



universität
wien

MASTER THESIS

Titel der Master Thesis / Title of the Master's Thesis

“North Korea’s nuclear program: mistrust, entrapment,
defiance, missed opportunities - and more mistrust”

verfasst von / submitted by

Stefan Emanuel Fink

angestrebter akademischer Grad / in partial fulfilment of the requirements for the degree of
Master of Advanced International Studies (M.A.I.S.)

Wien 2020 / Vienna 2020

Studienkennzahl lt. Studienblatt
Postgraduate programme code as it appears
on the student record sheet:

A 992 940

Universitätslehrgang lt. Studienblatt
Postgraduate programme as it appears on
the
student record sheet:

Internationale Studien / International Studies

Betreut von / Supervisor:

Professor Markus Kornprobst



diplomatische
akademie wien
Vienna School of International Studies
École des Hautes Études Internationales de Vienne

Pledge of Honesty: „On my honour as a student of the Diplomatische Akademie Wien, I submit this work in good faith and pledge that I have neither given nor received unauthorized assistance on it.”



Stefan Emanuel Fink

Table of Contents

Abstracts in English and German	1
Introduction.....	2
Chapter 1: Definitions, Literature Review, Theoretical Framework and Methodology	3
Definitions	3
Literature Review	5
Theoretical Framework	8
Methodology	14
Chapter 2: North Korea’s Nuclear Power Status: A Historical Account	14
Nuclear Origins.....	14
A changing Security Environment	17
Recent Developments and “Little Rocket Man”	25
Chapter 3: An Addition to the Literature	27
State Identity, Mistrust, and Misguided Strategies.....	27
Path Dependency in North Korea’s Nuclear Development	37
Nuclear Bargaining, Sanctions and Alliances.....	46
Conclusion and Outlook.....	54
Bibliography	55

Being perhaps the single most complex case of nuclear proliferation, this thesis discusses North Korea's nuclear program. Structured into three sections, this paper provides an overview over Pyongyang's nuclear quest in form of an extensive historical account. Taking into consideration the interplay of various nuclear drivers, this thesis subsequently makes three additions to the existing literature. Examining why nuclear dissuasion has failed in the case of Democratic Peoples' Republic of Korea, it will be argued that North Korea's state identity is at great odds with an US strategy of coercive diplomacy. Further, path dependency has created institutional pressures that have made it unlikely for Pyongyang to abandon its nuclear program. In addition, nuclear bargaining models illustrate that cost-benefit calculations, the absence of generous nuclear agreements, and alliance dynamics all pushed North Korea towards pursuing a nuclear breakout. Finally, it is concluded that today nuclear disarmament is *almost* impossible.

Diese These thematisiert das nordkoreanische Atomprogramm bei dem es sich um den wahrscheinlich komplexesten Fall von nuklearer Proliferation handelt. In drei Kapiteln gegliedert, wird diese These zuerst einen Überblick über Pjöngjangs nukleare Bestrebungen in Form einer umfassenden historischen Darstellung geben. Unter Berücksichtigung des Zusammenspiels verschiedener nuklearer Beweggründe werden daraufhin drei Ergänzungen zur bestehenden Literatur bereitgestellt. Anhand der Fragestellung, warum die nukleare Abschreckung im Falle Nordkoreas gescheitert ist, wird dargelegt, dass Nordkoreas Staatsidentität in großem Widerspruch zu einer US-Strategie der Zwangsdiplomatie steht. Darüber hinaus hat die nukleare Pfadabhängigkeit institutionellen Druck erzeugt, der es für Pjöngjang unwahrscheinlich macht, sein Atomprogramm aufzugeben. Zudem veranschaulichen nukleare Verhandlungsmodelle, dass Kosten-Nutzen-Kalkulationen, das Fehlen großzügiger Nuklearabkommen und Bündnisdynamiken Nordkorea dazu veranlasst haben, einen nuklearen Ausbruch anzustreben. Abschließend werden die Argumente der These zusammengefasst um zu dem Schluss zu kommen, dass eine nukleare Abrüstung heute nahezu unmöglich ist.

Introduction

October 9, 2006 is a date of historical importance for North Korea. On this day, Pyongyang had its nuclear breakout moment. The Korean Central News Agency (2006), the state news agency of North Korea, celebrated the underground nuclear test which came “at a stirring time when all the people of the country are making a great leap forward in the building of a great, prosperous, powerful socialist nation ... The nuclear test ... marks a historic event as it greatly encouraged and pleased the KPA {Korean People’s Army} and people that have wished to have powerful self-reliant defense capability”. North Korea (DPRK) thus became the ninth and most recent member in the club of nuclear powers. Given the small number of states which have been able to acquire an atomic bomb and bearing in mind the immense destructive power of this weapon, each proliferation case has to be studied closely in order to understand nuclear motivations and to ensure that the number of nuclear powers remains as small as possible. The Kim regime’s nuclear drive is a particularly fascinating and complex case of nuclear proliferation but also of international diplomacy more broadly. In many ways, North Korea had the odds stacked against it. Struggling economically for decades and being greatly isolated in the international system, the continued existence of North Korea as a Marxist country has puzzled scholars for decades. Several authors have predicted the impending collapse of North Korea at various points in history. For instance, in the 1990s, Rosenberger (1994) already discussed scenarios for Korean unification after Pyongyang’s demise. Consequently, Hirose and Kurizaki (2019: 287) assert that “North Korea’s survival is an outlier compared to the fate of other rogue states in the recent history of world politics” as countries like Libya, Syria, Iraq or Afghanistan “have suffered destructive aggression by US-led coalitions because of the threats they posed to the international society”. The DPRK, however, was not only able to survive, it also managed to complete the extremely complicated feat of building a nuclear bomb despite its obvious lack of resources. As such, North Korea today is a truly unique and heavily weaponized pariah state, posing a threat not only to its own population (human rights violations are grave and widespread), but also to regional and international security. Understanding and possibly resolving the North Korean nuclear issue will therefore be an important task for scholars and policymakers throughout the coming years. An adequate understanding of what has caused the DPRK’s nuclear drive and why the international society has failed to stop it is instrumental for future policy decisions in the field of non-proliferation.

This paper makes a significant contribution in this regard by answering the following research question: *Why has nuclear dissuasion failed in the case of North Korea?* This research also encompasses the following important sub-questions:

- Why and how has North Korea attained nuclear weapons in the first place?
- How has this process looked like historically and what were crucial moments?

- Why have past diplomatic efforts not caused North Korea to abandon its nuclear pursuit?
- What has caused Pyongyang to pursue nuclear advancements?
- Looking forward, can North Korea be persuaded to abandon its nuclear arsenal?

This thesis is structured into three chapters. After the first chapter introduces the theoretical framework, Chapter 2 provides a detailed overview of the nuclear history of the DPRK. In Chapter 3 new insights will be developed, showing how state identity, path dependency, nuclear bargaining and alliance dynamics have motivated North Korea to defy extensive international pressure and to acquire and maintain a nuclear arsenal. In its conclusion, this thesis argues that under current circumstances, the Kim regime is unlikely to give up its nuclear arms any time soon.

Chapter 1: Definitions, Literature Review, Theoretical Framework and Methodology

Definitions

When writing about nuclear proliferation and nuclear dissuasion, one first has to define key terminology. First and foremost, this paper draws on the definitions offered by the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) for that it is the main agreement in this area of international law. The stated goal of the NPT is “to prevent the spread of nuclear weapons and weapons technology, to promote cooperation in the peaceful uses of nuclear energy and to further the goal of achieving nuclear disarmament and general and complete disarmament” (United Nations Office for Disarmament Affairs 2020). Articles 1 to 3 of the NPT specify the requirements concerning non-proliferation. Nuclear weapon states shall not transfer any nuclear weapons or weapons technology and shall not “assist, encourage, or induce any non-nuclear-weapon state” to acquire nuclear weapons (International Atomic Energy Agency 1970: 2). In addition, each non-nuclear-weapon state party shall not receive nuclear transfers for non-peaceful use, shall not “manufacture or otherwise acquire nuclear weapons or other nuclear explosive devices” and shall not “seek or receive any assistance in the manufacture of nuclear weapons or other nuclear explosive devices” (International Atomic Energy Agency 1970: 2).

Assuming that nuclear proliferation is defined as the exact opposite to non-proliferation, this paper uses following definition of nuclear proliferation: *Any effort to receive or any reception of non-peaceful nuclear transfers, nuclear weapons technology or nuclear weapons by any country that is not recognized by the NPT as a nuclear weapon state or any effort by a nuclear weapon state to share or assist a non-nuclear-weapon state in its attempts to acquire or built nuclear weaponry.* Such a

definition is in line with the existing scholarship on nuclear proliferation and also accepted by the wider academia. Tannenwald (2013: 302), for instance, shows that the basic principle of the non-proliferation regime is that the nuclear weapon states (NWS) “agree not to share military nuclear technology, while non-nuclear weapons states (NNWS) agree not to acquire nuclear arms”. Consequently, nuclear proliferation is defined as any effort to acquire nuclear arms. The Encyclopaedia Britannica (2020) also defines nuclear proliferation in such terms, describing it as “the spread of nuclear weapons, nuclear weapons technology, or fissile material to countries that do not already possess them”.

The final terms that need more defining are concepts of coercive diplomacy which spotlights the threat of use of force used to *dissuade* an actor from doing something and the threat of use of force to *persuade* an actor to do something. Schelling (1963, 1966) offers the perhaps most influential account of coercive diplomacy (and the one this paper predominately draws upon). He describes *deterrence* and *compellence* as being opposite in character. Most principally, Schelling (1966: 69) defines deterrence as “a threat intended to keep him {the adversary} from starting something”. In similar ways, George and Smoke (1974: 11) write that “deterrence is simply the persuasion of one's opponent that the costs and/or risks of a given course of action he might take outweigh its benefits”. For deterrence to work the costs of action must outweigh the benefits of action in the challenger's rational calculus. Schelling (1966: 69) contrasts deterrence with compellence which is described as “a threat intended to make an adversary do something”. Compellence analysis thus focuses on the compelling side and how its actions modify (or do not modify) the behavior of the target. While the act of brute force has immediate consequences, compellence stresses punishment if action is not taken within a certain timeline.

Hence, deterrence is seen as a static strategy while compellence is dynamic since it requires formulation of demands, deadlines the implementation of punitive action. “Deterrence involves setting the stage and waiting. By contrast, compellence usually involves initiating an action (or an irrevocable commitment to action) that can cease or become harmless only if the opponent responds” (Sperandei 2006: 267). Authors like Hagood (2005) describe a concept similar to compellence with the term of *nuclear dissuasion*. In the context of strategic decision by the United States of America (US), the author defines dissuasion as “the active constraint of rationally beneficial options available to a current or potential geopolitical rival in order to preserve the national interests or goals of the US, its allies, or its friends” (Hagood 2005: 176). Kugler (2002: 2) defines the term in similar fashion as aiming at “urging potential geopolitical rivals not to become real rivals by making clear that any sustained

malevolent conduct will be checkmated by the United States". Dissuasion therefore applies to "a *potential* enemy *without* the threat of imminent war; deterrence and defense are reserved for currently antagonistic or hostile adversaries" (Hagood 2005: 174). Dissuasive strategies are applied "when the United States is dealing not with a full-fledged adversary but with a country with which it has a mixed relationship of cool peace, mutual suspicions, and common incentives to avoid violence" (Kugler 2002: 1).

Which tools come into question for such tactics? Kugler (2002: 1) notes that "threatening direct military retaliation as an ever present-reality" is misplaced and reserved for deterrence. Rather, subtle shows of military strength should be balanced with "cooperative instruments of foreign policy" including diplomacy, economic assistance, trade, or political engagement. Discussion dissuading nuclear proliferation explicitly, Hagood (2005: 175) notes that "a dissuasive strategy that does not rely solely upon the threat of nuclear retaliation but also includes {long-term} economic and diplomatic engagement may be in order because the driving forces of development of nuclear programs includes non-military and non-deterrable factors".

Literature Review

After witnessing the first ever detonation of an atomic bomb in July 1945, Robert Oppenheimer, head of the Manhattan Project, famously stated: "Now I am become Death, the destroyer of worlds" (quoted in Hijiya 2000: 44). Ever since the first use of nuclear force during the 1945 bombings of Hiroshima and Nagasaki, nuclear weapons and nuclear proliferation has been one of the most thoroughly discussed topics of international relations. The destructive power of nuclear explosions has both fascinated and worried scholars, meaning that much has been written on how nuclear weapons have changed international relations, warfare, and international conflict resolution, as well as strategic calculations. Cases studies like North Korea have likewise attracted great academic attention. As the following literature review shows, the scholarship has provided valuable in-depth accounts of the DPRK's nuclear path. There are, however, some gaps in the existing literature, which this paper seeks to fill.

Historical Accounts

Chapter 2 of this thesis provides a descriptive historical account of the Democratic People's Republic of Korea's nuclear road. One big issue in this regard is the lack of inside information regarding decision-making in Pyongyang as North Korea continues to be greatly isolated. Details about calculations by the Kim regime usually remain unknown, or, as McEachern's (2010: 11) puts it, "North Korea is a data-

poor country". Nevertheless, the scholarship has provided some insightful accounts of negotiations and historical developments. Sigal's (2001) *Disarming Strangers* suggests that a lack of enthusiasm for cooperative give-and-take diplomacy by consecutive White House administrations has been a key reason for the failure of diplomacy. The author at times strikes an almost apologetic tone when discussing the North Korean proliferation case. Wit, Poneman and Gallucci's (2004) *Going Critical* provides a positive assessment of the Agreed Framework and argues for future engagement. The authors raise interesting questions like "whether the immorality of the Pyongyang regime and its untrustworthy character should dissuade the Americans from seeking a negotiated settlement with such a regime" (Wit, Poneman and Gallucci's 2004: 384). Yet, like Sigal (2001), their account does not cover the period after the nuclear breakout moment in 2006. Pollack's (2011) *No Exit* offers another insightful description of Pyongyang's nuclear road, highlighting how nuclear bombs have become instrumental to the Kim regime's principal priority of regime survival. Clemens (2016) offers a more recent historical accounts and argues in favor of employing a strategy of graduated reciprocity in tension-reduction and discusses, amongst others, the roots of Korean nationalism and North Korean economic stagnation. Nikiting, Chanlett-Avery and Manyin (2017) or Synder (2019) also provide brief descriptions of the nuclear history of the DPRK or important individual moments. Thus, while various scholars have outlined their interpretation on North Korea's nuclear pathway, few, however, have given a start-to-finish account. Therefore, Chapter 2 provides an account of North Korea's nuclear road, covering the period from 1953 to 2019.

North Korea's Nuclear Motivations

With the North Korean nuclear proliferation effort being a highly fascinating case study, a number of scholars have offered their reading of Pyongyang's decision-making in the nuclear question. Nah (2013: 61) argues that the motivations behind North Korea's nuclear program can be grasped by applying "explanatory frameworks of constructivism, liberalism, and realism" to different time periods. Zhang and Wang's (2019) assessment focuses mostly on the security aspect of nuclear weapons. North Korea is identified a status quo power which uses its nuclear program to deter attacks and ensure regime survival. Nakato (2016: 622) demonstrates that the emphasis on external factors, particularly the nuclear threat posed by the US, is a persuasive account of North Korean motivations as the country's leaders have repeatedly portrayed their nuclear program as a countermeasure to "hostile" US action. A majority of studies so far have thus chosen to emphasize the security aspect of nuclear weapons.

Beyond nuclear deterrence, the scholarship has argued that North Korea has used its nuclear program as a highly valuable asset in international negotiations. Nuclear weapons are described as “bargaining chips” by Woo (2015: 71). Byman and Lin (2010) provide examples of how nuclear weapons have assisted the cause of Democratic People's Republic of Korea in negotiations. Nuclear tests are labelled effective “escalators” in brinkmanship efforts by Cha (2002: 227) allowing North Korea “to be treated as a major power in regional or global politics, often above and beyond what would otherwise be the case”. Others have stressed the importance of domestic politics, focusing on competition among the political actors within North Korea itself. Woo (2015: 59-60) notes that “Pyongyang’s foreign-policy strategies are the result of dynamic interactions between the international pressures and domestic political contexts”. On some occasions, when the legitimacy of the leadership of the Kim family came into question, regime survival was secured by stepping up nuclear tests or brinkmanship to bolster nationalist pride and jingoistic fervor, hoping to mute domestic challenges. Nakato (2016) demonstrates that North Korea’s fourth nuclear test was completed to send a signal of strength to both the domestic and international audience.

Ahn (2011: 177) combines many of the above outlined arguments and notes that North Korea’s nuclear intentions can be best understood by using the “regime survival model”. Cha (2002: 211) demonstrates that nuclear weapons have been “shields”, “swords”, and “badges” for North Korea as they act as deterrents against the US to address the chronic insecurity felt by the Kim regime, but also serve as key offensive tool in a potential war on the Korean peninsula and are additionally a symbol of international prestige. Ahn (2011), Cha (2002) and Habib (2010) all suggest that North Korea is a status quo power which uses its nuclear arsenal to defuse US threats and strengthen the domestic economic and political situation. Leaders in Pyongyang are “likely to view the costs of nuclear proliferation for systemic maintenance as preferable to the high risk of systemic implosion inherent in economic and political reform” (Habib 2010: 2831).

In sum, the scholarship has identified a number of causal factors North Korea’s nuclear drive. Authors who combine various factors have generally provided the most convincing accounts of North Korea’s nuclear arming program. Yet, this paper maintains that some nuclear motivations have been overlooked or underappreciated. The fact that North Korea has not developed a nuclear program overnight has been neglected. Throughout the decade-long process of nuclear arming, motivations have evolved and are thus not easily captured by one model of nuclear proliferation alone. In other words, nuclear motivations are *not static* but *fluid and interdependent*. Moreover, given that any cooperative nuclear dissuasion effort requires clear and open communication as well as a high level

of confidence in the bargaining partner, the mutual lack of trust the Kim leadership and US power brokers have for each other has to be taken into consideration more extensively. Furthermore, the Kim regime has started to value its nuclear program more and more over time. This time dimension is often overlooked, demonstrating that scholars, who have discussed nuclear bargaining with North Korea, often neglect the fact that the longer Pyongyang holds on to its nuclear capabilities, the more difficult it will get to achieve nuclear dissuasion. Additionally, there is an observable pattern of path dependency that is yet to be addressed. Once North Korea launched its first research project under Kim Il-Sung, it has taken logically steps forward, continuously making progress towards weaponizing nuclear energy. Finally, more consideration should be given to nuclear bargaining models and alliance interplays to account for the *dynamic nature* of nuclear exploration and nuclear negotiations.

Theoretical Framework

This thesis combines various insights from International Relations, nuclear proliferation studies, conflict and diplomacy scholarship as well as bargaining and path dependency theory to expand upon existing analyses of North Korea's nuclear proliferation and to account for the constantly evolving nuclear motivations of Pyongyang. The following theoretical framework introduce the key concepts that are employed in the analysis of the DPRK's nuclear road.

Nuclear Weapons are extraordinary

When outlining the theoretical framework for any case study of nuclear proliferation, the peculiar nature of nuclear weapons has to be kept in mind. This thesis subscribes to the idea that the atomic bomb has changed the calculus about war and peace and has thus altered arms control thinking. The notion that the 1945 nuclear revolution has transformed the international system is commonly accepted and formulated by the scholarship. Authors like Jervis (1989) as well as Powell (1990) have written about changes in strategic thinking caused by the nuclear revolution and Kroenig (2013: 142) asserts that weaponization of nuclear energy has “fundamentally transformed the nature of international political competition”. Nuclear weapons are generally believed to have raised the cost of war to an extent that direct military conflict between their possessors is ruled out by the logic of mutually assured destruction (MAD) as long as both sides have secured second-strike capabilities. Numerous scholars portray the atomic bomb as the ultimate weapon (Waltz 1995, Gaddis 1987, Brodie 1946 or Kahn 1960). Nuclear powers resolve their conflicts through nuclear brinkmanship of which the most influential theoretical account is offered by Schelling (1960, 1963, 1966).

