham, Eric, Michael S. Chase, Jacob L. Heim, Bonny Lin, Mark Cozad, Lyle J. Morris, Christopher P. Twomey et al. *China's Evolving Nuclear Deterrent: Major Drivers and Issues for the United States*. RR-1628-AF. Santa Monica, CA: RAND Corporation, 2017. https://www.rand.org/pubs/research_reports/RR1628.html.
- Hersman, Rebecca K. C., and Robert Peters. "Nuclear U-Turns." *The Nonproliferation Review* 13, no. 3 (November 1, 2006): 539–53. <https://doi.org/10.1080/10736700601071629>.
- Hess, Ashley A.C. "Why Does North Korea Engage in Provocations?" *Journal of Asian Security and International Affairs* 5, no. 1 (April 1, 2018): 57–83. <https://doi.org/10.1177/2347797017749044>.
- "Historic Meeting in Singapore Marks a Change in Relations Between the United States and North Korea and Generates a North Korean Commitment to Work Toward Denuclearization." *The American Journal of International Law; Washington* 112, no. 4 (October 2018): 763–70. <http://dx.doi.org.libproxy.nps.edu/10.1017/ajil.2018.89>.
- Hymans, Jacques E.C. "Veto Players, Nuclear Energy, and Nonproliferation: Domestic Institutional Barriers to a Japanese Bomb." *International Security* 36, no. 2 (October 2011): 154–89. https://doi.org/10.1162/ISEC_a_00059.
- Jackson, Van. *On the Brink: Trump, Kim, and the Threat of Nuclear War*. Cambridge, United Kingdom: Cambridge University Press, 2018.
- . "Risk Realism: The Arms Control Endgame for North Korea Policy." Washington, DC: Center for a New American Security, September 24, 2019. <https://www.cnas.org/publications/reports/risk-realism>.
- James Martin Center for Nonproliferation Studies. "The CNS North Korea Missile Test Database." Nuclear Threat Initiative (NTI), March 31, 2020. <https://www.nti.org/analysis/articles/cns-north-korea-missile-test-database/>.
- . "Yongbyon 5MWe Reactor." Nuclear Threat Initiative (NTI), July 19, 2018. <https://www.nti.org/learn/facilities/766/>.
- Jervis, Robert, and Mira Rapp-Hooper. "Perception and Misperception on the Korean Peninsula: How Unwanted Wars Begin." *Foreign Affairs* 97, no. 3 (May 1, 2018): 103–17.
- Kemp, R. Scott. "Unblock the Path to Peace in North Korea." *Nature; London* 558, no. 7710 (June 21, 2018): 367–69. <http://dx.doi.org.libproxy.nps.edu/10.1038/d41586-018-05383-8>.