Models of Nuclear Motivations

Discussing why nuclear dissuasion has failed in the North Korean case, this paper draws on scholastic models of why states decide to pursue nuclear weapons. Given the vast number of possible motivations brought forward by academics, a categorization has taken place. The two chief streams of thought focus on the demand and the supply side of nuclear weapons. On the demand side, Sagan (1996: 54; emphasis added) offers perhaps the most influential account by outlining three general models: “nuclear weapons, like other weapons, are more than tools of *national security*; they are political objects of considerable importance in *domestic debates and internal bureaucratic struggles* and can also serve as international *normative symbols* of modernity and identity”. Hence, three drivers are outlined. Firstly, the security model proposes that states proliferate profit from nuclear deterrence in face of overwhelming security threats. Thayer (1995: 486) arrives at a radical (and overly simplified) conclusion: “Security is the only necessary and sufficient cause of nuclear proliferation”. Secondly, domestic drivers for nuclear proliferation include discussions of the psychology of nuclear ambition while Braut-Hegghammer (2016) addresses the issue of competent program management in nuclear programs. Meanwhile, Solingen (2007) identifies a relation between international interdependence and nuclear restraint. Thirdly, Sagan (1996: 73) shows that “nuclear symbolism” has to be taken into account since nuclear proliferation can be motivated by “deeper norms and shared beliefs about what actions are legitimate and appropriate in international relations”. The dominant norm today is nuclear restraint (enforced by the Non-Proliferation Treaty) complemented by a “nuclear taboo” which is described by Tannenwald (1999) or Rublee (2009) who find internationally recognised normative concerns that have led to nuclear restraint. Some actors, however, perceive nuclear weapons as symbols of modernity and strength. “Nations want nuclear weapons to enhance their political prestige and status internationally, not just as military weapon” (Ponnatt 2006: 89).

On the supply side, authors describe practical and technological limitations or political barriers which limit nuclear proliferation efforts. Spaniel (2019: 10) writes that “countries with lower levels of nuclear proficiency are less likely to pursue nuclear weapons” (Spaniel 2019: 10). Other discussions of the supply side are offered by, for example, Smith and Spaniel (2018) but also by Jo and Gartzke (2007). In sum, there are many competing theories that account for the spread of nuclear weapons and authors are often in dispute as to what importance various variables have: “Although there is no shortage of academic theories to account for the spread of nuclear weapons, few agree on the validity or generalizability of the various alternatives” (Singh and Way 2004: 860). While this is usually seen as one of the main shortcomings of the existing literature, this paper overcomes this limitation by not limiting itself to one model of nuclear impetus alone. Rather, the existence of a multitude of

explanations for the decision to go nuclear is turned into a strength as the thesis combines and expands upon several existing theoretical accounts of nuclear behavior.

Dynamic Factors

Another shortcoming of these outlined supply and demand models of nuclear proliferation is that they are seemingly only adequate to provide *snapshots* of nuclear motivations. They are rather *static* in nature, implying that nuclear motivations as permanent, rigid or stoic. Once again combining various models tackles this inadequacy partly. However, to account for the *evolution and dynamic interplay of nuclear motivations and between actors* that characterizes the DPRK's winding nuclear road, the previously outlined models are supplemented with nuclear bargaining theory and the insights offered by the scholarship on strategic alliance interactions. Based on the observation that nuclear weapons have three idiosyncrasies that make negotiated outcomes more likely, Spaniel (2019: 2) argues that nuclear deals are not only much more commonplace than often assumed, they are also more stable than critics might suggest. His core theory states that:

“Only three outcomes occur when states negotiate over nuclear weapons. First, if the threat to proliferate is not credible - either because an opponent would launch a preventive strike, or the cost of nuclear weapons is large - the potential proliferator receives no concessions {in both scenarios the opponent can induce acceptance to a nuclear agreement even without making great concessions}. If proliferation is a reasonable option but the costs are still prohibitive, an opponent offers immediate concessions and convinces the potential proliferator to pass on nuclear weapons {the rising state accepts those concessions as continuing proliferation would only yield more costs that would outweigh the additional concessions the rising state would be able to acquire}. Proliferation only occurs when the treat to obtain nuclear weapons is credible and the costs are low” {only states facing an overwhelming security threat will ever proliferate} (Spaniel's 2019: 15).

Hence, nuclear proliferation does not occur frequently as rising states have incentives to accept nuclear bargains which allows them to realize most of their goals without the great costs that are attached to building a nuclear arsenal. Spaniel (2019: 49) suggests that “nuclear weapons are simply not in high demand. Bargaining is constant sum; if nuclear weapons provide benefits to their possessors, then they must also harm others”. This raises the question why not more agreements are concluded. Often, bargaining frictions intervene and sabotage possible deals. For bargaining failures,

Spaniel (2019: 7) offers “three causal mechanisms”. Firstly, potential concessions are undermined by commitment problems which make potential proliferators believe that it is necessary to uphold the threat to develop nuclear weapons. Secondly, incomplete information can preclude a deal. Thirdly, imperfect information and a lack of monitoring can stir mistrust and allow defections.

Further, in order to account for the strategic interplay of the various state actors involved in the North Korean proliferation case, this thesis draws on Monteiro and Debs’ (2014: 11) “strategic-interaction approach” which focuses on the *process of nuclear development*, defined as the “the period during which the state is either exploring or pursuing nuclear weapons”, thereby acknowledging the fact that nuclear acquisition is a costly and long process. Regarding strategic interactions that determine the likelihood of proliferation during the process of nuclear development, it is crucial to note that as a potential proliferator stands to gain much from nuclear acquisition, an adversary has great incentives to seek to thwart nuclearization by counter-proliferation measures. Allies of the proliferator may also be alarmed by nuclear arming attempts and use tools like threat of abandonment or enhanced security commitments to “try to stymie its nuclearization for fear of entrapment and regional instability” (Monteiro and Debs 2012: 12). Consequently, “the key to understanding nuclear proliferation is to characterize the attractiveness of nuclear weapons to the potential proliferator, the credibility of an adversary’s threats of preventive war, and the effectiveness of an ally’s guarantees of protection or threats of abandonment” (Monteiro and Debs 2014: 12).

What implications can be drawn? When the threat of preventive war is not credible as costs would outweigh the potential security impact of nuclearization, the potential proliferator can proceed with its nuclear program unimpeded. When the costs of preventive war decrease as compared to the power shift the potential proliferator stands to gain, military action becomes more attractive, thus gains credibility, thereby reducing the likelihood of nuclear proliferation. The key insight is that as “the likelihood of proliferation decreases as the security benefit of proliferation increases”, for that the adversary has great incentives to prevent the potential proliferator from fulfilling its security goals (Monteiro and Debs 2014: 15). When it comes to analyzing the strategic logic of allies in the proliferation puzzle, the key variable here is the military commitment to the protégé. The higher the commitment, the lower the security benefits of proliferation. Taking this argument by itself, having a powerful ally therefore makes proliferation less probable. However, the presence of powerful ally also makes preventive war against a potential proliferator more costly - leading to an increase in the likelihood of proliferation. “Therefore, whenever an alliance fails to take away the protégé’s willingness to go nuclear {by addressing all of its security concerns}, it may give it the opportunity to

get the bomb” (Monteiro and Debs 2014: 17). Alliances can therefore have both positive and negative effects on the likelihood of proliferation.

Path Dependency

So far, this theoretical framework has established that principal models of nuclear motivations are combined and supplemented by dynamic accounts of strategic interactions and bargaining efforts. Thereby, this thesis accounts for the interplay of actors, the fact that an atomic bomb is not built over night, and that nuclear motivations are not set into stone. By this logic, this thesis applies another theoretical concept to nuclear proliferation that has so far been overlooked: Path dependency. The concept is linked to the political science theory of historical institutionalism at the heart of which “lies an assumption that policymaking systems tend to be conservative and find ways of defending existing patterns of policy, as well as the organizations that make and deliver those policies” (Peters, Pierre and King 2005: 1276). Early contributions to the theory of historical institutionalism stress the importance of so-called “policy legacies”: Past policy decisions which constrain future policy options (Weir 1992). Pierson (2000) describes self-reinforcing proceedings which make policy-change difficult once a certain policy pattern has been established: “Each step along a particular path produces consequences that increase the relative attractiveness of that path.... As such effects begin to accumulate, they generate a power cycle of self-reinforcing activity” (Pierson 2004: 17-18). Hence, public policy is usually characterized by periods of long stability in policy direction to which the term of path dependency refers. Change comes only during so called “formative moments” which shake up previous policy decisions during turbulent moments and lead to the creation of new institutions or the formulation of new priorities (Peters, Pierre and King 2005: 1276). Path dependency theory has helped to explain the existence of long-lived policy directives - such as nuclear exploration. There is so far no extensive literature on path dependency in nuclear weapons technology and no author has attempted to use the concept to explain North Korea’s nuclear logic.

Constructing State Identity

North Korea’s nuclear arming process illustrates the importance of social factors. When analyzing the decision making in politics, rational choice is probably the most often applied model in the existing scholarship. Deemphasizing social context, “the key term of this perspective is *expected utility*” (Bjola and Kornprobst 2018: 116). Rational choice theory assumes that a decision-maker ranks his preferences and seeks to maximize his utility accordingly. The fact that uncertainty often makes decision-making more complicated means that an actor can only base decisions on *expected utility*

which introduces calculations about likelihood and consequently distinctions between risk prone and risk averse actors.

Some sections of this paper are also based on the rational choice theory. For example, the security model of nuclear motivations, which describes the benefits of nuclear weapons in terms of state survival and deterrence, as well as Spaniel's (2019) bargaining theory are both based on rational choice models. A key shortcoming of such models is that "collective deliberations and the social relations that shape these deliberations are outside of the analytical scope of rational choice" (Bjola and Kornprobst 2018: 119). Since diplomatic history provides countless examples of cases in which rational calculations seemingly weren't the dominant informant of decision making (for instance, the outbreak of World War I), one should not discredit education, belief sets, competition among actors, operational codes, metaphors and schemas, or past experiences for that they shape the judgement of decision-makers. Authors like Gigerenzer and Todd (1999: 6) criticize rational choice theory for pretending that "the mind has essentially unlimited demonic or supernatural reasoning power" and instead highlight the importance of political psychology.

While Bjola and Kornprobst (2018: 120) maintain that social background, belief sets, and education provided actors with "heuristic devices ... that tell them when to *stop searching* for alternative options" - they do not 'compute endlessly' in search for optimal outcomes". In International Relations literature, constructivism is best suited to account for social factors as the notion of *identity*, which play a great role in the analysis of this paper. Bjola and Kornprobst (2018: 144) conceptualize identity, which is the core concept of a *constructivist reading of international politics*, as "*a narrative that Self tells of itself*". Through one's own identity, actors define themselves in relations to others, which creates distinctions in identity. Wendt (1999) identifies three relationships in this framework: Enmity, rivalry and friendship. Refining this spectrum, Bjola and Kornprobst (2018: 144) stress that "the most extreme form of enmity is *dehumanization*".

Summarizing Chapter 1, combining several models of political science and International Relations theory, this thesis draws on a broad and multifaceted theoretical framework which is equipped adequately to fill existing gaps in the literature. In the North Korean case, insights from realism (eg: State security), liberalism (eg: International negotiations to gain economic benefits to lessen economic hardship), and constructivism (eg: DPRK state identity) all have great merit and must be combined with theories of political science, specifically path dependency, to provide a broad enough analytical base to analyze the highly complex North Korean nuclear proliferation case.

Methodology

This thesis relies on several historical accounts provided numerous of authors who either directly participated in negotiations or have access to inside information. On the North Korean side, inside information is rare to non-existent, given the isolated and authoritarian nature of the Kim regime. Official statements, however, are easy to come by and are used repeatedly. Beyond historical documents, this thesis uses conflict resolution and bargaining theories as a framework to assess various negotiation failures. The theoretical accounts of nuclear proliferation and nuclear dissuasion are used. Hence, this paper combines the disciplines of history and political science.

This thesis recognizes that the interplay of various actors is crucial to any understanding of nuclear proliferation. In the North Korean case, similarly, no full account of events and motivations can be given without accounting for a variety of actors. However, this thesis zooms in particularly on two actors and their interplay: The DPRK and the United States of America. These two are by far and away the most important states involved, given that the DPRK is the state that has acquired nuclear weapons and has been target of nuclear dissuasion measures and the US is the state that has not only been referenced repeatedly by North Korean propaganda as the reason for Pyongyang's nuclear arming program but is also the main driver behind nuclear dissuasion efforts. Furthermore, there have been several bilateral initiatives (e.g.: The Agreed Framework 1994) that are of key importance. Even in the multilateral negotiation settings (e.g.: The Six Party Talks) US-DPRK relations are key to understanding outcomes.

In terms of level of analysis, it is necessary to emphasize the state and domestic level. Domestic developments in the US and the DPRK had a significant impact on the nuclear arming pursuit. However, the interplay of the US and the Democratic People's Republic of Korea in the wider security setting of international affairs must not be overlooked. Finally, the analysis of the paper focuses on the period after July 1953 when an armistice ended the Korean War and ushered in the current division of the two Koreas. The cut-off date is December 31st, 2019.

Chapter 2: North Korea's Nuclear Power Status: A Historical Account

Nuclear Origins

After World War II, Moscow and Washington divided Korea along the 38th parallel, placing the historical capital of Pyongyang north of the line and the city of Seoul, capital before the Japanese

invasion of 1910, south. Neither the White House nor the Kremlin, however, gave too much attention to Korea afterwards, rather focusing on the questions of Japan and China, nuclear proliferation and competition in Europe. Talks between the US and Soviets about reunification soon broke down, mirroring simultaneous developments in Germany. In December 1945, the Soviets installed Kim Il Sung as leader of the North. Kim established a Stalinist system with North Korea's peculiarities as non-communist voices and rebellions were violently oppressed. By 1948, the division of Korea was solidified when the Soviets sponsored the creation of the Democratic People's Republic of Korea (DPRK) while the United States assisted the foundation of the Republic of Korea (ROK). With Soviet help, the DPRK quickly built up a formidable military force. The US offered little military help and Congress failed to ratify even a small foreign aid program in the early 1950s (Trumanlibrary.gov: n.d.).

Convinced that the US had little interest in the faith of the ROK, Stalin backed the North's invasion plans in 1950 - but only after the Soviets had acquired nuclear weapons and a formal alliance between Moscow and Beijing was formed. To the surprise of the communist alliance, the United States entered the war after Truman drew an analogy to Munich 1938. The United Nations Security Council (UNSC) sanctioned an US-led United Nations force to defend South Korea, which soon pushed north of the 38th diagonal. The survival of North Korea depended upon foreign assistance. A huge Chinese force entered Korea from the North and the war turned into a stalemate around the 38th parallel. The Korea War was one of the most destructive wars in human history, characterized by torture, war crimes, massacres and starvation. An armistice was signed in July 1953, ending a conflict that had claimed the lives of three to four million people, without producing any real change to the map of Korea. No peace treaty was ever signed.

Early Nuclear Ambitions in the 1950s and 60s

North Korea was left crippled after having become one of the most heavily bombed countries in human history during the Korean War. Pyongyang was thus reminded of its own weakness, its reliance on communist allies and its exposure to a nuclear threat posed by Washington. The American threat continued to be imminent as Washington stationed tactical nuclear weapons in South Korea in the 1950s. Kim Il-Sung developed a principle interest in nuclear technology already at this point. Soon, the DPRK created its own National Academy of Science which placed great emphasis on nuclear physics. Other efforts in the 1950s included the opening of the Atomic and Nuclear Physics Research Institute and the opening of a Joint DPRK-Soviet Institute for Nuclear Research. In 1959, a Pyongyang-Moscow cooperation agreement was signed and in 1961 an ambitious North Korean nuclear agenda was outlined. The Yongbyon Nuclear Scientific Research Centre was opened the next year. In this early

stage of nuclear development, learning about nuclear technology and understanding basic principles was the primary concern as nuclear progress was hampered by domestic resource limitations. Moscow and Beijing both refused to transfer knowledge about nuclear warheads, but the Soviet Union eventually supplied North Korea with its first research reactor in 1963. The IRT-2000 research reactor became operational in 1965 and was incorporated into the Yongbyon Nuclear Scientific Research Centre.

In the mid-1960s, North Korean leaders started to embrace people's war over regular warfare (Gause 2018: 12). Subsequently, the DPRK'S "four-point military guideline" placed great emphasis on military development. The entire population was being armed, ideologically trained and subjected to weapons training. Influenced by his past as a guerrilla fighter, Kim ordered the fortification of North Korea, as bunkers and armament factories were built all over the country (Buzo 1999). The leader's quest for a self-reliant defense policy had been intensified by the Cuban Missile Crisis. In Kim's eyes, Moscow had capitulated to Washington, thus proving that it could not be relied upon. Pyongyang publicly condemned the radicalism of China's Cultural Revolution, in response to which Beijing halted food deliveries and expelled North Koreans from its military academies. In 1968, w armed confrontations at the Sino-Korean border took place. From the early 1960s onwards, archival material reveals "persistent inquiries about nuclear weaponry" (Pollack 2011: 53).

more independent nuclear learning in the 1970s and 1980s

"Beginning in the 1970s, North Korea's military doctrine began to address persistent concerns about the US nuclear threat" (Gause 2018: 12). By the mid-1970s, the research reactor at Yongbyon had already reached a power rating of 4 MW as Kim deemed "accelerated development of nuclear technology a necessity, no matter what its ultimate purpose" (Pollack 2011: 59). The rapprochement between the US and China in the early 1970s also changed the calculus in both Koreas. Unprecedented inter-Korean friendliness transpired. High-level inter-Korean talks resulted in the 1972 joint-declaration outlining a framework for future unification (Ministry of Unification of the Republic of Korea 1972), revealing the deeply nationalistic feelings and suspicions towards the great powers by both sides at time. It remains unrealized until today but nevertheless revealed the deeply nationalistic feelings and suspicions towards the great powers by both sides at time. South Korea's distress about Sino-American rapprochement motivated it to show interest in nuclear weaponry. During the 1960s, the ROK already had perceived its security situation as deteriorating for that the DPRK continuously conducted nuclear research while US President Nixon not only established ties with China but also withdrew 20,000 US troops from the ROK. Fearing abandonment, Seoul stepped up its military

spending and started a nuclear armament program in 1970. South Korea's President Park created a new ballistic missiles program and a covert Weapons Exploitation Committee before the ROK sought to acquire a research reactor and reprocessing facilities from Canada and France in 1973. Worried about these developments, the US threatened to end security assurances for the ROK and pressured the ROK into signing the NPT in 1975. Thereafter, the US stationed 700 atomic weapons in South Korea. Upon NPT signature, President Park stressed the link between security assurances and nuclear restraint: "If South Korea were not provided with a US nuclear umbrella, South Korea would do anything to protect its security, including the development of nuclear weapons" (quoted in Choi and Park 2008: 375). The option of restarting the program was kept alive until President Reagan renewed security assurances to ROK President Doo-hwan Chun in 1981.

By the mid-1970s, nuclear-arming was certainly a long-term priority as DPRK leaders concluded that a "nuclear-weapons option was necessary to maintain strategic autonomy, to counter the ROK's growing power, and to support impending plans for leadership transition in the North" (Pollack 2011: 72). As a result, the research reactor at Yongbyon was further developed, uranium mining operations were started in the late 1970s and efforts were undertaken to build a first indigenous research reactor - this 5-MW reactor was operational by 1986 and suitable for generating plutonium-239 which is used in nuclear arms (Sigal 2001: 22). While military build-up made progress, the focus on national defense started to have a substantial negative impact on the country's development. While North Korean industrial and economic development stagnated throughout the 1980s, South Korea became the next "Asian miracle", with a GNP that grew from \$2.3 billion in 1962 to \$437.4 billion in 1995 (Wit, Poneman and Gallucci 2004: 4). The North sought to address its economic woes by "accepting loans from Western Europe, selling weapons to Middle Eastern and African states and establishing trading companies to undertake illicit commercial and technological activities for future military development" (Pollack 2011: 72).

Moscow sought to contain Pyongyang's nuclear progress, arguably already being worried about potential weaponization, but did eventually approve the provision of four VVER-440 light water reactors - but only after North Korea had signed the Non-proliferation Treaty (NPT) in December 1985. To assist the working of the new reactors Pyongyang established the Institute of Atomic Energy (IAE).

A changing Security Environment

The end of the Cold War and the disintegration communist bloc proved to be a dramatic time for North Korea, as did the rapprochement between Seoul, Beijing and Moscow. The Kim regime could

no longer rely on extensive Soviet assistance which for so long had helped to stabilize the country. Woo (2015: 65) estimates that the Soviet Union supported North Korea annually with about \$3.5 billion for most of the Cold War years. By the early 1990s, support was reduced to about \$300 million and then to less than \$100 million by the mid-1990s. With the provision of a Soviet nuclear reactors being suspended after the DPRK failed to honor debt obligations in May 1992, “the Soviet Union’s role as North Korea’s economic and security patron ended with the ending of the Cold War” (Woo 2015: 66). Soon North Korea faced a devastating famine which lasted from 1994 to 1998 and claimed the lives of hundred-thousands of North Koreans. Beijing-Pyongyang relations reached another low-point after China had established relations with Seoul and decided to not block ROK admission to the UN. Hence, faced with great challenges, rapidly deteriorating conventional military forces, and lacking strategic partnerships, Pyongyang “began to move away from an outright embrace of a reunification strategy ... to one based on regime preservation. This period also marked the beginning of a change of emphasis from the offensive to deterrence, and to total mobilization and resistance, as key components of North Korea’s military doctrine” (Gause 2018: 13). Isolated and under pressure, North Korea started to see nuclear weapons as the only effective deterrent against the US military threat – especially after the US had not shied away from intervening with Operation Desert Storm in the Gulf War in 1990 / 1991 despite Iraq possessing chemical weapon delivery systems.

Realizing that Pyongyang was likely to accelerate WMD programs, US President George H.W. Bush, who had been elected in 1989, took the North Korean nuclear program very seriously. By 1989, the US had gathered intelligence through satellite photos which confirmed the construction of a nuclear complex in Yongbyon, suggesting that Pyongyang was well on its way to building a nuclear bomb. Few in the Bush administration had hopes that nuclear diplomacy would be successful. A crime-and-punishment approach was clearly favored (and would continue to be favored by most American Presidents in the coming decades). The ultimate aim was to ensure full compliance with the IAEA safeguard requirements and the NPT after which political normalization and economic assistance was to be offered. After the withdrawal of all US nuclear weaponry from South Korea in 1990, two diplomatic achievements were made. First was the 1991 Inter-Korean Agreement on Reconciliation, Nonaggression, and Exchanges and Cooperation (United Nations Peacemaker n.d.a). Second was the 1992 Joint Declaration of the Denuclearization of the Korean Peninsula (United Nations Peacemaker n.d.b). Both Koreas would refrain from producing, testing and receiving nuclear weapons. Furthermore, they pledged to not possess uranium enrichment or nuclear processing facilities. At the same time, trade relations between North and South were rapidly expanded. Kim Il Sung further undertook steps to normalize relations with Washington, reached out to Japan, and held back from

any attempts to destabilize South Korea. He also finally signed the IAEA safeguard accord in 1992 and international inspections were allowed for the first time. Sigal (2001: 32) stresses that “most important of all ... Pyongyang halted the reprocessing of spent fuel. It also delayed removing spent nuclear fuel ... {and} allowed the IAEA to verify that it was neither reprocessing nor defueling”.

Soon this cooperative spirit, however, evaporated. Firstly, as IAEA inspections continue throughout 1992, inconsistencies in North Korean declarations about its nuclear facilities were found. Furthermore, IAEA inspectors were repeatedly denied access to two suspected nuclear waste sites. The US and IAEA suspected covert reprocessing operations which would turn spent fuel into weapon-grade plutonium. As a result, in 1992, Washington refused to hold more high-level meetings before the DPRK had fully implemented all safeguard commitments and had made progress towards ensuring the implementation of bilateral inspections regime with South Korea that had been agreed upon. Pyongyang felt like it was being asked to give up its most valuable bargaining chip (its nuclear program) before the US was willing to talk about concessions. Cooperative diplomacy finally broke down when the North was unwilling to agree to all IAEA safeguard demands which were backed by the White House.

On the Brink of War: The Nuclear Crisis 1993-4

In 1993 it was discussed to suspend the joint US-ROK military exercise Team Spirit, recognizing that it would negatively impact the relations with North Korea at a time when tensions already were running high. In the end, however, Team Spirit was not cancelled, and North Korea responded by placing its forces on semi-war alert status in March 1993 and thereafter announced its intended withdrawal from the NPT. Despite domestic opposition, President Clinton initiated a new round of negotiations with Pyongyang which resulted in the suspension of NPT withdrawal and the permission for the IAEA to ensure that spent fuel was not removed or reprocessed in early 1993. A first codified joint statement between the US and the DPRK was produced in June 1993 (The Embassy of Korea in the U.S 1993).

Yet, in November 1993, American intelligence suggested that there was a “better than even chance” that North Korea had one or more nuclear devices (The Guardian 1993). The report forced Clinton to focus on preventing North Korea from building up a nuclear arsenal (IAEA special inspections to clear up North Korea’s nuclear past lost importance). Hawks in the South Korean government openly advocated using all means to achieve this goal. In March 1994, on “Super Tuesday”, a joint communication between Washington and Pyongyang announced simultaneous steps towards denuclearization while the US committed to high level talks (Poneman 2006). Yet, the US unilaterally

published a second statement which specified requirements of the joint communication in ways that did not conform with North Korea's interpretation of the agreement. When Seoul required completion of exchange of envoys and completion of IAEA inspections as prerequisite for cancelling Team Spirit 1994, North Korea interfered with IAEA inspections and the US cancelled high-level talks after the IAEA had withdrawn inspectors. After the South threatened to investigate the option of UN sanctions, the North Foreign Ministry states that if a war were to break out, "Seoul will turn into a sea of fire" (quoted in Sigal 2001: 107).

In mid-1994, Pyongyang abruptly started to remove spent fuel rods from the Yongbyon reactor. In the US war talk was present every day. Seoul and Pyongyang were both mobilizing forces. After North Korea had expelled IAEA inspectors, a military conflict seemed a real possibility. It was for former President Jimmy Carter to prevent war. Carter travelled to North Korea in June 1994 and was quickly able to achieve an understanding that North Korea would freeze its program under IAEA monitoring if the US guaranteed that there would not be a nuclear attack on North Korea. Coercive diplomacy by the US government had failed but a private cooperative mission by a former President had succeeded. "The Carter initiative was the turning point in nuclear diplomacy" (Sigal 2001: 132).

The 1994 Agreed Framework and the Period of the Nuclear Freeze

The Carter trip pathed the way to a diplomatic breakthrough in the form of the October 1994 US-North Korea Agreed Framework (NTI 2011). The DPRK promised to remain part of the NPT and to freeze its nuclear arming process by not refueling its reactors and sealing its reprocessing plant, while also arranging safe storage of used fuel rods until their eventual transportation abroad. The US pledged to lead a consortium to construct replacement light-water reactors if the North cooperated with the IAEA on the issue of safeguards. Moreover, trade barriers were to be lowered, political normalization was envisaged, and Pyongyang could count on fuel deliveries to compensate for the loss of electricity created by the nuclear freeze. US costs were very low, most of the expense were borne by Japan and South Korea. Despite having avoided war and securing the DPRK's continued NPT membership, the IAEA publicly voiced criticism of the Agreed Framework and lamented that Pyongyang was granted a grace period before inspections were to begin.

The Agreed Framework lasted until 2003 but did not bring an end to all hostilities and difficulties. Instances of heightened tensions include a South Korean spy submarine intruding North Korean waters in 1996. Another flare-up was the sinking of a North Korean naval vessel in 2002 and repeated missile tests by the North. More promising moments include the announcement of the "Sunshine

Policy” by President Kim Dae Jung who became the first leader of the South to visit the North after the Korean War - he was later awarded the Nobel Peace Prize for his reconciliatory efforts (Wit, Poneman and Gallucci 2004: 371). The US Congress continued to prove reluctant to provide funding for the deal, meaning that heavy fuel oil shipments often slowed down considerably. Internationally, the mood soon shifted “from galvanized anxiety to lethargic apathy”, meaning that the US found it hard to find countries (besides South Korea and Japan) that would be willing to assist in the funding of KEDO (Wit, Poneman and Gallucci 2004: 373). Towards the end of his presidency, Clinton considered visiting Pyongyang.

The “Axis of Evil” and the Nuclear Breakout Moment

The election of George W. Bush in 2001 ended hopes for a presidential visit to Pyongyang. Bush himself had a hostile attitude towards Kim Jong Il and his administration was dominated by war hawks with preferences for aggressive unilateral action and a disregard for international law. Seoul’s cooperative sunshine policy was dismissed as misguided. The January 2002 “axis of evil” speech by President Bush caused a sharp decline in relations with Pyongyang (The Washington Post 2002). Meanwhile, evidence about another North Korean covert nuclear-arming program was hardening as the CIA reported the discovery of a uranium enrichment plant. Indeed, throughout the 1990s, North Korea had covertly pushed forward its nuclear development being assisted by the AQ Khan network (Albert 2019). US Secretary of State for East Asian and Pacific Affairs James Kelly travelled to North Korea in October 2002 with the message that engagement would only continue if all North Korean enrichment facilities had verifiably been dismantled. After a dispute about the actual existence of a clandestine, the Agreed Framework was doomed.

After sharing CIA information with its allies, the US halted heavy oil shipments in November 2002. The US moved to a coercive strategy seeking an international alliance with China, Russia, South Korea and Japan to pressure North Korea in giving up its quest for atomic weaponry. The DPRK subsequently withdrew from the NPT, expelled IAEA inspectors, refueled its 5-megawatt reactor and “probably began to reprocess the spent fuel that had been re-canned and stored under IAEA monitoring ever since the Agreed Framework” (Wit, Poneman and Gallucci 2004: 379). North Korea withdrew from the NPT in April 2003 and completed the construction of a uranium enrichment facility in Kangson by the end of the year.

During the period of the early 2000s, China became increasingly involved in the bilateral relations between Washington and Pyongyang. While Beijing was distressed over nuclear provocations by

Pyongyang, US military action at its doorstep was also feared. Beijing's attempts "to coax North Korea into multilateral talks and its parallel communication with Washington were without precedent in the history of Chinese diplomacy" exemplifying how seriously China took (and continues to take) the issue (Pollack 2011: 144). Beijing eventually hosted the first round of six-party talks in 2003, acting as mediator between the US and North Korea. Despite little diplomatic progress, economic ties between North Korea, Japan, and China were solidifying. Japan started an extensive investment program in 2004; South Korea extended economic activities even north of the DMZ (Clemens 2016: 218). While arms control or troop reductions were not discussed, North and South agreed to halt propaganda broadcasts along the border and take active steps to avoid direct military clashes.

When Condoleezza Rice replaced Colin Powell as Secretary of State in 2005, the Bush administration sought to leave a more positive legacy during its second term in the White House. Pyongyang participated in the six-party talks which resulted in the Joint Statement of Principles in 2005. In return for American energy deliveries, a renewed pledge to provide light-water reactors and security assurances, North Korea committed to abandon its nuclear-arming program and to return to the NPT and submit its nuclear sites to IAEA inspections. The agreement, however, was full of ambiguities in terms of implementation and also failed to address the question of the clandestine uranium enrichment program, which the US asserted that North Korea had, but Pyongyang continued to deny. If the deal had any chance of bringing about true change, the US Treasury Department soon identified the Banco Delta Asia as money laundering concern and froze about \$25 million in North Korean funds as sanction for alleged involvement in proliferation of WMDs. By September 2005, North Korean officials made clear that it will not undertake first steps and will not disarm before light-water reactors are provided. The question of sequencing remained the biggest concern and no real progress was made.

Rather, North Korea claimed for the first time ever to have developed nuclear warheads, stating that they were "for self-defense to cope with the Bush Administration's policy of isolating and crushing the DPRK" (Korean Central News Agency 2005). Consequently, officials stated that "the Six-Party Talks must naturally become arms reduction talks where the participating countries resolve the issue on an equal footing" (quoted in Pollack 2011: 150). After KEDO was officially terminated in 2006, North Korea announced that it would construct its own indigenous graphite-moderated reactor to make up for the light-water reactors that were never provided. In response to July tests of seven ballistic missiles, which brought an end to the 1999 voluntary moratorium on flight-testing, the United Nations Security Council (UNSC) adopted Resolution 1695 (UN Security Council 2006a). Despite international

pressure North Korea finally tested a first nuclear device on October 9, 2006. The UN Security Council (2006b) responded with Resolution 1718, sanctioning targeted sanctions under peaceful Chapter VII action.

Leap Day and the Second Nuclear Crisis in 2013

Beijing was deeply offended by the tests but did not seek to lose high-level contacts with Pyongyang which were still valuable tools to mediate between Washington and Pyongyang. In the US, the nuclear test increased the resolve to negotiate in earnest and on equal footing - thereby somewhat vindicating Kim Il-Jong's decision to carry out a nuclear test. It also put a prompt end to US leaders being worried about the ambivalent nuclear past of North Korea and the issue of safeguards. Rather, the priority was to prevent North Korea from having an open-ended nuclear-arming program. During six-party talks in February 2007 an action plan to implement the 2005 accord was agreed upon after the US made significant concessions (Arms Control Association 2018). A joint statement was issued in October 2007 (NCNK 2007); Pyongyang would provide clarification on all nuclear programs, including uranium enrichment facilities, in exchange for more heavy oil shipments and a White House pledge to remove North Korea from the list of states sponsoring terrorism. North Korea undertook steps to shut down the Yongbyon nuclear facilities and destroyed the reactor's cooling tower in a powerful media stunt with Western media present. However, a North Korean official soon made clear that "we are maintaining our deterrent. If we are relieved of the threat, we could give up our weapons. My country is divided in two, still technically at war... Our principled position with regard to nuclear weapons is {that} when US-DPRK relations are fully normalized and no threat exists and mutual trust has been built, nuclear weapons will be eliminated" (quoted in Pollack 2011: 154).

Controversies over how to verify North Korean steps towards dismantlement continued to bedevil future progress, with access to all facilities and collection of soil samples being points of contention. The 2007 framework remained unclear as to what exactly "verifiable denuclearization" meant. "To the United States, ... true denuclearization entailed definitive elimination of the North Korean weapons program and infrastructure. To the DPRK, the technical specifics of various agreements were secondary to its enduring enmity with the US, and the legitimacy that Pyongyang believed these conferred on its nuclear-weapon pursuits" (Pollack 2011: 155). In July 2008, the DPRK shot an unarmed South Korean tourist in Mount Kumgang. The ROK consequently suspended humanitarian activities. At the end of 2008, the US announced it would not provide more energy deliveries without additional verification measures, whilst North Korea threatened to slow down the disablement of its nuclear facilities even further if these deliveries were not made in time. A deadlock was once again reached.

In 2009, President Obama's inaugural address announced that the US "will outstretch the hand if you {authoritarian leaders} unclench your fist" (WSJ 2009). For Pyongyang such statements were perceived as "insulting, scolding, or threatening" (Clemens 2016: 236). Pyongyang would not move towards disarmament unless the US would make first steps. The DPRK, it was announced, wants denuclearization through the normalization of relations but did not desired "to improve the relations through denuclearization ... Our aim to denuclearize the Korean Peninsula is, above all, to remove the U.S. nuclear threat to the DPRK that has lasted for the past half century" (Korean Central News Agency 2009).

The Kim regime doubled down by launching a Kwangmyŏngsŏng-2 satellite which was condemned by the international community as a violation of UNSC Resolution 1718. In response, Pyongyang withdrew from six-party talks and expelled IAEA inspectors. After having publicly asserted its right to possess nuclear weapons outside the NPT and announcing intentions to experiment with enriched uranium (thereby acknowledging the existence of a program it had long denied), the DPRK conducted its second nuclear test in May 2009 which was condemned as a violation of Resolution 1718. In June 2009, Resolution 1874 extended on previous sanctions against North Korea (Un Security Council 2009). Pyongyang then pledged to weaponize the spent fuel of the Yongbyon facility and to expand its uranium enrichment capabilities. In November 2009, the Daecheong incident saw North and South Korean military ships exchange fire. In March 2010, the South Korean vessel Cheonan was reportedly sunk by a North Korean torpedo. In November 2010, North Korea shelled South Korean troops stationed on the island of Yeongpyeong. In 2011, in line with the hereditary principle of power transition in North Korea, Kim Jong Un succeeded Kim Jong Il as Supreme Leader of North Korea. He has since taken on all positions of power within North Korea, becoming the Supreme Commander of the North Korean army, the First Secretary of the Korean Workers' Party as well as Chairman of the National Defense Commission. The new leader was under 30, appeared reckless, perhaps ill-prepared for leading the country in such difficult times. He was yet to convince allies and rivals of his capabilities - or the domestic leadership for that matter. In response, Kim Jong UN rapidly accelerated the nuclear program - by the end of 2019 he had overseen four nuclear and over 100 missile tests.

At the start of 2012, the US and the DPRK agreed upon the Leap Day Deal. It seemed that six-party talks would finally resume. The US provided substantial food aid in return for extensive North Korean concessions, including the return of IAEA inspectors to Yongbyon and a moratorium on uranium enrichment and missile tests. It was soon breached when North Korea tested a long-range missile in

April 2012 to commemorate Kim Il-Sung's 100th birthday. In response, the US suspended food aid deliveries and six-party talks were not resumed (Wit 2019). In January 2013, Resolution 2087 condemned the launch of a Unha-3 rocket which successfully put a satellite into orbit (Un Security Council 2013a). Further sanctions and freezes of North Korean assets were put in place. Defiant, North Korea conducted a third nuclear test in February 2013. Resolution 2094 then restricted North Korea's access to international funding (UN Security Council 2013b). Subsequently, tensions escalated. By March 8, North Korea closed the Panmunjom border in the DMZ and publicly withdrew from all peace pacts with South Korea while additionally proclaiming its ability to hit US mainland with missiles. On March 13, Pyongyang announced to be no longer restrained by the 1953 Armistice and the non-aggression agreement with Seoul. By March 27, the direct hotline between Seoul and Pyongyang was cut off. With two nuclear-capable US B-2 bombers flying over South Korea on March 28, Pyongyang declared a state of war on March 30. At the start of April, the Kim regime announced its intention to restart its Yongbyon nuclear reactor to produce plutonium which had been closed ever since the Six Party Talks in 2007. At the end of April, China started mediating between Washington, Seoul and Pyongyang. Nevertheless, the Kaesong industrial, long the greatest symbol of inter-Korean cooperation, was shut down by May 3. Throughout May, North Korea conducted several missile tests. The threat of war only passed later during summer 1953.

In 2015, the US-Iran deal was completed while little progress on the North Korean issue was made. In a public address in October 2015, Obama identified the agreement as a possible inspiration for the North Korean proliferation issue. However, the President also noted that while he was still open to negotiations once North Korea was serious about disarming, he argued that "there has been no indication on the part of the North Koreans as there was with the Iranians that they could foresee a future in which they did not possess or were not pursuing nuclear weapons" (Reuters 2015). Obama's strategy of strategic patience was not producing tangible improvements. Rather, in 2016, North Korea state media announced a successful hydrogen bomb test and the launching of a satellite into Earth's orbit. In response, UN sanctions were once again expanded. While initial sanctions after 2006 aimed at military goods and targeted explicitly the military and political elites of the country, these targeted sanctions were turned into comprehensive sanctions in 2016 through Un Security Council (2016) Resolution 2270 which prohibited "roughly 90% of North Korean commercial exports by value" (Wertz 2019: 4).