- Kennedy, John F. "Address at University of Washington - Transcript." JFK Library, November 16, 1961. <https://www.jfklibrary.org/node/11671>.
- Kerr, Paul K. "Iran's Nuclear Program: Status." *Current Politics and Economics of the Middle East* 9, no. 1 (January 1, 2018): 151–250. ProQuest.
- Koch, Susan, Thomas Scheber, Kurt Guthe, and Robert Joseph. "Securing Compliance with Arms Control Agreements." *Comparative Strategy* 38, no. 1 (January 2, 2019): 1–87. <https://doi.org/10.1080/01495933.2019.1559637>.
- Kutchesfahani, Sara Z. "And the Prize for Global Nuclear Security Goes To...China." *Bulletin of the Atomic Scientists Nuclear Notebook*, December 6, 2019. Taylor & Francis.
- Lankov, Andrei. "Kim Jong Un Is a Survivor, Not a Madman." *Foreign Policy*, April 26, 2017. <https://foreignpolicy.com/2017/04/26/kim-jong-un-is-a-survivor-not-a-madman/>.
- Lanoszka, Alexander. *Atomic Assurance: The Alliance Politics of Nuclear Proliferation*. Ithaca: Cornell University Press, 2018. <http://ebookcentral.proquest.com/lib/ebook-nps/detail.action?docID=5965031>.
- Milani, Marco. *The Evolution of the North Korean Nuclear Program: From Survival Strategy to Ideological Legitimization*. Academic Paper Series. Washington, DC: Korea Economic Institute of America, 2018. <https://keia.org/publication/the-evolution-of-the-north-korean-nuclear-program-from-survival-strategy-to-ideological-legitimization/>.
- Miller, Nicholas L, and Vipin Narang. "North Korea Defied the Theoretical Odds: What Can We Learn from Its Successful Nuclearization?" *Texas National Security Review* 1, no. 2 (March 2018): 59–74.
- Missile Threat. "Missiles of North Korea." Accessed November 30, 2020. <https://missilethreat.csis.org/country/dprk/>.
- North Korea Leadership Watch. "New Year's Address." North Korea Leadership Watch, January 1, 2018. <http://www.nkleadershipwatch.org/2018/01/01/new-years-address/>.
- Nuclear Threat Initiative. "North Korea." Nuclear Threat Initiative (NTI), October 2018. <https://www.nti.org/learn/countries/north-korea/nuclear/>.
- Office of Nuclear Energy. "Nuclear 101: How Does a Nuclear Reactor Work?" Office of Nuclear Energy, May 19, 2020. <https://www.energy.gov/ne/articles/nuclear-101-how-does-nuclear-reactor-work>.

- Pak, Jung H, and Ryan L Hass. *Beyond Maximum Pressure: A Pathway to North Korean Denuclearization*. Policy Brief. Washington, DC: Brookings Institute, 2017. <https://www.brookings.edu/research/beyond-maximum-pressure-a-pathway-to-north-korean-denuclearization/>.
- Panda, Ankit. “Denuclearization, Diplomacy, and Beyond: North Korea Plans for 2021.” Podcast. The Diplomat’s Podcast on Asia Geopolitics, n.d. <https://thediplomat.com/2020/10/denuclearization-diplomacy-and-beyond-north-korea-plans-for-2021/>.
- Park, Steve. “NS4690: Session 6 (Future of the ROK-US Alliance).” lecture, Naval Postgraduate School, Monterey, CA, July 23, 2020.
- Rennack, Dianne E. *North Korea: Legislative Basis for U.S. Economic Sanctions*. CRS Report No. R41438. Washington, DC: Congressional Research Service, 2020. <https://fas.org/sgp/crs/row/R41438.pdf>.
- Roberts, Brad. 38 North, November 2020. <https://www.38north.org/reports/2020/11/broberts110320/>.
- Sagan, Scott D. “Why Do States Build Nuclear Weapons?: Three Models in Search of a Bomb.” *International Security* 21, no. 3 (1996): 54–86. <https://doi.org/10.2307/2539273>.
- Sagan, Scott D., and Benjamin A. Valentino. “Living With a Nuclear North Korea; Most Americans Aren’t Interested in a Military Solution to the Threat—but Also Overestimate the U.S. Ability to Counter It.” *Wall Street Journal* (Online), March 8, 2019. <http://libproxy.nps.edu/login?url=https://www-proquest-com.libproxy.nps.edu/newspapers/living-with-nuclear-north-korea-most-americans/docview/2189000093/se-2?accountid=12702>.
- Sagan, Scott D., and Kenneth N. Waltz. *The Spread of Nuclear Weapons: An Enduring Debate*. Third. New York and London: W.W. Norton & Company, 2013.
- Sanders-Zakre, Alicia. “Chronology of U.S.-North Korean Nuclear and Missile Diplomacy.” *Arms Control*, June 2019. <https://www.armscontrol.org/factsheets/dprkchron>.
- Saunders, Elizabeth N. “The Domestic Politics of Nuclear Choices—A Review Essay.” *International Security* 44, no. 2 (October 2019): 146–84. https://doi.org/10.1162/isec_a_00361.
- Shiffrinson, Joshua. “Security in Northeast Asia: Structuring a Settlement.” *Strategic Studies Quarterly* 13, no. 2 (Summer 2019): 23–47. <http://libproxy.nps.edu/login?url=https://www-proquest-com.libproxy.nps.edu/trade-journals/security-northeast-asia-structuring-settlement/docview/2310622545/se-2?accountid=12702>.