Recent Developments and "Little Rocket Man"

After his election in 2016, President Trump disparaged negotiations, tweeting that “talking is not the answer” to the North Korea problem, and calling Kim Jong-Un “Little Rocket Man” (BBC 2017; The Guardian 2017). When things seemed to escalate, Gilboa (2017: 1) observed that “the recent verbal exchanges between President Donald Trump and North Korean leader Kim Jong-Un have been among the most belligerent and bellicose to pass between any two major leaders in recent history”. In April 2017, the Trump Administration officially adopted a strategy of “maximum pressure” hoping to induce Pyongyang to restart negotiations (The Atlantic 2019). Japan’s Prime Minister Shinzo Abe (2017) sided with Trump when he claimed that “more dialogue with North Korea would be a dead end”. Pyongyang successfully tested ICBMs capable of carrying nuclear warheads in July and November 2017. But nuclear tests were halted in late 2017 in light of the sudden thaw in US-DPRK relations. In June 2018, Trump and Kim Jong Un met in Singapore. It was the first-ever direct meeting between sitting leaders of the two countries. While a joint communique containing some cooperative steps was adopted, a subsequent summit in Hanoi in February 2019 ended without producing progress (The Washington Post 2019). During the summit, Trump reportedly turned down an offer to dismantle the Yongbyon nuclear facility for a lifting of the most biting UN sanctions (Wertz 2019: 1). In May, July, and October 2019 North Korea conducted several missile tests, likely acting as sign of Kim’s frustration directed at Trump. The latest meeting in Stockholm in October 2019 failed to break the stalemate. Hence, no actual progress toward denuclearization was made. North Korea called the talks nothing more than “sickening negotiations” (Ministry of Foreign Affairs Democratic People’s Republic of Korea 2019) and influential North Korean general Kim Yong-chol named Trump a “headless and erratic old man” (The Guardian 2019). As the 2020 election approaches and Trump faces domestic political pressure, North Korea hopes that the White House is willing make concessions “to secure a foreign policy victory for his campaign” (Synder 2019: n.p.).

DPRK’s Military Force

In sum, North Korea steadily expanded its nuclear program over decades. There is a lack of variable information on the size of the nuclear arsenal; estimations about how many nuclear warheads North Korea has range from ten to 60 (NTI 2019). What is for certain, however, is that Pyongyang’s nuclear weapons program (as well as its ballistic missiles program) is “active and increasingly sophisticated” (NTI 2019). In terms of conventional abilities, while much of the military equipment is outdated, North Korea has the fifth largest military in the world with active personnel of about 1.3 million people (International Institute for Strategic Studies 2019: 280-281). According to a “2016 South Korean Ministry of National Defense report, the North Korean military has more than 1,300 aircraft, nearly 300 helicopters, 430 combatant vessels, 250 amphibious vessels, 70 submarines, 4,300 tanks, 2,500

armored vehicles, and 5,500 multiple-rocket launchers” (Albert 2019). International efforts to curtail the nuclear and missile program have at times been half-hearted, at other times overly aggressive or misguided. The DPRK has continuously pressed forward and has shown incredible resilience and determination in its nuclear ambitions. Today, North Korea possesses the ability and knowledge to produce bombs with both uranium and plutonium.

Chapter 3: An Addition to the Literature

Implementing the above outlined theoretical framework, this paper makes three new contributions to the existing literature by expanding on previous descriptions of Pyongyang’s nuclear path.

Firstly, the Juche ideology is an integral part of the DPRK’s nuclear quest and is incompatible with US strategies of coercive diplomacy. Political psychology, mistrust and unclear language has often hampered cooperative solutions.

Secondly, the value that Pyongyang assigns to its nuclear program has grown over time. The theory of path dependency provides insights into the progressive development of the nuclear program.

Thirdly, models which describe nuclear bargaining and the dynamics of alliances show that the DPRK was never likely to end its nuclear drive as the regime’s cost-benefit calculations favor nuclear armament.

State Identity, Mistrust, and Misguided Strategies

Having established that the social contexts of a leaders informs the decisions they take, one must consider specifically the state identity of North Korea and the US preference for coercive solutions when assessing why diplomatic efforts have not led to successful outcomes. Committed to accounting for the complex nature of North Korea’s nuclear drive, this paper demonstrates how enmity between the US and DPRK has undermined efforts to dissuade Pyongyang from pursuing nuclear weapons. Mistrust, miscommunication and a lack of commitment to cooperative solutions was consistently present. The key insight is that *North Korean state identity and American predisposition for non-cooperative strategies are incompatible and therefore made nuclear dissuasion less likely.*

North Korean State Identity

When incorporating state identity in an analysis of North Korea’s nuclear program, the first observation is that, given the geopolitical and strategic importance of Korea, the peninsula has

historically been not only a crossroads for trade but also a battlefield. Powerful neighbors like China, Russia, Japan, and later also the US, have repeatedly clashed on Korean territory, which is why the region has been described as “the powder keg of Asia” (Dea Jung 1992: 43). As a consequence, Koreans have developed a strong preference for “self-mastery and resistance to foreign influences” (Clemens 2016: 17). Applying scholastic insights from studies of nationalism, Jacoby’s (2015) theory of victimhood can be used to describe how Koreans have used their past struggles to foster the belief that national unity is needed to overcome harmful foreign influences. Scholars have observed tendencies towards isolationism and autonomy already in the Joseon Dynasty (which lasted from 1392 until 1897), which contemporary Western writers described as Hermit Kingdom. As a result, early forms of Korean nationalism are designated as “xenophobic reaction to outsiders” (Chai-sik 1995: 61).

When Japan annexed Korea in 1905, Korean nationalism became an instrument to defy imperialism. In other words, nationalism worked as an “engine for anticolonialism” (Gottweis and Kim 2010: 507). Japan promoted *nissan dosoron* – an ideology which portrays the Japanese as being superior to Koreans – and through aggressive assimilation tactics attempted “to destroy Korean culture along with the identity and confidence of the Korean people” (Cooney and Scarbrough 2008: 175). Korean females being forced to become “comfort women” for Japanese soldiers, added further humiliation. To resist these attacks, Korean nationalism stressed the inherent value of the Korean culture and history, emphasized their peoples’ strength to resist foreign influences and underscored their ability to modernize and evolve. Korean nationalism took on an ethnic focus, accentuating the value of the ethnic homogeneity of Korea. With ethnicity being the key marker, Korean nationalism was rather exclusionary in its nature.

After the establishment of the DPRK in 1948, Kim Il Sung, North Korea’s first leader, created a Stalinist regime, relying “not simply {on} communism but rather nationalism {as its} primary ideology” (Kang 2012: 5). This form of nationalism celebrates the supposed mono-ethnicity of North Korea until today. A peculiarity is that the North Korean people are described to be an innocent and often child-like race which is in desperate need of protection from the constant threat posed by the US. By connecting North Korean victimhood to alleged American aggression, the state ideology aims at fostering hate and dehumanization of the US as well as integration of the individual into the wider nation, ultimately culminating in complete surrender to the authority of the Kim regime (Gabroussenko 2015: 422). This deep sense of patriotism is exemplified by one female defector’s statement who reports that she still thinks “of us, the group, and the country first ... I will not abandon such ideology until I die” (quoted in Kang 2012: 17). The importance given to societal integration and the patriotic willpower of the

North Korean people reflects “Korea’s long history and proud nationalism and determination to fend off foreign influence” (Clemens 2016: 19). The image of an isolated hermit kingdom is reproduced by popular North Korean literature (quoted in Clemens 2016: 17):

*Even when we were lightning our belt,
We did not drink Coca-Cola.
Even when we were drinking muddied water,
At least we drunk our own water.*

According to Kang (2012: 2), the “anti-imperialist” aspect of the Democratic People's Republic of Korea’s nationalism is “a pivotal aspect of North Korea’s socialist modernity ... the DPRK has tried to turn its whole citizenry into patriotic anti-American fighters by stimulating people’s collective memories of the Korean War”. One defector testifies that “words like ‘American imperialist bastard’ were the worst insults in North Korean society” (quoted in Kang 2012: 14). Indeed, propaganda, state education, public addresses, museums and misinformation are all used to infiltrate the lives of ordinary Koreans to create micro-fascisms (Kang 2012). The memories of massive bombing campaigns, bacteriological-chemical warfare and the Sinch’on Massacre are kept alive to foster hatred against the US. The United Nations Human Rights Council (2014: 7) reports:

“The State operates an all-encompassing indoctrination machine that takes root from childhood to propagate an official personality cult and to manufacture absolute obedience to the Supreme Leader (*Suryong*), effectively to the exclusion of any thought independent of official ideology and State propaganda. Propaganda is further used by the Democratic People’s Republic of Korea to incite nationalistic hatred towards official enemies of the State, including Japan, the United States of America and the Republic of Korea, and their nationals”.

North Korea’s official *Juche* ideology (which roughly translates to autonomy or self-reliance), first announced in 1955, marries all aspects of Korean nationalism into a formalized policy. The Kim family is effectively elevated to a demigod status and imposes self-sacrifice on the population. Gause (2014: 140) highlights that *Juche* also provides “the boundaries for dealing with the outside world” by identifying three principles. Firstly, *Chaju*, as a principle of political independence, stresses the sovereignty of North Korea. Secondly, *Charip* refers to economic self-sufficiency, determining that North Korea should always be able to sustain themselves. Thirdly, *Chawi* is the core principle of

Juche's military connotation, securing constant build-up of defensive forces and also justifying North Korea's nuclear desires. Consequently, "from the DPRK's earliest existence, North Korea's ruling elite has tried to define and build a state apart from the international system.... Survivalism has long dominated the thinking of leaders in the North, who characterize the DPRK as a small, vulnerable system surrounded by far more powerful states unprepared to accord it requisite autonomy and international standing" (Pollack 2011: 15).

For this reason, it is no surprise that after the nuclear crisis in 1994, Juche was supplemented by the ideological concept of *Songun* which gives even more prominence to the DPRK's military, elevating it over all other facets of society and the state. This "military first policy" is meant to give North Korea the necessary tools for self-assertion and self-reliance. *Songun* has indeed resulted in North Korea having a vast array of military options, including a nuclear arsenal. In sum, Pyongyang's identity clearly does not provide much room for cooperative international solutions to bilateral or multilateral conflicts as its national creed aims at securing an unimpaired autonomous existence without reliance on outsiders. The encroaching power of the US is seen as being particularly harmful. In many ways, the Korean War has never ended in the minds of the Kim leadership.

American Tendencies for Coercive Strategies

On the side of US policymakers, no dehumanization of North Korean leaders and people takes place; vilification does not nearly reach the same levels. Nevertheless, there exists much mistrust and little willingness to engage North Korea diplomatically in a sustained and well-planned manner. Principally, Sigal (2001: 3) argues that one key factor for failures in US foreign policy has been an "American unwillingness to cooperate with strangers". The US has too often shied away from cooperation and has "had difficulty making promises and keeping them" (Sigal 2001: 3). Instead coercion has been regularly the preferred foreign policy tool – certainly in the case of North Korea. Many US policymakers believed that North Korea, despite signing the NPT in 1985 and the Agreed Framework in 1994, never truly had any intentions of refraining from acquiring nuclear warheads. When the option of cooperation with Pyongyang was on the table, US leaders regularly dismissed it as resulting from misinformed appeasement tactics which would only provide Pyongyang with further opportunities to pursue nuclear arming.

The lack of knowledge and inside information about decision-making in Pyongyang also plagued US-DPRK relations for decades. US policy experts often failed to correctly interpret actions of North Korean leaders. Washington's uncertainty of what to make of seemingly reckless and volatile DPRK

actions only reinforced the preference for coercion over cooperation. Thus, Pyongyang's aggressive posture, defiant behavior and proneness to engage in high-stake stand-offs only added to reluctance towards deal-making. Importantly, uncertainty is not a good starting point for cooperative efforts as coercion is perceived to be the less risky option in unclear circumstances. Furthermore, up until the turn of the century (and to some degree until today), many policymakers and members of the foreign policy establishment lacked a comprehensive understanding of North Korea. With knowledge limited, Sigal (2001: 11-12) suggests that American negotiators relied on an operational code built upon prejudices and predispositions which can be formalized in four assumptions. Firstly, once a country decides to acquire nuclear weapons it cannot be persuaded to abandon such plans. Secondly, North Korea is a rogue and hostile state. Thirdly, all rogue states pose a nuclear proliferation threat. Fourthly, nuclear dissuasion is best achieved by isolating rogue states and applying a crime-and-punishment approach to coerce them into abandoning nuclear proliferation. Hence, it is little surprise that the US all too often rejected cooperative efforts.

Wide parts of the American public shared the policymakers' perception of Pyongyang as reckless actor and thus created domestic political pressures on leaders to be tough on North Korea. Partly catering to domestic audiences, partly being convinced that cooperation is a misguided strategy, members of Congress and the security and foreign policy establishment in the US, especially Republicans, repeatedly advocated for aggressive rhetoric and assertive action. The media additionally often overlooked Pyongyang's concessions and diplomatic offerings. On top of that, the North Korean side of the story was and is often left untold - nor is there any interest in telling it. American reporters often operated in something resembling an echo chamber, relying "primarily on American officials as sources, and secondarily on South Korean and IAEA officials" but no source from the North Korean side (Sigal 2001: 221). Opponents of diplomatic engagement were far more vocal and outspoken, thus gaining more news coverage. A story about conflict is certainly more newsworthy than one about potential cooperation. In sum, loathing accusations of weakness, US administrations were repeatedly susceptible to pressure by aggressive hawks. Pollack (2011: 16) summarizes that "America has dealt with the North primarily in four contexts: As an enemy in the Korean conflict; as a primary focus of US defense planning in Northeast Asia for more than 60 years; as a US intelligence priority (in particular American efforts to monitor the DPRK's nuclear-weapons and missile activities); and in negotiations seeking the end of the nuclear impasse". In none of these contexts is Pyongyang anything other than an adversary or opponent. Hardly surprisingly, the mutual suspicions and mistrust the US and DPRK have for each other has often created tensions and reduced space for cooperation.

The Effects on Dissuasion Efforts

Despite enmity, several peaceful nuclear bargaining efforts took place in past decades. They often followed moments of great tensions and were commonly initiated after the US was prepared to make significant concessions. Yet, none of these initiatives lasted and therefore failed to dissuade Pyongyang from abandoning its nuclear program. The subsequent case studies illustrate how state identity and mistrust shaped crucial moments in the nuclear history of the DPRK.

Case Study 1: Nuclear Crisis 1993 / 1994

Already in the early stages of his presidency, Bill Clinton was faced with bureaucratic powers which favored a carrot-and-stick method over deal-making to ensure non-proliferation in the DPRK. The State Department, for instance, did not have relations with DPRK counterparts and traditionally preferred keeping good relations with the South Korea government, even when that meant that it had to back ROK demands which threatened the prospects of a cooperative solution. The intelligence community had little information regarding the DPRK, instead often relying on generalized statements about the “nature” of communist regimes, therefore also having a preference for a crime-and-punishment approach. Suspicion among the foreign policy establishment about the intentions of the DPRK created more predispositions against deal-making. Many in the US still believed that diplomatic engagement with North Korea was “accommodation with a hateful communist regime in Pyongyang ... the American foreign policy establishment ... was largely skeptical about, if not hostile to, negotiating with North Korea” (Sigal 2001: 56, 237).

When the nuclear crisis started to escalate in 1994, Clinton, under significant domestic and international pressure to adopt a tough stance, sought to employ economic sanctions to induce North Korea to bring its nuclear program into compliance with the Non-Proliferation Treaty. American proliferation experts, following the IAEA’s lead, argued against offering concessions even if that ran the risk of the DPRK leaving the NPT all together. However, with sanctions and threats not deterring North Korea, the crisis was on the verge of escalation to armed conflict. The White House finally changed course and deployed the Carter Mission which would eventually lead to de-escalation. From this point, President Clinton, despite resistance from within his own administration and the foreign policy establishment, managed to negotiate the 1994 Agreed Framework.

On the North Korean side, mistrusting US initiatives and being alienated by aggressive language, Pyongyang followed a tit-for-tat policy, matching positive reconciliatory moves but also reacting strongly to any form of coercive action (Sigal 2001: 8). The Democratic People's Republic of Korea

particularly objected to extensive safeguard inspections by IAEA officials which were seen as a violation of sovereignty. When a deadlock was reached, the Kim regime soon realized that any threat of military action would have little teeth - too great were the costs of a potential nuclear conflict on the Korean peninsula. Pyongyang was willing to engage in nuclear brinkmanship, showing its commitment to defend its autonomy even at great costs. Furthermore, the DPRK rejected to take first steps without the US having offered high-level talks, thereby giving the Pyongyang a sign of respect. It is thus little surprise that a diplomatic breakthrough only came when former President Carter visited Kim Il Sung. To North Korea, "the presence in Pyongyang of a former president, especially one who had tried to ease tensions on the Korean peninsula when he was in office was a token of American respect" and created the necessary framework for North Korean concession (Sigal 2001: 152).

Case Study 2: Implementation of Agreed Framework

In the lead up to the signing of the Agreed Framework, American hawks continued to criticize the deal. Mark Helprin suggested in the Wall Street Journal that "someday the West may lose a city in the nuclear detonation of a weapon now under construction in North Korea" (quoted in Sigal 2001: 170). When Republicans won a majority in both Houses of Congress in November 1994, the Clinton Administration was forced to use discretionary Pentagon funds to pay for a first shipment of fuel oil to North Korea. There seemed to be a lack of public commitment, as the US General Accounting Office (1996: n.p.) described the Framework as a "nonbinding political agreement" rather than a legally binding treaty. US public opinion remained mixed at best. The New York Times acknowledged that "diplomacy with North Korea has scored a resounding triumph" but the Washington Post "found some big flaws" as it might inspire other nations to pick up a nuclear program of their own, hoping to get payed off later on (quoted in Wit, Poneman and Gallucci 2004: 335). Furthermore, the strained DPRK-ROK relationship never ceased to undermine cooperation. Implementation talks in Geneva were used by the ROK to play up its role in the construction of the light-water reactors. While the North insisted on calling it an "American-type" reactor, Seoul attempted to humiliate Pyongyang by having the supply contract state that the reactor was a "Korean-type" (Sigal 2001: 201). ROK-DPRK relations remained mostly hostile throughout the next few years. Pyongyang continued provocative actions. For instance, North Korean military forces sunk a ROK submarine in 1996. Progress towards the provision of a light-water reactor was slow and they were ultimately never delivered as the discovery of a covert uranium enrichment facility caused the Framework to fall apart in late 2002. While the Clinton Administration had attempted to uphold the American end of the bargain as best as possible, the political context of the treaty was such that "it was impossible to put the framework on a firm and lasting political footing" (Wit, Poneman and Gallucci 2004: 372). The Kim regime admitted to the existence of the covert

facilities only years later, but it is clear that “North Korea was actually playing a far different game, one utterly incompatible with the Agreed Framework and all it represented” (Wit, Poneman and Gallucci 2004: 372). Clearly, the regime had little trust in the Agreed Framework to provide it with the necessary political and economic stability that would render a nuclear deterrent unnecessary.

Case Study 3: The “Axis of Evil” and the Nuclear Breakout Moment

The Bush Administration included many prominent US neoconservative forces and would come to favor unilateral action while having a distaste for international law. Multilateral arms control agreements were depicted “as inherently unverifiable and overly constraining” (Warren 2011: 432). US nuclear primacy was seen a critical ingredient to US military supremacy. The so-called “new triad” aimed at diversification and modernization of nuclear and non-nuclear military weaponry options. A novel missile defense technology and new nuclear weapons designs (such as “bunker busters” and “battlefield nukes”) were introduced. This confirmed nuclear forces as one of the centerpieces of American security strategy. The Administration identified rogue states, terrorism and nuclear proliferation as key threats and placed great emphasis on aggressive policies which aimed at preventing hostile actors from acquiring nuclear weapons and other weapons-of-mass-destruction (WMD). Washington considered preventive war a viable option in an age of terrorism and WMDs and Bush publicly identified North Korea as a threat to the US in the “axis of evil” speech (The Washington Post 2002).

Clearly, such policy decisions did not alleviate tensions with the DPRK - a state which continuously perceives the US as its main security threat. A tough sell at any point, an American call for a nuclear freeze in the DPRK would seem underhanded while the US modernized and diversified its own nuclear arsenal. To illustrate, when it was revealed in 2009 that the US appropriated over \$52 billion to the modernization of nuclear weapons, the North Korean newspaper Rodong Sinmun Saturday (2009) labelled this allocation of funds a “criminal act ... This behavior of the U.S. is an expression of its outrageous policy based on double standards in the nuclear issue and the height of its arrogance”. In response to being named as a rouge state, the DPRK pointed out that the US is the only state in history to use nuclear force and thus called it a “criminal state of the worst type” (Korean Central News Agency 2001). Bjola and Kornprobst (2018: 136) identify the “axis of evil” speech as a causal factor for Pyongyang’s decision to “end the freeze on plutonium processing, striving with ever more vigor to acquire nuclear weapons”.

When the Agreed Framework fell apart in late 2002, North Korea was uninhibited to make final steps towards the atomic bomb. The invasion of Iraq (and later Libya) gave Pyongyang all the more reason to make progress towards an atomic bomb. Shortly after the invasion in 2003, North Korean diplomats informed their American counterparts that “the lessons that we’re getting out of that is that Iraq does not have weapons of mass destruction and you invaded them. So, we’re going to reprocess the spent fuel rods, we’re going to take them and create a nuclear deterrent so you cannot invade us” (quoted in Chinoy 2008: 166-167). In 2020, the Korean Central News Agency (2020) suggested “that had the DPRK taken the path of giving up its {nuclear} deterrent by surrendering to the increased moves of the imperialists to stifle it, it wouldn’t have escaped the fate of Iraq or Libya”. North Korea’s historical understanding of the US as the main security threat thus clearly provided extra motivation for the development of a nuclear deterrent. While the Iraq war was still going on, the DPRK reasserted its aggressive and defiant stance, announcing that “if a new Korean war breaks out, it will be quite different from the Iraqi war ... If the Bush bellicose forces ignite the second Korean war ... They will only hear the American dirge on the Korean Peninsula” (Korean Central News Agency 2003).

On some other occasions, the lack of trust created sequencing issues. Take on North Korean statement to exemplify: “When the U.S. nuclear threat is removed and South Korea is cleared of its nuclear umbrella, we will also feel no need to keep ... {our} nuclear weapons ... We will never ... {give up} our nuclear weapons first even in 100 years unless the U.S. hostile policy and nuclear threat to the DPRK are fundamentally terminated” (Korean Central News Agency 2009). On the American side, however, policymakers usually believed that the US was only required to offer concessions after the DPRK had made first steps. After the 2005 Joint Statement of Principles, for instance, the White House quickly informed that the “appropriate time” for the provision of light-water reactors, which was one of the main American concessions, would only come *after* international inspectors had been able to verify that all weapon capabilities of Pyongyang had been eliminated (The New York Times 2005). North Korea felt betrayed and was unwilling to comply. Hence, a deadlock was often the only logical outcome, with both Pyongyang and Washington waiting for the other actor to make first moves.

Incompatibility of Strategies, Ideas and Objectives

The above outlined case studies highlight the importance of constructivist approaches to an analysis of international relations. North Korea’s nuclear drive has deep-lying roots. It is fundamentally linked to the DPRK’s longing for security and desire to resist the American threat. However, nuclear weapons act as more than a deterrent. The atomic bomb has created a quasi-space of impunity for North Korea. What is more, the nuclear power status of Pyongyang has provided it with the sort of influence and

leverage that a country of similar economy and political status normally would not have. Further, the nuclear arsenal has become a symbol of defiance, asserting Korean pride even when the Democratic People's Republic of Korea faced economic difficulties and international isolation.

The failure to dissuade North Korea from nuclear arming has exposed limitations in American negotiation strategies. Generally, the US has largely succeeded in its nuclear non-proliferation efforts. The US-backed NPT is regarded to be one of the most successful international treaties in history. Washington has repeatedly utilized a carrot-and-stick approach, economic pressure or military threats to successfully prevent allies (e.g. South Korea) and adversaries (e.g. Iran) from acquiring a nuclear arsenal. However, the United States has failed in finding an adequate approach for its relations with North Korea which seems to be immune to American pressure. Washington has often limited its own options by rejecting cooperative solutions because it has both had great success with coercive action in the past, and because many decision-makers believed the DPRK to be the sort of evil state with which one should simply not cooperate, or which cannot be trusted. Analyzing the 1993/4 nuclear crisis, Sigal (2001: 239) summarizes that Pyongyang's defiance of American pressure "showed the bankruptcy of traditional non-proliferation policies" as the US came close to engaging in a war as no Plan B was available.

Taking North Korea and American social contexts together, it becomes obvious that dissuasion by peaceful measures was always a tall order. That achieving a nuclear deal is an exceptionally demanding endeavor makes a difficult task even more complicated. Given the massive destructive power of nuclear weapons and the dual use issue of nuclear technology, nuclear deals require a great level of motivation by all actors and a significant amount of trust between them. A diplomatic agreement would require a number of well-sequenced and verifiable steps and would take years to implement. Nuclear scientist Hecker (quoted in Reuters 2018) believes that dismantling "a substantial part of the North Korean nuclear complex (not even considering the missile complex) would cost many billions and take 10 years or so". Padden (2018) estimates that dismantling North Korea's nuclear program would take a decade and cost as much as \$20 billion. Over this extended time period, much could go wrong – in the past persistency of action was indeed a major issue. A well-structured deal for disarmament today would, at the bare minimum, require clear cut definitions of key terms upon which a legal text can be based. It speaks volumes that the US and the DPRK to this day have different conceptions of what "denuclearization of the Korean peninsula" actually means. For North Korea, denuclearization clearly includes that an US removal of nuclear warheads from the ROK. For the US, denuclearization has a much more limited meaning, focusing on the dismantlement of the North

Korean nuclear infrastructure and arsenal instead. Thus, in sum, today Washington and Pyongyang do not have enough mutual trust, nor do they have a prerequisite level of clarity about key definitions and principles which would be necessary for deal-making.

Path Dependency in North Korea's Nuclear Development

Exploring nuclear arming options for decades, the value that North Korea has assigned to its nuclear program has clearly increased over time. There are several causal factors for this development. Specifically, the practical importance of nuclear weapons has increased i) as the security environment has become more threatening, ii) the Washington-Seoul alliance has been strengthened, iii) North Korea lost the Soviet Union as patron, iv) leadership transitions have been made, and v) the Democratic People's Republic of Korea has become more isolated. However, there is an additional factor that is often overlooked by the scholarship: Bureaucratic and institutional pressures that have “locked-in” the policy decision of pursuing nuclear progress. In the ensuing section, this paper argues that *nuclear path dependency is a crucial explanatory factor for the advancement of North Korea's nuclear program*.

The theory of path dependency stresses the self-perpetuating nature of policy-decisions and institutions, with change only being caused by “formative moments”. Path dependency has helped to explain the existence of long-lived policies but is yet to be applied extensively to North Korean nuclear exploration. Few authors have applied it to discuss nuclear exploration more broadly. Sagan (1996: 63) writes that “there is no well-developed domestic political theory of nuclear weapons proliferation that identifies the conditions under which ... {political, institutional and bureaucratic} coalitions are formed and become powerful enough to produce their preferred outcomes”. This is perhaps quite surprising as “policy entrapment” occurs most often when decisions come with great costs and commitments and require the spending of vast resources – as is the case in nuclear policy (Walker 1999b). Generally, Heginbotham, Heim and Twomey (2019: 538) find that because most authors focus on strategic and geopolitical considerations when analyzing the formation of nuclear policy, domestic factors “play important, yet underappreciated, roles”. Abrahamian (2019: 141-142) offers an explanation of why such factors are understudied in the case of the DPRK: “Much of the community that studies North Korea is steeped in an American international relations tradition dominated by realist thought. Realism tends to look for structural rather than domestic factors in state behavior”. Furthermore, it is often hard to get reliable information and data on internal North Korean processes, which means that reliance on traditional and abstract theories like realism, which focuses on the international and state level, is even more prominent.

Path Dependency in Nuclear Power States

Bureaucratic and institutional pressure can create path dependency in democratic nuclear power states. Regarding US nuclear policy, Heginbotham, Heim and Twomey (2019: 546) point to the Defense Department, particularly the Air Force and Navy, as having “a nuclear constituency”. Eden (2006) shows that throughout the Cold War, military planners systematically underestimated the damage of nuclear attacks, indicating that they had an institutional interest to inflate resources allocated to their branch. Schlosser (2014) writes about competition for resources between various nuclear research institutes and nuclear stove-piping. More recently, institutional resistance to change in nuclear policy can be observed during the Obama presidency. Newly elected President Obama (2009) gave an inspiring speech in Prague, seemingly announcing a drastic reconfiguration of American policy when he pledged to take “concrete steps towards a world without nuclear weapons”. He promised to revitalize the Non-Proliferation Treaty, to push for the ratification of the Comprehensive Nuclear-Test-Ban Treaty, to spearhead a Fissile Material Cut-off Treaty and to deemphasize nuclear weapons in the US security strategy (Kumar 2011: 207). Yet, when it came to the formulation of the Nuclear Posture Review 2010, “fierce bureaucratic politics” meant that despite Obama’s transformative ideas, the Review in the end produced little more than “business as usual” policies (Spear 2011: 241). Obama’s revolutionary vision was opposed by important military and political stakeholders which stressed the need to keep a strong deterrent in place. In the end, the Department of Defense accepted weapons reductions only in exchange for a modernization pledge for all three legs of the nuclear triad and more investments into the nuclear weapons complex (Mecklin and De Torres 2015: 56). Smetana (2013: 17) therefore argues that the 2010 Review “exhibited more patterns of continuity than real changes in US nuclear policy”. Obama eventually committed approximately \$1.7 trillion to modernization and advancement of US nuclear forces (The Congressional Budget Office 2017).

Even in an authoritarian country like China, bureaucratic processes and institutional pressures influence policy outcomes. China traditionally had a restricted nuclear doctrine, maintaining a small deterrent while adopting a no-first use policy. However, as China’s economic growth rapidly accelerated in the 21st century and Beijing gained access to more financial resources, a diversification and modernization of its nuclear force occurred. Heginbotham, Heim and Twomey (2019: 538) argue that “many of the qualitative improvements follow as much from bureaucratic imperatives or processes as they do from calculations of threat and response”. Within the People’s Liberation Army, it is the Rocket Force which is in charge of China’s nuclear deterrent. This Force “has steadily advanced

in stature, while the modernization and expansion of the PLA Navy's SSBN force has effectively created a new nuclear constituency" (Heginbotham, Heim and Twomey 2019: 548).

Nuclear Path Dependency in North Korea

Despite this illustrated importance of institutional and bureaucratic pressures in both democratic and authoritarian nuclear power states, path dependency is yet to be applied to explain North Korea's nuclear logic. There are several reasons of why it is important to fill this academic gap. Firstly, path dependency clearly impacts nuclear policies in other nuclear power states and thus must also be considered in the North Korean context. Secondly, North Korea's nuclear exploration was a decade-long and extremely costly process which makes policy entrapment more likely. Thirdly, the insights that path dependency offers are particularly interesting in the case of North Korea which has an authoritarian decision-making process in which policy decisions are not scrutinized extensively and therefore have additional *stickiness*. Consequently, a model which stresses the difficulty of policy reversal is a suitable theoretical tool. To examine how nuclear path dependency has emerged and then strongly influenced developments in North Korea, this paper discusses the decision-making processes in Pyongyang, highlighting differences and similarities between the three Kim leaders.

Under the reign of Kim Il Sung, which lasted from 1948 until 1994, policy decisions were only informed by a small number of advisors and Kim himself. His leadership style fits the understanding of North Korea as a one-man Stalinist state. At some point in the 1960s or 1970s, driven by his desire to make the DPRK as autonomous as possible, Kim Il Sung ordered nuclear exploration for weapons purposes. Discussing path dependency, it is important to keep Kim's status in North Korea in mind. Until today he is seen as the formative figure in North Korean history. He is the "Eternal President of the Republic" (*chusok*) and his birthday is celebrated as the "Day of the Sun". The Juche calendar, the official system of year numbering in North Korea, marks as day one the birth of Kim Il Sung. It is also noteworthy that the fund North Korea used in past decades to import nuclear materials for its armament program is called the "Kim Il Sung fund". Given this status, many of Kim Il Sung's strategic policy guidelines are still in place today and are not up for questioning. In fact, his successor Kim Jong Il, who came to power in 1994, aligned all key overarching strategic policy goals with his father's - so much so that many of his beliefs and policy preferences are barely distinguishable from Kim Il Sung's. Kim Jong Il certainly also shared his father's conviction that the nuclear option should be further explored. The circumstance that the first two North Korean leaders were so firmly convinced of the usefulness of the nuclear program contributed significantly to the fact that nuclear probing became a "locked-in" political decision.

Even in the authoritarian setting of North Korea, institutional and bureaucratic pressures still matter. While Kim Il Sung's reign was characterized by decision-making of very few actors, under Kim Jong Il great changes in the state structure were undertaken. This evolution was facilitated by shocks to North Korea's system during the 1990s, such as the collapse of the Soviet bloc, the 1993-4 nuclear crisis, the death of Kim Il Sung and the famine of the 1990s. Given this decade-long state of emergency, North Korea's leadership style transformed and started to rely on the input of various institutions, which themselves were dependent on extensive bureaucracies. Thus, McEachern's (2010: 2, 13) claims that under Kim Jong Il's rule a "more decentralized, post-totalitarian, institutionally plural state" was being created which relied more and more on institutions, which, "at the very least, inform and execute strategic-level decisions and make operational decisions based on their understanding of Kim's wishes".

McEachern (2010: 4) argues that in this state "three second-echelon institutions" have significant impact on policy outcomes for that they provide the knowledge, frame the agenda, and present options and opinions upon which Kim Jong Il acted: (1) the Korean Workers' Party; (2) the Korean People's Army (KPA) and (3) the cabinet as the government. While McEachern's (2010) analysis focuses on the period 1998 to 2009, it can be assumed that institutions carry a similar weight during the current reign of Kim Jong Un. When it comes to security policy, interactions with the US and nuclear arming, the Workers' Party constantly employed historical narratives as well as ideological statements to argue against diplomatic engagement or accommodation of the American imperialists and used both the nuclear and ballistic missile program as symbol of pride, defiance of America pressure. Nuclear progress was deemed "as too important ... to simply trade away for paper commitments from inherently untrustworthy imperialists" (McEachern 2010: 6). The KPA naturally also opposed diplomatic engagement, rejecting restrictions to North Korea's military capabilities. Negotiations and diplomatic agreements were perceived as being unable to secure national security - only a strong military could. At cabinet level, solely the Foreign Ministry has a track record of favoring diplomatic engagement on various occasions. However, McEachern (2010: 7) stresses that "when relations {with the US} soured, the cabinet often simply went silent while the party and military presented reasons why such an engagement was never productive or worthwhile". When the international atmosphere became more tense after 9/11, "Party and military outlets emphasized armaments over paper agreements as US-DPRK confrontation intensified" (McEachern 2010: 225). Hence, the policy options these institutions provide to the leadership do not diverge from the Kim family's apparent preference for continuing the nuclear program.

The impact of the (military) nuclear establishment itself should also not be underestimated. When considering the natural progression of nuclear tests in North Korea, Walker (1999a: 20) provides a valuable lesson from the Cold War era: “The importance of assessing new warhead designs through explosive testing was constantly emphasized by the scientists and engineers responsible for US, British, French and Soviet weapons programs”. Tests indeed have important practical value. For instance, they teach lessons about the military effectiveness of the bombs, create trust in one’s own nuclear abilities, and grant credibility to the nuclear deterrent. However, tests are also a tool by which the nuclear industry itself creates self-perpetuating forces. In the North Korean setting, these pressures should not be dismissed. Niksch (2006) estimates that the Yongbyon Complex alone employs approximately 3000 persons; it is reasonable to assume that that number has gone up during recent years. Other important institutions of the nuclear establishment include the Nuclear-Chemical Defense Bureau (NCDB) which consists of seven departments and three research institutes and employs about 4,500 to 5,000 people (NTI 2003). Taken together, these institutions “have a powerful vested interest in self-perpetuation” and are thus likely to lobby for an expansion of the nuclear program and would resist any cuts (Habib 2010: 2832).

The Nuclear Breakout Moment

Historical evidence suggests that the first nuclear test of a country can decisively reshape its future. When nuclear breakout occurs, states have no clear-cut nuclear charter ahead. Rather, there is much uncertainty about the nature and quantity of weapons that will be developed, what infrastructure is needed to maintain and protect them, what sort of nuclear doctrine will be formulated, and what military advancements will be needed to make nuclear weapons usable (e.g. missile systems, command and control issues...). Further, there is much unclarity about the strategic and economic impact that the nuclear weapons program will entail. Using the British case as an example, Walker (1999a: 22) argues that while the first nuclear test was conducted in 1952 it was “not until well into the 1960s” that British nuclear program and policies were “settled” in any sense. Hence, once the first test is conducted, the nuclear path becomes even more entrenched into the national identity of a state, as it creates new pressures to commit great resources to further develop the nuclear arsenal and doctrine.

North Korea’s nuclear advancement follows the above described pattern of a constant progression. The first test occurred in October 2006 and created an estimated yield of “only” 0.7 kilotons and therefore probably fell short of the expectations of North Korean leaders. A second test in 2009 naturally built on the first test and created an estimated yield of 5.4 kilotons. The third test created a

yield of approximately 14 kilotons, while the fourth test in January 2016 had a yield of about 10 kilotons (BGR 2016a). A fifth test in September 2016 generated a yield of about 25 kilotons (BGR 2016b). The last North Korean test was conducted in September 2017 and marked a significant step forward, as the yield was estimated to be somewhere between 70 and 280 kilotons, which would make for a bomb that is 17 times stronger than the one dropped on Hiroshima in 1945 (The Washington Post 2017). O'Neil (2016) estimates that every additional test illustrates that the days in which North Korea would be willing to trade in its nuclear program, in tandem with its missile program, for economic or political inducements are long gone. Rather, North Korea's goal now is to "build up a major strategic arsenal capable of striking a range of targets across Asia and further afield in the Pacific, including the continental United States" (O'Neil 2016: 103).

Recent Reshaping of the Nuclear Doctrine

While the DPRK's pathway is thus characterized mostly by steady advancements, during the Kim Jong Un era, which started in 2011, a clear evolution of nuclear policy took place. At the Central Committee Plenum in March 2013, the young leader attached his name to a strategy of simultaneous co-development of the country's nuclear program and economy—referred to as the *byungjin* policy (translating to "parallel development"). *Byungjin* is thus seen as having emerged out of an April 2012 speech, which Kim used to pronounce his commitment to military build-up, described as his "first, second and third" priority, but also to promise that the North Korean people "will never have to tighten their belt again" (quoted in The New York Times 2012). Gause (2014: 8) therefore assesses that in *byungjin* "aspects of the Military First Policy are evident, but so too is a renewed focus on the civilian elements of the economy". Subsequently, domestic reforms were introduced, aiming at, for example, agricultural advancements to improve the efficiency of fertilizer. Meanwhile, nuclear power is to be pushed as a source for electricity. Other changes include a cautious shift away from a centrally planned economy "to one that is more incentive-based and allows for greater autonomy at the county and provincial levels" (Albert 2018). Infrastructure for tourism is continuously built up, including the construction of new airports, theme parks or ski resorts. Kim Jong-un likes to portray himself as a "modern leader" (Albert 2018: n.p.).