- Solingen, Etel. *Nuclear Logics: Contrasting Paths in East Asia and the Middle East*. Princeton: Princeton University Press, 2007. <http://ebookcentral.proquest.com/lib/ebook-nps/detail.action?docID=445551>.
- State Department. “Remarks on DPRK at Stanford University.” United States Department of State, January 31, 2019. <https://www.state.gov/remarks-on-dprk-at-stanford-university/>.
- . “U.S. Relations With Taiwan.” U.S. Department of State, 2018. <https://www.state.gov/u-s-relations-with-taiwan/>.
- Stockholm International Peace Research Institute. “Nuclear Weapon Modernization Continues but the Outlook for Arms Control Is Bleak: New SIPRI Yearbook out Now.” Stockholm International Peace Research Institution, June 15, 2020. <https://www.sipri.org/media/press-release/2020/nuclear-weapon-modernization-continues-outlook-arms-control-bleak-new-sipri-yearbook-out-now>.
- . *SIPRI Yearbook 2019: Armaments, Disarmament and International Security*. Solna, Sweden: Oxford University Press, 2019. https://www.sipri.org/sites/default/files/2019-06/yb19_summary_eng_1.pdf.
- Tajbakhsh, Kian. “Who Wants What from Iran Now? The Post-Nuclear Deal U.S. Policy Debate.” *The Washington Quarterly* 41, no. 3 (July 3, 2018): 41–61. <https://doi.org/10.1080/0163660X.2018.1519347>.
- Terry, Sue Mi, and Max Boot. “The Wrong Lessons From North Korea Avoiding a Nuclear Iran.” *Foreign Affairs*, April 22, 2015. <https://www.foreignaffairs.com/articles/north-korea/2015-04-22/wrong-lessons-north-korea>.
- The Economist. “Tortoise v Hare; China and America.” *The Economist*, April 1, 2017. ProQuest Central.
- Tkacik, Michael. “India Nuclear Weapons: No First Use of No Full Disclosure?” *Defense Studies* 17, no. 1 (March 23, 2016): 84–109. <https://doi-org.libproxy.nps.edu/10.1080/14702436.2016.1271721>.
- Wampler, Robert A., ed. “National Security Archive Electronic Briefing Book No. 87.” In *North Korea and Nuclear Weapons: The Declassified U.S. Record*. Washington, DC: The George Washington University, 2003.
- White House. “Joint Statement of President Donald J. Trump of the United States of America and Chairman Kim Jong Un of the Democratic People’s Republic of Korea at the Singapore Summit.” White House, June 12, 2018. <https://www.whitehouse.gov/briefings-statements/joint-statement-president-donald-j-trump-united-states-america-chairman-kim-jong-un-democratic-peoples-republic-korea-singapore-summit/>.

- . “President Donald J. Trump’s State of the Union Address.” White House, January 30, 2018. <https://www.whitehouse.gov/briefings-statements/president-donald-j-trumps-state-union-address/>.
- . “Remarks by President Trump in Press Conference | Hanoi, Vietnam.” White House, February 28, 2019. <https://www.whitehouse.gov/briefings-statements/remarks-president-trump-press-conference-hanoi-vietnam/>.
- . *The National Security Strategy of the United States of America*. Washington, DC: White House, 2017. <https://www.whitehouse.gov/wp-content/uploads/2017/12/NSS-Final-12-18-2017-0905.pdf>.

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