Despite all this upheaval, there are notable aspects of policy continuation as well. First of all, a regent leadership structure, created by his father to smoothen power transition, influenced all of Kim Jong Un's early decisions. Especially at the start of Kim's reign in the early 2010s, "the North Korean military high command ... exerted strong influence within the political space" (Gause 2018: 13). Consequently, Kim was exposed to the same institutional demands for nuclear continuation that his father was.

Secondly, Gause (2014: 133) argues that at least for the first few years of Kim Jung Un's reign, during which his leadership was yet to be fully consolidated, the young leader was under great pressure to follow the policy instructions of his father's will very closely. In this will, it was stated that both the nuclear and missile programs should be continued while chemical and biological weapons should be further developed. In other words, further advancements were also "in keeping with Kim Jong-il's will regarding the sanctity of the nuclear program" (Gause 2014: 144). While Six Party Talks were seen as an opportunity for lifting sanctions, the nuclear status of North Korea was described as not being up for discussion. Thirdly, *byungjin* clearly indicates Pyongyang's continued commitment to rely on the nuclear deterrent for state security. At the same time, the cost-saving aspect of the nuclear program has become more visible, for that nuclear energy is identified as source of energy and the nuclear deterrent is meant to allow Kim to free up more resources for economic development. As such, reliance on the atomic bomb has arguably only increased.

Clearly, Kim Jung Un has taken another logical step in line with nuclear path dependency, making progress towards turning North Korea into a fully-fledged and *assertive* nuclear power. While his predecessor Kim Jong Il at times seemingly displayed a certain readiness to see the nuclear program as a bargaining chip (especially before the early 2000s), Kim Jung-un has put forth "a policy line that is more unconditional and less open to compromise" (Gause 2014: 144). The young leader does not see the nuclear program as a diplomatic tool. Rather, in recent years, the nuclear program has become even more prominent in the public discourse. References to it were added for the first time to the Party Charter and even to the North Korean constitution in 2012, illustrating "just how embedded nuclear weapons have become in the DPRK's national role conception" (O'Neil 2016: 102).

Absence of a "Formative Moment"

The theory of path dependency dictates that policy decisions create self-perpetuating forces which can only be overcome during "formative moments". In the North Korean case, a possible formative moment would certainly have been the striking of a nuclear deal which would have eventually led to nuclear dissuasion. Yet, no nuclear agreement with the Kim regime ever lasted long and no offering was extensive enough to present a formative moment. In other words, no set of inducements ever changed Pyongyang's nuclear calculus. In this context, one should consider Volpe's (2016: 484) case "for buying out sensitive nuclear programs" in the stage of development of enrichment and reprocessing technologies.

How is such an argument linked to nuclear path dependency? As nuclear programs are often started for the purpose of exerting political or economic concessions rather than actually for the objective of nuclear armament, programs can be traded in for political or economic inducements. Yet “even the most lucrative inducements may not be sufficient for buying out operational facilities because the development of nuclear technology follows what economists refer to as a ‘path dependent’ process” (Volpe 2016: 486). In other words, path dependency reduces the attractiveness of deal-making over time. If a deal is not offered in a timely manner, it may be too late to change course as institutional pressures have caused nuclear entrapment. Sigal (2001: 124) points out that North Korea suspended the removal and reprocessing of spent fuel rods from early 1992 until May 1994; “for a country supposedly hell-bent on bomb-making, its self-restraint seems difficult to explain. North Korea’s actions, instead, could be seen as signs that it was trying to trade in its nuclear weapons program for ... security assurances and political economic ties to the United States”. Nah (2013) likewise suggests that the theory of liberalism can be used to explain Pyongyang’s willingness to commit to the Agreed Framework, hoping to lessen economic hardship. Hence, it is fair to suggest that at least up until 2002, when the Agreed Framework failed, buying-out North Korea’s program could have worked under the right circumstances. However, this opportunity was missed – mainly because cooperative attitudes in Pyongyang and Washington were hard to come by and mistrust was widespread. Hence, North Korea was allowed to continue on its nuclear path.

With an external formative moment not occurring, one has to also consider the possibility of policy change based on domestic developments. Here Wu’s (2018: 2) observation is useful: In authoritarian countries, “due to the absence of elections and citizen participation, decision-making elites often ignore information from society, which leads to extended policy inertia, and policy change does not occur until policy conflict and pressure cumulate to dangerous levels”. Wu (2018: 3) further explains that policy change often comes about through a process of conflict expansion. Principally, policy transformation reallocates resources and thus hurts interest groups that profit from current policies. Birkland (1998) emphasizes that the dominant groups in a policy community therefore have incentives to resist policy change. The disfavored group can overcome the status quo by taking the conflict public. If the movement gathers support, resistance by existing institutions and interest groups can be overcome. For this process, the media is a key forum for identifying issues and for creating support for policy change (Birkland 1998, Bosso 1987). In authoritarian countries the process of conflict expansion is of course greatly restricted by the lack of public discussion and limited citizen participation in political processes. Authors like Ma (2012) or Yang (2013), however, illustrate that

even in a country with extensive censorship, such as China, certain mass media channels and the internet can create a public space for critical policy discussion.

Yet, in the North Korean setting, such proceedings are unlikely to materialize. The key difficulty is that there is no political opposition to the North Korea leadership. As the United Nations Human Rights Council (2014: 7) shows:

“Throughout the history of the Democratic People’s Republic of Korea, among the most striking features of the State has been its claim to an absolute monopoly over information and total control of organized social life... There is an almost complete denial of the right to freedom of thought, conscience and religion, as well as of the rights to freedom of opinion, expression, information and association ... Citizens are denied the right to have access to information from independent sources; State-controlled media are the only permitted source of information in the Democratic People’s Republic of Korea. Access to television and radio broadcasts, as well as to the Internet, is severely restricted, and all media content is heavily censored and must adhere to directives issued by the Workers’ Party of Korea... Citizens are punished for watching and listening to foreign broadcasts, including foreign films and soap operas”.

The 2019 State of World Liberty Index identifies North Korea as the most oppressive country in the world and describes it as a “moderate tyranny” (Rhamey 2019). The 2019 World Press Freedom Index by Reporters without Borders (2019) ranks North Korea as 179th out of 180th countries (only ahead of Turkmenistan) as “North Koreans can still be sent to a concentration camp for viewing, reading or listening to content provided by a media outlet based outside the country”. Freedom House (2019) categorizes the DPRK as a country that is “not free”, scoring a dismal 3 out of 100 possible points. Hence, the North Korean people have no opportunity to change policy via a bottom-up approach.

Moreover, it is reasonable to assume that even if there was a public forum to discuss nuclear policy among the public, North Koreans would probably not question the validity and utility of nuclear weapons, as North Korean propaganda is present at all times and “the Korean Central News Agency (KCNA) is the only permitted source of official news” (Reporters without Borders 2019). Wide parts of the citizenship are greatly loyal to the regime or fear the consequences of dissent. Crucially, the US is portrayed by the state-run media as constantly posing an imperial and evil threat to Pyongyang. State ideology is deeply entrenched in most North Koreans and it is thus unlikely that they would be willing

to give up the security assurance or source of nationalistic pride and defiance that nuclear weapons provide. Hence, it is fair to assume that there is little to no opposition to the nuclear policy of the Kim regime among the North Korean population.

Summing up, the nuclear process undergone by the Democratic People's Republic of Korea can be described as a natural progression in line with the theoretical model path dependency. Once an initial step was made to start nuclear research, North Korea consistently made progress. When scientific progress allowed Pyongyang to consider nuclear arming and the failure of the Agreed Framework freed North Korea of any constraints, nuclear breakout occurred in 2006. Thereafter, nuclear weapons have become an integral part of the DPRK's state identity. The Kim family itself, key institutions and bureaucratic pressure have all contributed to North Korea being locked-in its nuclear policy. Disarmament would be a drastic transformation in policy that would require the sort of transformative moment that has not transpired in the past.

Nuclear Bargaining, Sanctions and Alliances

The ensuing section focuses on nuclear bargaining, cost-benefit calculations, as well as sanctions and alliances. Firstly, this paper applies Spaniel's (2019) nuclear bargaining theory to demonstrate that because *costs were low and the threat of proliferation was credible, North Korea's calculations dictate nuclear arming*. It is important to recall that while many scholars are pessimistic about nuclear deal-making (so were many American policymakers certainly in regard to North Korea), Spaniel (2019: 4) makes a case for nuclear non-proliferation agreements, which he defines as "any transfer from one country to another with the intent to make the latter less likely to acquire nuclear weapons". Indeed, there is something to be said for cooperative solutions to nuclear armament problems as offering economic and political inducements has been proven to work as non-proliferation tool. Egypt gave up nuclear arming aspirations after the Camp David Accords with Israel. After the end of the Cold War, the international community succeeded in preventing Belarus, Kazakhstan and Ukraine from developing nuclear weapons and secured existing stockpiles through the Lisbon Protocol. States like Japan, Australia, South Africa or South Korea have considered but not completed nuclear arming.

Costs of Nuclear Arming

Spaniel (2019: 52) notes that "declining states have incentives to proactively bargain with rising states, so as to ensure that non-proliferation remains the status quo. Rising states have incentives to welcome the offers, as they can obtain most of their goals without paying development costs". Therefore, only

three outcomes are possible when states bargain over nuclear arming. Firstly, no concessions are offered to a potential proliferator, but an agreement nevertheless arises as costs of nuclear arming are prohibitively high or the threat of preventive war is credible. This model does not apply to the case of North Korea as even during heightened crises, such as in 1993 and 1994, the US was not willing to threaten or pursue military action outright. While in 1994 military preparedness was steeped up by the US, ROK and DPRK alike, Pyongyang was not to be coerced by the threat of war and President Clinton ultimately swayed to more a cooperative solution, while many cautionary voices in the Pentagon also issued strong warnings against war. The second outcome is reached when a rising state presents a credible proliferation threat, but costs are still prohibitively high. In such a case the opponent offers concessions immediately which are accepted by the rival as continuing the nuclear program would only yield costs that outweigh any future concessions. Clearly, this scenario also does not apply to the proliferation case studied by this paper. On repeated occasions the US did offer concessions, usually begrudgingly so, but agreements never lasted long. The third outcome, the only one in which nuclear arming actually occurs, is reached in cases in which the proliferation threat is credible, and costs are low.

At first glance, the North Korean case seemingly presents an anomaly in Spaniel's theory as Pyongyang had to make vast sacrifices to attain and maintain its nuclear arsenal. Therefore, it seems that costs in the North Korean case could be described as prohibitive. The DPRK's quest for the atomic bomb was incredibly costly. In pure financial terms, the estimated cost of North Korea's nuclear program - approximately \$1 billion to \$3 billion - is dwarfed by one single American aircraft carrier for that the USS Gerald Ford alone cost about \$8 billion (CNBC 2017). However, North Korea's budget is "minuscule when compared to the United States" or its neighbors Japan, China and South Korea; yet the DPRK's overall "military-spending-to-GDP ratio far exceeds any other country" (CNBC 2017). In other words, to guarantee its security, North Korea is willing to use the vast majority of its resources on military capabilities. On top of the resources spent on the nuclear program, North Korea's economic situation is clearly aggravated by the impact of international sanctions which were adopted to limit the country's nuclear advancements. While Kim Jung Un's *byungjin* policy indicates that there is a belief that international pressure can be defied, "the costs of such a policy are staggering compared to the economic benefits North Korea might enjoy without nuclear weapons" (Synder 2013). Pyongyang's refusal to denuclearize created an estimated cumulative trade loss of \$100 billion for the period from 2012 to 2020 alone - a statistic made even more remarkable "when one considers that North Korea's overall trade in 2012 did not reach \$10 billion" (Synder 2013: n.p.). In a different context, such costs could well be thought of as being prohibitive to nuclear aspirations.

Nuclear Weapons have Low Costs

Yet, cost-benefit calculations in North Korea work differently than in any other country. This paper presents four arguments to illustrate that while *financial costs* were indeed high, the *political and strategic costs* of the DPRK's nuclear program were in fact rather low.

Firstly, the two sole concerns of the leadership in Pyongyang are state survival and regime perpetuation. Or, in Pollack's (2011: 188) words, "system preservation remains North Korea's defining imperative". North Korean leaders have valued the strategic stability that nuclear weapons provide over the benefits they could gain from economic and political inducements. They have taken the guaranteed security of a nuclear deterrent over American inducements, which are seen as unreliable or potentially underhanded.

Secondly, the leadership in North Korea has traditionally little regard for the country's economic performance as long as state survival is ensured. In North Korean calculations, the tremendous security value of nuclear weapons easily outweighs the costs of building such weapons. The massive military build-up after the 1950s contributed to economic stagnation, hardship, and famine in North Korea, but such drawbacks were accepted by Pyongyang and deemed as necessary evils to safeguard autonomy. Wertz (2019: 2) argues that the leadership in Pyongyang has in fact drawn leverage in international negotiations from its preparedness to let its population endure "severe pain to ensure its survival". Having complete control over their population, DPRK leaders accept humanitarian issues to ensure state security. With election performance not being a factor and regime change through internal upheaval being highly improbable, the Kim regime does not have to fear the consequences of poor economic performance as much as they would have to if North Korea had a more responsive government structure. A somewhat related point is made by Solingen (2007: 1) who identifies great differences in the nuclear logics of "states whose leaders ... advocate integration into the global economy, and those whose leaders reject it". States with a certain interest in participating in international affairs and states which seek to secure domestic legitimacy via good economic performances "have incentives to avoid the political, economic, reputational, and opportunity costs of acquiring nuclear weapons because such costs impact a domestic agenda favoring internationalization" (Solingen 2007: 1). North Korea, on the other hand, is an extremely inward-looking state which emphasizes nationalistic policies. In this context, nuclear weapons act as a source of pride, symbolizing defiance of American imperialism. Clearly, the Kim regime does not fear reputational costs since internationalization is not desired.

Thirdly, nuclear arms are in fact cost-saving tools for that they liberate North Korea of the need to participate in a conventional arms race. The DPRK's economic power and conventional military

strength is dwarfed by the combined force of the White House and the Blue House. Hence, Pyongyang would not be able to guarantee state security through conventional military tools. North Korea's nuclear arsenal is a cost-effective equalizer as it balances against the US-ROK alliance's dominance and thereby frees up resources for economic growth. Today, North Korea has "only about half of South Korea's population, one-sixth of its defense budget, and one-fiftieth of its economic output", which means that the nuclear arsenal "remains the only affordable and sustainable option for North Korea to maintain a balance" with the Seoul-Washington alliance (Zhang and Wang 2019: 144, 147). How crucial this cost-saving aspect of the atomic bomb actually is, is also exemplified by a statement of Kim Jong Un himself. In 2013, he underscored that relying on "our powerful war deterrent" has allowed the leadership "to concentrate funds and labor on the campaign for economic construction and improving the people's standard of living" (Kim Jung Un 2013: 2). To summaries, Spaniel's (2019) third model can be used to explain the nuclear drive of North Korea. Faced with great security concerns, the threat of proliferation was always credible. In addition, the DPRK's state identity is such that costs, which would be prohibitive in other circumstances, are outweighed by preferences for autonomy and regime perpetuation.

More Generosity equals More Success?

With nuclear bargaining having failed in the North Korean case, one must ask: Could have been done more to secure a deal? To provide an answer, a theoretical insight offered by Spaniel (2019: 187) is useful: "Proactive negotiations convince potential rising states to forgo nuclear weapons programs". Concessions offered by the declining states can change the calculations of the rising state. However, to make rising states accept bargained outcomes "generosity" is crucial: "proliferation can only grant a rising state so many concessions. Consequently, if declining states offer most of those concessions prior to proliferation, the relative return on investment diminishes" (Spaniel 2019: 188). In other words, nuclear arming is not profitable if a good enough deal is offered (here it is important to keep in mind the earlier outlined arguments about the timing of concessions). In the past, nuclear agreements have indeed worked if they were attached to great concessions by the status quo powers. The NPT, for instance, offers peaceful use of atomic energy and the nuclear powers' pledge to take steps towards disarmament. However, skeptical voices, perhaps overtly relying on realist assumptions about anarchy and the instability of agreements between states, "worry that rising states will break agreements and proliferate anyway", especially in cases in which negotiating partners are deemed as unreliable or untrustworthy (Spaniel 2019: 188). However, adhering to the sceptics' heavy-handed recommendations in fact leads to a "self-fulfilling prophecy. Cutting the rising state's share of the status quo increases the relative return on investment and therefore incentivizes proliferation" (Spaniel

2019: 188). Such dynamics can certainly be observed in the North Korean case. For example, nuclear escalation took place under the Bush administration which probably never believed that Pyongyang could be induced to give up its program.

Spaniel's (2019) argument about generosity suggests that in the past more extensive concessions by the White House could have indeed, at least temporarily, dissuaded North Korea from making progress towards nuclear armament. Yet, in past negotiations, the US has failed to fundamentally change the Kim regime's nuclear calculations. For Babson (2015), the failure of past negotiations lies in the fact that US was unsuccessful in addressing the underlying drivers of the program itself, rather solely focusing on the objective of disarmament itself. Gause (2018: 2) argues that the US has mistakenly chosen "to focus almost exclusively on denuclearization and has placed it at the front end of the negotiating process. As the weaker power in this asymmetric relationship, North Korea cannot be the first to make concessions—to do so would only render it weaker". In terms of optics, Gause (2018: 2) adds that "by focusing exclusively on denuclearization, the United States has turned its negotiations with North Korea into a zero-sum game where there can only be one winner and one loser".

Looking ahead, the arguments presented in this paper underscore that if the DPRK was ever to be persuaded by economic and political inducements to abandon its nuclear arsenal, an agreement must be more generous today than it would have had to be in the past, given that the value of nuclear weapons in the calculations of the Democratic People's Republic of Korea is constantly increasing. More than that, nuclear capabilities dominate all societal and political realms and have reshaped the state identity of the DPRK. Yet, the DPRK is not the sort of country that one makes concessions to easily. The United Nations Human Rights Council (2014: 6, 14) reports that "systematic, widespread and gross human rights violations have been and are being committed by the Democratic People's Republic of Korea ... {crimes against humanity in the DPRK} entail extermination, murder, enslavement, torture, imprisonment, rape, forced abortions and other sexual violence, persecution on political, religious, racial and gender grounds, the forcible transfer of populations, the enforced disappearance of persons and the inhumane act of knowingly causing prolonged starvation".

Furthermore, the unpredictability and perceived recklessness remains an issue; had North Korea acted as a "non-provocative nuclear power, the US might have found it easier to swallow the bitter pill and recognize the DPRK as a nuclear state" and negotiate in earnest over past years (Szalontai 2017: n.p.). In the US, there still is much mistrust for leaders in Pyongyang. Therefore, for a cooperative agreement

to be feasible, a massive reshaping of US-DPRK relations would have to take place. This would require the sort of historical effort for which the current political relationship between the two countries provides little opportunities. Accounting for the “survivalist” nature of the Kim regime, any deal would have to include major political and economic concessions from the US and a certain latitude regarding safeguards to ensure that North Korea does not perceive its autonomy as being impaired. Recalling the history of Washington-Pyongyang relations, it is *almost* unimaginable that such a deal will materialize any time soon.

Credible Threat of Proliferation, Sanctions and Alliances

This paper has so far shown that nuclear bargaining efforts have failed because negotiations did not change North Korea’s nuclear calculations. With negotiations either yielding no long-term results or not taking off in the first place, the US mostly pursued coercive strategies to dissuade North Korea. In moments of high tension, like during the 1993/4 nuclear crisis, the White House realized that preventive war was not a feasible option. Armed conflict on the Korean Peninsula would have proven to be catastrophic for all parties involved. Instead, the US preferred sanctions as main policy tool for decades. Therefore, this thesis offers a brief discussion of why sanctions have failed to dissuade nuclear arming.

North Korean state identity places heavy emphasis on autonomy and is thus fundamentally at odds with any pressure campaign. Pyongyang will typically prefer defiance over submission – even when it is causing great costs. The United Nations Human Rights Council (2014: 6-7) reports that “the massive destruction caused by the Korean War and the impact of the Cold War have engendered an isolationist mindset and an aversion to outside powers”. Another shortcoming of sanctions is that they can never be effective without being coupled to the moderating influence of provision of forums for bi- or multilateral negotiations. Without the offering of negotiations, sanctions only reinforce North Korean fears of American aggression, meaning that “UN sanctions that delink non-compliance with international obligations from North Korea’s existential fears for its national security do not offer a credible path back to peace and security” (Carisch 2017: n.p.). Furthermore, imposing more extensive sanctions could end up causing one of two undesirable outcomes. On the one hand, they could destabilize North Korea to a point at which decision-makers in Pyongyang might feel forced to take military action. On the other hand, extensive pressure could in fact strengthen the regime domestically and reinforce its isolated status. Evidence of the latter scenario is provided by past statements of DPRK representative Song Nam Ja (2016: 7), describing UN sanctions “inhumane” as they “undermine the people’s livelihood”, which indicates that sanctions are used as means to unify

the population by appealing to anti-imperialist propaganda. Making an extensive sanction regime an even less appealing strategy is the possibility that sanctions trigger a deterioration of the humanitarian and human rights conditions in the target country. Wood (2008: 489) details that “sanctions impose political, social, and physical hardship on civilian populations” as authoritarian leaders increase oppression and minimize political opposition as they fear a destabilization of the regime due to augmented economic pressures.

The final point to be made about sanctions is linked to the theoretical discussion of alliance dynamics in nuclear proliferation. Principally, the effectiveness of economic sanctions on North Korea is undermined by Russia and especially China, which both have no interest in destabilizing North Korea. Analyzing the period between 2004 and 2007, Haggard and Noland (2011: 16) show that countries that are favoring sanctions, particularly the US and Japan, only have a very small economic engagement with North Korea. Hence, “the general unwillingness of the Chinese to use economic instruments to pressure North Korea, the observed growth in bilateral trade and investment, and the increasingly commercial nature of China–North Korea trade all cast doubt on the likely effectiveness of commercial sanctions” (Haggard and Noland 2011: 19). Indeed, today, about 90% of North Korea’s exports go to China. Landau and Sher (2017: 3) thus conclude that international negotiators have very little leverage in talks with North Korea as Pyongyang is rather comfortable despite being mostly isolated. To only discuss the importance of alliances in terms of sanction alleviation, however, would be an oversimplification.

Monteiro and Debs’ (2014: 12) “strategic-interaction approach” argues that the credibility of nuclear proliferation by the rising state, the adversary’s threats, and “the effectiveness of an ally’s guarantees of protection or threats of abandonment” are key to understanding nuclear proliferation. Unpacking these three points, the threat of proliferation in the North Korean case was always very real. Turing to the threats that an adversary can impose on the potential proliferator, preventive war against North Korea was dismissed by the White House as being too costly, not only because of North Korea’s nuclear threat but also because China or Russia might intervene. Furthermore, as shown above, Moscow and Beijing have undermined the effectiveness of sanctions. Consequently, North Korea, together with its partners thus has great relative power compared to Washington which positively correlates to likelihood of proliferation. The impact of alliance dynamics does not end there; “not all states with powerful allies, however, proliferate. (...) A weak state is likely to acquire nuclear weapons only when it possesses a powerful ally that is neither willing to offer reliable future protection guarantees nor able to issue consequential threats of immediate abandonment” (Monteiro and Debs

2014: 10). This is when North Korea's deeply entrenched desire for autonomy to avoid foreign domination comes once again into play. Already during the Korean War, Kim Il Sung reportedly despised having to rely on Chinese and Soviet help to resist the American invasion north of the 38th parallel (Pollack 2011: 27). In the following decades, Pyongyang continued to rely especially on Soviet help, not only for its military build-up but also for its economic development. Yet, assistance was accepted only begrudgingly. The fact that neither Moscow nor Beijing ever actively supported nuclear arming, even condemning it on multiple occasions, only added to North Korea's reluctance to rely on its alliances for state security.

However, Monteiro and Debs' (2014: 24) recommended tool of coercion as "the optimal non-proliferation tool an ally should use vis-a-vis a weak protégé" is not applicable in the North Korea case given that Pyongyang was always aware that the Soviet Union and, in more recent years, China were not willing to abandon North Korea all together. To exemplify, China, which has been Pyongyang's most principle patron and economic partner since the end of the Cold War, did support the extension of sanctions by the UNSC in 2016 and repeatedly pushed North Korea to participate in Six Party Talks. However, Beijing is not ready to end its relationship with Pyongyang entirely, not at last due to the DPRK's geopolitical position, acting as a sort of "buffer zone" to the ROK-US alliance. Furthermore, China dreads internal destabilization in North Korea, fearing mass migration from the DPRK or war on the peninsula. It is no coincidence that Beijing-Pyongyang trade relations intensified from 2004 onwards, just when sanctions were tightened (Kim and Lee 2018: 38). With Pyongyang being aware of the concerns of China, the threat of abandonment was never credible. Monteiro and Debs (2014: 50) conclude that "only two types of states acquire the bomb: powerful but highly threatened states; and weaker states whose territory is protected by an ally they deem unlikely to remain present in the long-term or unwilling to ensure its other core security goals" (Monteiro and Debs 2014: 50). North Korea clearly falls into the second category of states. As shown, while China and Russia / the Soviet Union have provided effective deterrence against preventive warfare and have undermined sanctions, Pyongyang has historically loathed having to rely on foreign assistance for state security.

In sum, this section of the paper uses International Relations theory to account for nuclear bargaining mechanisms between Pyongyang and Washington and alliance dynamics. Nuclear weaponry provides North Korea with the sort of deterrent it seeks due to its state identity and its dominant anti-imperial narratives. Hence, the threat of nuclear proliferation was always credible. However, a desire for nuclear weapons is not enough – nuclear arming must be economically feasible and, in cases of weak states, not be effectively opposed by strong allies. This paper shows that North Korea's nuclear arming

took place behind a shield of strong partners which has provided a credible deterrent and have undermined the effectiveness of international sanctions. With a preventive strike out of question and sanctions not being futile, the US never offered a generous enough deal to change Pyongyang's nuclear calculations.

Conclusion and Outlook

North Korea's nuclear drive is perhaps the single most interesting, complex, and puzzling case of nuclear proliferation. While nuclear secrets are always greatly protected, hard data, inside information and definitive facts about North Korea's nuclear arsenal and nuclear motivations are especially rare. This makes Pyongyang an actor who is difficult to read, to understand, and to explain. Internationally isolated, small in size and relatively weak in resources, the Democratic People's Republic of Korea was never a state for which nuclear arming would be an easy task. Yet, despite confronting great political and technical obstacles, Pyongyang has managed to build an atomic bomb. This paper has closely evaluated several aspects of this unrelenting nuclear effort. Answering the research question of why nuclear dissuasion has failed, new additions have been made to the existing literature. Firstly, North Korea's confrontational state identity does not mix well with the preference for coercive diplomacy that the US displays. There is little trust and little cooperative spirit between the two main actors in this proliferation case. Secondly, this thesis has shown that institutional and bureaucratic pressures have pushed nuclear advancements forward. Path dependency has made dissuasion through nuclear deal-making less likely as time has passed by. Thirdly, a nuclear bargaining model and theoretical descriptions of alliance dynamics have been used to illustrate that i) past nuclear deals have often been not generous enough, ii) cost-benefit calculations recommend nuclear proliferation, and iii) security assurances and threats of abandonment by the DPRK's patrons have not been credible. In sum, the security model of nuclear proliferation paired with realist thinking goes far to explain why the Kim regime has pursued nuclear arming in the first place. However, a comprehensive and differentiated description of why nuclear dissuasion has failed can only be given when insights of constructivism and path dependency are accounted for. This thesis has stressed the importance of state identity and institutional pressures as causal factors for the failures of nuclear dissuasion.

Turning to the broader scholarship on nuclear proliferation, North Korea teaches us several important lessons which may be applied to other case studies. For one, the discussion of nuclear calculations in the context of Spaniel's (2019) bargaining model has been used to expand the concept of "costs". The paper has shown that costs cannot be calculated solely in financial or economic terms. Costs have a "constructivist element" to them. In the case of North Korea, the most important cost

that has to be taken into consideration in nuclear bargaining situations is the fear of an American invasion or first strike. Hence, costs are primarily defined in terms of a military prospect. What is more, a constructivist element can be identified in definitions regarding state security, which links back to cost calculations. The fact that the DPRK constantly perceives itself under great imminent threat (beside the point of whether it is “rational” in doing so) has clearly added extra motivation to its almost fanatic struggle to acquire an atomic bomb. The lesson to be learned is that when assessing the credibility of a proliferation threat in the future, policymakers should keep state identity in mind. What counts is not the “objective” but rather the “subjective” level of security threat that a state perceives itself as being exposed to. Another lesson is that it is tremendously difficult to dissuade a highly determined actor who is willing to take great risks and accept great costs to build an atomic bomb. Despite domestic hurdles and great international pressure, the DPRK was not to be stopped. This illustrates the limitations of nuclear bargaining. What is more, policy entrapment and path dependency play an important yet underappreciated role in nuclear arming. Institutional and bureaucratic forces generate pressures to constantly advance nuclear programs. In the absence of a formative moment, these forces contribute significantly to the creation of momentum which can eventually lead to a nuclear breakout moment. Scholars should give more attention to nuclear path dependency - especially as this theoretical model stresses the importance of stopping a nuclear program as early as possible. Finally, through various cross-references, this thesis has illustrated the interplay and dynamic nature of nuclear motivations. Previous studies have often neglected to account for the fact that atomic drivers are not static nor singular. Future proliferation studies should take a broader approach and combine various models and schools of thought to account for the complexities of any nuclear proliferation case.

Bibliography

Abe, S. 2017. Solidarity Against the North Korean Threat. Available at: <https://www.nytimes.com/2017/09/17/opinion/north-korea-shinzo-abe-japan.html>. Accessed: 21.05.2020.

Abrahamian, A. 2019. North Korea's Bounded Rationality. *Survival*. Vol.61(1). pp. 141-160.

Ahn, M.S. 2011. What Is the Root Cause of the North Korean Nuclear Program?. *Asian Affairs: An American Review*. Vol.38(4). pp. 175-187.

Albert, E. 2018. North Korea's power structure. Council on Foreign Relations. Available at: <https://www.cfr.org/backgrounder/north-koreas-power-structure>. Accessed: 07.04.2020.

Arms Control Association. 2018. The Six-Party Talks at a Glance. Available at: <https://www.armscontrol.org/factsheets/6partytalks>. Accessed: 03.06.2020.

Babson, B. 2015. Positive Economic Inducements in Future Nuclear Negotiations with North Korea. US-Korea Institute at SAIS. pp. 7-19.

BBC. 2017. North Korea: US 'never out of diplomatic solutions'. Available at: <https://www.bbc.com/news/world-asia-41099548>. Accessed: 25.05.2020.

BGR. 2016a. Nordkorea: BGR registriert vermutlichen Kernwaffentest. https://www.bgr.bund.de/DE/Gemeinsames/Oeffentlichkeitsarbeit/Pressemitteilungen/BGR/bgr-160106_nordkorea_BGR_kernwaffentest.html. Accessed: 31.12.2019.

BGR. 2016b. Nordkorea: BGR registriert vermutlichen Kernwaffentest. https://www.bgr.bund.de/DE/Gemeinsames/Oeffentlichkeitsarbeit/Pressemitteilungen/BGR/bgr-160909_nordkorea_BGR_kernwaffentest.html. Accessed: 31.12.2019.

Birkland, T.A. 1998. Focusing Events, Mobilization, and Agenda Setting. *Journal of Public Policy*. Vol.18(1). pp. 53–74.

Bjola, C. and Kornprobst, M. 2018. *Understanding International Diplomacy: Theory, Practice and Ethics*. London: Routledge.

Bosso, C. 1987. *Pesticides and Politics*. Pittsburgh: University of Pittsburgh Press.

Braut-Hegghammer, M. 2016. *Unclear Physics: Why Iraq and Libya failed to build nuclear weapons*. Cornell University Press.

Brodie, B. 1946. *The Absolute Weapon: Atomic Power and World Order*. New York: Harcourt.

Buzo, A. 1999. *The Guerrilla Dynasty: Politics and Leadership in North Korea*. London: IB Tauris & Co Ltd.

Byman, D. and Lin, J. 2010. *Pyongyang's Survival Strategy: Tools of Authoritarian Control in North Korea*. *International Security*. Vol. 35(1). pp. 44-74.

Carisch, E. 2017. *The Failures of North Korea Sanctions: Self-Inflicted Wounds*. Available at: <https://theglobalobservatory.org/2017/10/failures-north-korea-sanctions-self-inflicted-wounds/>. Accessed: 21.04.2020.

Cha, V. 2002. *North Korea's Weapons of Mass Destruction: Badges, Shields, or Swords?*. *Political Science Quarterly*. Vol.117(2). pp. 209-230.

Chai-sik, C. 1995. *Confucian Tradition and Nationalist Ideology in Korea*. In: Wells, K. *South Korea's Minjung Movement: The Culture and Politics of Dissidence*. University of Hawaii Press. pp. 61-86.

Chinoy, M. 2008. *Meltdown: The Inside Story of the North Korean Nuclear Crisis*. London: St. Martin's Griffin.

Choi, K. and Park, J. 2008. *South Korea: Fears of Abandonment and Entrapment*. In: Alagappa, M. *The Long Shadow: nuclear weapons and security in 21st century Asia*. Stanford: Stanford University Press. pp. 373-403.

Clemens, W. 2016. *North Korea and the World: Human Rights, Arms Control, and Strategies for Negotiation*. University Press of Kentucky.

CNBC. 2017. *Less than one aircraft carrier? The cost of North Korea's nukes*. Available at: <https://www.cnn.com/2017/07/20/less-than-one-aircraft-carrier-the-cost-of-north-koreas-nukes.html>. Accessed: 23.04.2020.

Congressional Budget Office. 2017. *Approaches for managing the costs of US nuclear forces, 2017 to 2046*. Available at: <https://www.cbo.gov/publication/53334>. Accessed: 07.04.2020.

Cooney, K. and Scarbrough, A. 2008. Japan and South Korea: Can These Two Nations Work Together?. *Asian Affairs: An American Review*. Vol. 35(3). pp. 173-192.

Dea Jung, K. 1992. The Once and Future Korea. *Foreign Policy*. Vol. 86. pp. 40-55.

Debs, A. And Monteiro, N. 2017. *Nuclear Politics: The Strategic Cause of Proliferation*. Cambridge University Press.

Eden, L. 2006. *Whole World on Fire: Organisations, Knowledge, and Nuclear Weapons Devastation*. Ithaca: Cornell University Press.

Encyclopaedia Britannica. 2020. Nuclear Proliferation. <https://www.britannica.com/topic/nuclear-proliferation>. Accessed: 25.02.2020.

Freedom House. 2019. Countries and Territories. Available at: <https://freedomhouse.org/countries/freedomworld/scores?sort=asc&order=Total%20Score%20and%20Status>. Accessed: 20.03.2019.

Gabroussenko, T. 2015. Ethnic Nationalism and Internationalism in the North Korean Worldview. In: Kowner, R. and Demel, W. *Race and Racism in Modern East Asia: Interactions, Nationalism, Gender and Lineage*. Leiden: Publisher BRILL.

Gaddis, J. 1987. *The Long Peace: Inquires into the History of the Cold War*. Oxford: Oxford University Press.

Gause, K. 2014. North Korean Leadership Dynamics and Decision-making under Kim Jong-un: A second-year assessment. Available at: https://www.cna.org/CNA_files/PDF/COP-2014-U-006988-Final.pdf. Accessed: 02.04.2020.

Gause, K. 2018. Diplomacy in the land of no good options: assessing North Korea's nuclear doctrine and the prospects for denuclearisation. The Jamestown Foundation. Available at: <https://jamestown.org/wp-content/uploads/2018/12/Diplomacy-in-the-Land-of-No-Good-Options.pdf>. Accessed: 06.03.2020.

George, A. and Smoke, R. 1974. *Deterrence in American Foreign Policy: Theory and Practice*. New York: Columbia University.

Gigerenzer, G. and Todd, P.M. 1999. Fast and frugal heuristics: The adaptive toolbox. In: Gigerenzer, G; Todd, P.M. and the ABC Research Group. *Simple Heuristics That Make Us Smart*. Oxford: Oxford University Press, pp. 3–36.

Gilboa, E. 2017. Handling the North Korean Nuclear Challenge. Begin-Sadat Center for Strategic Studies. Available at: <https://www.jstor.org/stable/resrep04397>. Accessed: 26.03.2020.

Gottweis, H. and Kim, B. 2010. Explaining Hwang-Gate: South Korean Identity Politics between Bionationalism and Globalization. *Science, Technology, & Human Values*. Vol. 35(4). pp. 501-524.

Habib, B. 2010. Rogue proliferator? North Korea's nuclear fuel cycle & its relationship to regime perpetuation. *Energy Policy*. Vol.38. pp. 2826–2834.

Haggard, S. and Noland, M. 2011. *Engaging North Korea: The Role of Economic Statecraft*. East-West Center. Available at: <https://www.jstor.org/stable/resrep21457.7>. Accessed: 21.04.2020.

Hagood, J. 2005. Dissuading Nuclear Adversaries: the strategic concept of dissuasion and the US nuclear arsenal. *Comparative Strategy*. Vol.24(2). pp. 173-184.

Heginbotham, J. Heim, J. and Twomey, C. 2019. Of Bombs and Bureaucrats: Internal Drivers of Nuclear Force Building in China and the United States. *Journal of Contemporary China*. Vol.28(118). pp. 538-557.

Hijiya, J. 2000. The Gita of Robert Oppenheimer. *Proceedings of the American Philosophical Society*. Vol. 144. pp. 123-167.

Hirose, K. and Kurizaki, S. 2019. The Logic of the Survival of North Korea. *Asian Economic Policy Review* 14. pp. 287–304.

International Atomic Energy Agency. 1970. TREATY ON THE NON-PROLIFERATION OF NUCLEAR WEAPONS. Available at: <https://www.iaea.org/sites/default/files/publications/documents/infcircs/1970/infcirc140.pdf>. Accessed: 26.02.2020.

International Institute for Strategic Studies. 2019. The Military Balance 2019. London: Routledge.

Ja, S. 2016. Letter dated 22 November 2016 from the Permanent Representative of the Democratic People's Republic of Korea to the United Nations addressed to the President of the Security Council. Available at: http://www.securitycouncilreport.org/atf/cf/%7B65BFCF9B-6D27-4E9C-8CD3-CF6E4FF96FF9%7D/s_2016_988.pdf. Accessed: 23.05.2020.

Jacoby, A. 2015. A Theory of Victimhood: Politics, Conflict and the Construction of Victim-based Identity. *Millennium - Journal of International Studies*. Vol.43(2). pp.511-530.

Jervis, R. 1989. *The Meaning of the Nuclear Revolution: Statecraft and the Prospect of Armageddon*. Ithaca: Cornell University Press.

Jo, D. and Gartzke, E. 2007. Determinants of Nuclear Weapons Proliferation. *Journal of Conflict Resolution*. Vol. 51(1). pp. 167-194.

Kahn, H. 1960. *On Thermonuclear War*. New Jersey: Princeton University Press.

Kang, J. 2012. North Korea's Militant Nationalism and People's Everyday Lives: Past and Present. *Journal of Historical Sociology*. Vol. 25(1). pp. 1- 30.

Kim, I. and Jung-Chul, L. 2019. Sanctions for Nuclear Inhibition: Comparing Sanction Conditions between Iran and North Korea. *Asian Perspective*. Vol.43(1). pp. 95-122.

Kim Jung Un. 2013. CONCLUDING SPEECH AT THE MARCH 2013 PLENARY MEETING OF THE CENTRAL COMMITTEE OF THE WORKERS' PARTY OF KOREA. Available at: https://www.ncnk.org/sites/default/files/KJU_March2013_Speech.pdf. Accessed: 24.05.2020.

Korean Central News Agency. 2001. U.S. branded as rouge state of worst type in world. Available at: <https://kcnawatch.org/newstream/1452002495-929621253/u-s-branded-as-rogue-state-of-worst-type-in-world/>. Accessed: 01.12.2019.

Korean Central News Agency. 2003. DPRK quite different from Iraq. Available at: <https://kcnawatch.org/newstream/1452003536-617927173/dprk-quite-different-from-iraq/>. Accessed: 30.03.2020.

Korean Central News Agency. 2005. Withdrawal of U.S. Hostile Policy Urged. Available at: <http://kcna.co.jp/item/2005/200502/news02/22.htm#6>. Accessed: 03.10.2019.

Korean Central News Agency. 2006. DPRK Successfully Conducts Underground Nuclear Test. Available at: <https://web.archive.org/web/20061026061534/http://www.kcna.co.jp/item/2006/200610/news10/10.htm>. Accessed: 02.05.2020.

Korean Central News Agency. 2009. DPRK Foreign Ministry's Spokesman dismisses U.S. Wrong Assertion. Available at: <https://kcnawatch.org/newstream/1451888235-271243431/dprk-foreign-ministrys-spokesman-dismisses-u-s-wrong-assertion/>. Accessed: 03.12.2019.

Korean Central News Agency. 2020. International Community Admires Korean People for their Spirit of Self-reliance. Available at: <https://kcnawatch.org/newstream/1584702095-236623840/international-community-admires-korean-people-for-their-spirit-of-self-reliance/>. Accessed: 24.05.2020.

Kroenig, M. 2013. Nuclear Superiority and the Balance of Resolve: Explaining Nuclear Crisis outcomes. International Organization. Vol.67(1). pp.141-171.

Kugler, R. 2002. Dissuasion as a strategic concept. Institute for National Strategic Studies at the National Defense University. Strategic Forum No. 196. pp. 1-9.

Kumar, A. 2011. A Doctrine at Work: Obama's Evolving Nuclear Policy and What it Bodes for India. Strategic Analysis. Vol. 35(2). pp 207-220.

Landau, E. and Sher, G. 2017. Diplomacy or Driving a Hard Bargain? Lessons from the Negotiation that Led to the Iran Nuclear Deal. Institute for National Security Studies. Available at: <https://www.jstor.org/stable/resrep17027>. Accessed: 15.03.2020.

Ma, J. 2012. The Rise of Social Accountability in China. Australian Journal of Public Administration. Vol.71(2). pp. 111–121.

McEachern, P. 2010. Inside the Red Box: North Korea's post-totalitarian politics. New York: Columbia University Press.

Mecklin, J. and de Torres, C. 2015. Disarm and modernize. Foreign Policy. No. 211. pp. 52-59.

Ministry of Foreign Affairs Democratic People's Republic of Korea. 2019. Fate of DPRK-U.S. Dialogue Depends on U.S. Attitude: DPRK Foreign Ministry Spokesperson. Available at: <http://www.mfa.gov.kp/en/fate-of-dprk-u-s-dialogue-depends-on-u-s-attitude-dprk-foreign-ministry-spokesperson/>. Accessed: 23.05.2020.

Ministry of Unification of the Republic of Korea. 1972. The July 4 South-North Joint Communiqué. Available at: https://peacemaker.un.org/sites/peacemaker.un.org/files/KR%20KP_720704_The%20July%204%20South-North%20Joint%20Communiqu%C3%A9.pdf. Accessed: 06.06.2020.

Monteiro, N. and Debs, A. 2014. The Strategic Logic of Nuclear Proliferation. International Security, Vol. 39, No. 2 (Fall 2014), pp. 7-5.

Nah, L.T. 2013. Explaining North Korean Nuclear Weapons Motivations: Constructivism, Liberalism, and Realism- North Korean Review. Vol.9(1), pp. 61-82.

Nakato, S. 2016. North Korea's Fourth Nuclear Test: System Pressures, Decision Makers' Perceptions, and Foreign Policy. Korea Observer. Vol. 47(3). pp. 621-649.

NCNK. 2007. Six Party Talks, October 2007: Second-Phase Actions for the Implementation of the Joint Statement. Available at:

https://www.ncnk.org/resources/publications/Second_Phase_Actions_Oct_07.doc. Accessed: 05.04.2020.

Nikiting, M., Chanlett-Avery, E. and Manyin, M. 2017. Nuclear Negotiations with North Korea: In Brief. Available at: <https://fas.org/sgp/crs/nuke/R45033.pdf?>. Accessed: 12.01.2020.

Niksch, L. 2006. North Korea's Weapons of Mass Destruction. In: Kihl, Y. And Kim, H. North Korea: The Politics of Regime Survival. East Gate Books, New York, pp. 97–117.

NTI. 2003. Nuclear Chemical Defense Bureau. Available at: <https://www.nti.org/learn/facilities/659/>. Accessed: 21.05.2020.

NTI. 2011. US-DPRK Agreed Framework. Available at: <https://www.nti.org/learn/treaties-and-regimes/us-dprk-agreed-framework/>. Accessed: 05.06.2020.

NTI. 2019. Country Profile North Korea. Available at: <https://www.nti.org/learn/countries/north-korea/>. Accessed: 22.01.2020.

O'Neil, A. 2016. North Korea's fourth nuclear test: more bark ... and more bite?. North Korean Review. Vol.12(1). pp. 101-106.

Obama, B. 2009. Remarks by President Barack Obama In Prague As Delivered. Available at: <https://obamawhitehouse.archives.gov/the-press-office/remarks-president-barack-obama-prague-delivered>. Accessed: 09.03.2020.

Padden, B. 2018. N. Korea Denuclearization Could Cost \$20 Billion. Available at: <https://www.voanews.com/east-asia-pacific/n-korea-denuclearization-could-cost-20-billion>. Accessed: 20.01.2020.

United Nations Peacemaker. n.d.a. Agreement on Reconciliation, Non-Aggression, and Exchanges and Cooperation between South and North Korea. Available at: <https://peacemaker.un.org/korea-reconciliation-nonaggression91>. Accessed: 04.06.2020.

United Nations Peacemaker. n.d.b. Joint Declaration of the Denuclearization of the Korean Peninsula. Available at: <https://peacemaker.un.org/korea-denuclearization92>. Accessed: 04.06.2020.

Peters, B., Pierre, J. and King, D. 2005. The Politics of Path Dependency: Political Conflict in Historical Institutionalism. *The Journal of Politics*. Vol. 67(4). pp. 1275-1300.

Pierson, P. 2000. Increasing Returns, Path Dependence, and the Study of Politics. *American Political Science Review*. Vol.94(1). pp. 251–66.

Pierson, P. 2004. *Politics in Time: History, Institutions, and Social Analysis*. Princeton: Princeton University Press.

Pollack, J. 2011. *No Exit: North Korea, nuclear weapons, and international security*. The International Institute for Strategic Studies. London. Routledge.

Poneman, D. 2006. The History of the 1994 Agreed Framework. Available at: <https://historynewsnetwork.org/article/31633>. Accessed: 04.03.2020.

Ponnatt, S. 2006. The normative approach to nuclear proliferation. *International Journal on World Peace*. Vol. 23(1). pp. 89-92.

Powell, R. 1990. *Nuclear Deterrence Theory: The Search for Credibility*. Cambridge: Cambridge University Press.

Reporters without Borders. 2019. North Korea. Available at: <https://rsf.org/en/north-korea>. Accessed: 02.03.2020.

Reuters. 2015. Obama, Park say North Korea must show willing to get nuclear deal. Available at: <https://www.reuters.com/article/us-obama-park-nuclear/obama-park-say-north-korea-must-show-willing-to-get-nuclear-deal-idUSKCN0SA2H020151016>. Accessed: 13.03.2020.

Reuters. 2018. Explainer: What will it cost to denuclearize North Korea?. Available at: <https://www.reuters.com/article/us-northkorea-nuclear-cost-explainer/explainer-what-will-it-cost-to-denuclearize-north-korea-idUSKBN1JP1LD>. Accessed: 02.03.2020.

Rhamey, P. 2019. 2019 State of World Liberty Index. Available at: <https://patrickrhamey.com/saturday-research/2019/3/18/2019-state-of-world-liberty-index>. Accessed: 02.04.2020.

Rodong Sinmun Saturday. 2009. U.S. Loudmouthed “nuclear disarmament” termed hypocritical. Available at: <https://kcnawatch.org/newstream/1451886877-426804807/u-s-loudmouthed-nuclear-disarmament-termed-hypocritical/>. Accessed: 21.05.2020.

Rosenberger, L. 1994. Unifying Korea: Beyond Hopes and Fears. *Contemporary Southeast Asia*. Vol. 16(3). pp. 295-316.

Rublee, M. 2009. *Nonproliferation Norms: Why States choose nuclear restraint*. University of Georgia Press.

Sagan, S. 1996. Why Do States Build Nuclear Weapons?: Three Models in Search of a Bomb. *International Security*. Vol. 21(3). pp. 54-86.

Schelling, T. 1960. *The strategy of conflict*. London. Oxford University Press.

Schelling, T. 1963. *The Strategy of Conflict*. New York: Columbia University Press.

Schelling, T. 1966. *Arms and Influence*. New Haven: Yale University Press.

Schlosser, E. 2014. *Command and Control: Nuclear Weapons, the Damascus Accident, and the Illusion of Safety*. New York. Penguin Books.

Sigal, L. 2001. *Disarming Strangers: Nuclear Diplomacy with North Korea*. Princeton University Press.

Singh, S. and Way, C. 2004. The Correlates of Nuclear Proliferation: a quantitative test. *Journal of Conflict Resolution*. Vol.48(6). pp. 859-885.

Smetana, M. 2013. The Prague Agenda: an obituary. *Special Selection: The Prague Agenda*. *New Perspectives*. Vol. 26(1). pp. 16-22.

Smith, B. and Spaniel, W. 2018. Introducing v-CLEAR: a latent variable approach to measuring nuclear proficiency. *Conflict Management and Peace Science*. Available at: <https://doi.org/10.1177/0738894217741619>. Accessed: 21.01.2020.

Solingen, E. 2007. *Nuclear Logics: Contrasting Paths in East Asia and the Middle East*. Princeton University Press.

Spaniel, W. 2019. *Bargaining over the bomb*. Cambridge: Cambridge University Press.

Spear, J. 2011. More Business as Usual? The Obama Administration and the Nuclear Posture Review. *Contemporary Security Policy*. Vol. 32(1). pp. 241-263.

Sperandei, M. 2006. Bridging Deterrence and Compellence: An Alternative Approach to the Study of Coercive Diplomacy. *International Studies Review*. Vol. 8(2). pp. 253-280.

Snyder, S. 2013. The Economic Costs of North Korean Nuclear Development. Available at: <https://www.cfr.org/blog/economic-costs-north-korean-nuclear-development>. Accessed: 23.04.2020.

Snyder, S. 2019. Why U.S.-North Korea Talks Failed Again. Available at: <https://www.cfr.org/in-brief/why-us-north-korea-talks-failed-again>. Accessed: 08.01.2020.

Szalontai, B. 2017. North Korea's Strategy: What's Mine is Mine, But We Should Divide Yours . Available at: <https://theglobalobservatory.org/2017/11/north-koreas-strategy-mine-yours/>. Accessed: 21.02.2020.

Tannenwald, N. 1999. The Nuclear Taboo: The United States and the Normative Base of nuclear non-use. *International Organization*. Vol. 53(3). pp. 433-468.

Tannenwald, N. 2013. Justice and Fairness in the Nuclear Nonproliferation Regime. *Ethics and International Affairs*. Vol. 27(3). pp. 299 –315.

Thayer, B. 1995. The Causes of Nuclear Proliferation and the Utility of the Nuclear Non-Proliferation Regime. Security Suites Vol.4(3). pp. 463-519.

The Atlantic. 2019. Two Nuclear Problems, One Policy: Maximum Pressure. Available at: <https://www.theatlantic.com/politics/archive/2019/05/trump-uses-maximum-pressure-north-korea-and-iran/589279/>. Accessed: 04.04.2020.

The Embassy of Korea in the U.S. 1993. Joint Statement of the Democratic People's Republic of Korea and the United States of America. Available at: https://nautilus.org/wp-content/uploads/2011/12/CanKor_VTK_1993_06_11_joint_statement_dprk_usa.pdf. Accessed: 05.06.2020.

The Guardian. 1993. CIA warning on Korean N-bombs. Available at: <https://www.theguardian.com/world/1993/dec/27/northkorea>. Accessed: 23.05.2020.

The Guardian. 2017. Trump: I'll handle 'little rocket man' Kim Jong-un – video Available at: <https://www.theguardian.com/us-news/video/2017/sep/23/trump-little-rocket-man-kim-jong-un-video>. Accessed: 21.05.2020.

The Guardian. 2019. North Korea insults Trump as 'heedless and erratic old man' as tension rises. Available at: <https://www.theguardian.com/world/2019/dec/09/north-korea-insults-trump-heedless-erratic-old-man>. Accessed: 26.05.2020.

The New York Times. 2005. Text of joint statement. Available at: <https://www.nytimes.com/2005/09/19/world/asia/text-of-joint-statement.html>. Accessed: 01.06.2020.

The New York Times. 2006. Text of North Korean Announcement. Available at: <https://www.nytimes.com/2006/10/09/world/asia/09ktext.html>. Accessed: 22.01. 2020.

The New York Times. 2012. North Korean Leader Stresses Need for Strong Military. Available at: <https://www.nytimes.com/2012/04/16/world/asia/kim-jong-un-north-korean-leader-talks-of-military-superiority-in-first-public-speech.html>. Accessed: 22.05.2020.

The Washington Post. 2002. Text of President Bush's 2002 State of the Union Address. Available at: <https://www.washingtonpost.com/wp-srv/onpolitics/transcripts/sou012902.htm>. Accessed: 06.06.2020.

The Washington Post. 2017. North Korea nuclear test may have been twice as strong as first thought. Available at: https://www.washingtonpost.com/world/north-korea-nuclear-test-maybe-have-been-twice-as-strong-as-first-thought/2017/09/13/19b026d8-985b-11e7-a527-3573bd073e02_story.html. Accessed: 09.03.2020.

The Washington Post. 2017. North Korea's latest nuclear test was so powerful it reshaped the mountain above it. Available at: <https://www.washingtonpost.com/news/worldviews/wp/2017/09/14/orth-koreas-latest-nuclear-test-was-so-powerful-it-reshaped-the-mountain-above-it/>. Accessed: 13.05.2020.

The Washington Post. 2019. What Trump and Kim agreed to at their first meeting — and what actually happened afterward. Available at: <https://www.washingtonpost.com/world/2019/02/25/what-trump-kim-agreed-their-first-meeting-what-actually-happened-afterward/>. Accessed: 01.06.2020.

Trumanlibrary.gov. n.d. Statement by the President on the Rejection by the House of Representatives of the Korean Aid Bill. Available at: <https://www.trumanlibrary.gov/library/public-papers/17/statement-president-rejection-house-representatives-korean-aid-bill>. Accessed: 05.06.2020.

UN Security Council. 2006a. SECURITY COUNCIL CONDEMNS DEMOCRATIC PEOPLE'S REPUBLIC OF KOREA'S MISSILE LAUNCHES, UNANIMOUSLY ADOPTING RESOLUTION 1695 (2006). Available at: <https://www.un.org/press/en/2006/sc8778.doc.htm>. Accessed: 06.06.2020.

UN Security Council. 2006b. Resolution 1718: Non-proliferation/Democratic People's Republic of Korea. Available at: <http://unscr.com/en/resolutions/1718>. Accessed: 06.06.2020.

UN Security Council. 2009. Resolution 1874: Non-proliferation/Democratic People's Republic of Korea. Available at: <http://unscr.com/en/resolutions/1874>. Accessed: 06.06.2020

UN Security Council. 2013a. S/RES/2087 (2013). Available at: <https://www.un.org/securitycouncil/s/res/2087-%282013%29>. Accessed: 05.06.2020.

UN Security Council. 2013b. S/RES/2094. Available at: <https://www.securitycouncilreport.org/un-documents/document/sres2094.php>. Accessed: 06.06.2020.

UN Security Council. 2016. Resolution 2270 (2016). Available at: [https://undocs.org/S/RES/2270\(2016\)](https://undocs.org/S/RES/2270(2016)). Accessed: 06.06.2020.

United Nations Human Rights Council. 2014. Report of the Commission of Inquiry on human rights in the Democratic People's Republic of Korea -- A/HRC/25/63. Available at: <https://www.ohchr.org/en/hrbodies/hrc/coidprk/pages/commissioninquiryonhrindprk.aspx>. Accessed: 30 April 2020.

United Nations Office for Disarmament Affairs. 2020. Treaty on the Non-Proliferation of Nuclear Weapons (NPT). Available at: <https://www.un.org/disarmament/wmd/nuclear/npt/>. Accessed: 26.02.2020.

Volpe, T.A. 2016. Atomic Inducements: the case for “buying out” nuclear latency. *The Nonproliferation Review*. Vol.23(3). pp. 481-493.

Walker, W. 1999a. The Risks of Further Nuclear Testing in South Asia. *Arms Control Today*. Vol.29(6). pp. 20-25.

Walker, W. 1999b. Policymakers at the point of no return: Britain's nuclear reprocessing plant at Sellafield raises questions about the decision-making process, says William Walker. *The Financial Times*.

Waltz, K. 1995. More May Be Better. In: *The Spread of Nuclear Weapons: A Debate*. Edited. By Scott Sagan and Kenneth Waltz. 3-45. Norton Publications.

Warren, Aiden. 2011. The Promises of Prague versus Nuclear Realities: From Bush to Obama. *Contemporary Security Policy*. Vol. 32(2). pp. 432-457.

Weir, M. 1992. Ideas and the Politics of Bounded Innovation. In: Structuring Politics: Historical Institutionalism in Comparative Perspective. Edited by: Steinmo, S, Thelen, K. and Longstreth, F. Cambridge: Cambridge University Press, pp. 188–216.

Wendt, A. 1999. Social Theory of International Politics. Cambridge: Cambridge University Press.

Wertz, D. 2019. Converting Maximum Pressure to Maximum Leverage: The Role of Sanctions Relief in Negotiations with North Korea. Available at: http://www.keia.org/sites/default/files/publications/kei_aps_wertz_190409_final.pdf. Accessed. 03.01.2020.

Wit, J. 2019. The Leap Day Deal: A Cautionary Tale for the Trump Administration. Available at: <https://www.38north.org/2019/03/editor030719/>. Accessed: 05.06.2020.

Wit, J., Poneman, D. and Gallucci, R. 2004. Going Critical: The First North Korean Nuclear Crisis. Brookings Institution Press.

Woo, J. 2015. Structural Impediments, Domestic Politics, and Nuclear Diplomacy in Post-Kim Il-sung North Korea. Pacific Focus. Vol.30(1), pp. 59-77.

Wood, R. 2008. “A Hand upon the Throat of the Nation”: Economic Sanctions and State Repression, 1976–2001. International Studies Quarterly Vol.52. pp. 489–513.

WSJ. 2009. “Uncle Your Fist”: President Obama echoes George W. Bush's Second Inaugural. Available at: <https://www.wsj.com/articles/SB123246859069298241>. Accessed: 12.04.2020.

Wu, Y. 2018. Dynamics of policy change in authoritarian countries: a multiple-case study on China. Journal of Public Policy. pp 1- 23.

Yang, G. 2013. The Power of the Internet in China: Citizen Activism Online. New York: Columbia University Press.

Zhang, H. and Wang, K. 2019. A nuclear-armed North Korea without ICBMs: the best achievable objective. The Nonproliferation Review. Vol.26(1-2). pp. 143-153.