Between Hedging and Restraint
Iran and North Korean Nuclear Strategies in Perspective

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ABSTRACT
The emergence of new nuclear aspirants has posed a great threat to the post-Cold War global non-proliferation regime. These states have undertaken nuclear hedging behavior that has been deemed both strategically risky and politically difficult to maintain. Yet, nuclear hedging has not automatically resulted in nuclearization as some aspirants have chosen a course of nuclear restraint instead. We analyze the conditions under which such shifts occur and argue that aspirant’s decision to give up or temporarily halt the nuclear option is due to asymmetric leveraging – favorable political and financial packages and security assurances. That is, the causes of nuclear restraint are based on whether the core interests of aspirants are fulfilled through the nonproliferation options offered. We test the theoretical arguments developed by conducting a comparative case study of North Korea and the 1994 Agreed Framework, and Iran’s signing of the Joint Comprehensive Plan of Action (JCPOA) in 2015.

KEYWORDS nuclear hedging; nuclear restraint; asymmetric leverage; Agreed Framework; Joint Comprehensive Plan of Action (JCPOA); North Korea; Iran

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Introduction

The diffusion of fissile materials through illicit underground networks, escalating doubts in the force of the nonproliferation regime, and fears of opaque proliferation have all rendered a “world without weapons” rather bleak in the post-Cold War era.¹ One of the major challenges to the existing global non-proliferation regime is the emergence of new nuclear aspirants.² These states, such as North Korea and Iran, have undertaken nuclear hedging behavior that has been deemed both strategically risky and politically difficult to maintain. More importantly, once states undertake this nuclear policy stance, reasons such as bureaucratic interests and the spread of pro-nuclear beliefs amongst elites and the public can make it extremely difficult to reverse course.³

Despite the signaling of intent and availability of material, a policy of hedging does not always automatically result in “nuclearization” as some aspirants have chosen a course of nuclear restraint instead.⁴ Moreover, given the high costs and effort involved in nuclear hedging to begin with, shifting policies to one of nuclear restraint can sometimes be a path laid with inertia due to the state’s need to overcome international and domestic political resistance and, at times, the loss of prestige within the international community. Such “nuclear mythmaking” provides justification for the pursuit of an indigenous nuclear program and, in cases like Iran, reversing the inherently built narrative can cause the leadership to appear weak in face of the hostile geopolitical landscapes.⁵ Yet, theoretical discussions and conceptual articulation on the link between nuclear hedging and restraining behavior in the broader framework of nuclear reversals have only recently started to garner interest.⁶ It is more

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² Nuclear aspirants are states that have “considered, developed, abandoned, or acquired nuclear weapons programs,” especially after the establishment of the Nonproliferation Treaty (NPT). Etel Solingen, Nuclear Logics: Contrasting Paths in East Asia and the Middle East (Princeton: Princeton University Press, 2007), p. 3.
⁴ Some examples include Taiwan and South Korea. Even though both were forced by the US to rollback their nuclear capabilities in the 1980s, neither completely dismantled their facilities to the point that it is impossible to weaponize their programs today. See Rebecca K. C. Hersman and Robert Peters, “Nuclear U-Turns,” The Nonproliferation Review Vol. 13, No. 3 (November 2006), pp. 546-9.
puzzling given the fact that nuclear hedging is at times conjectured to be a more common form of nuclear proliferation in the future.\(^7\)

In this paper, we examine the causes of nuclear restraint and analyze the process through which it occurs in the international system. We argue that the conditions that cause an aspirant to give up or, at minimum, temporarily halt nuclearization are based on what we describe as asymmetric leveraging. A nuclear aspirant’s decision to exercise nuclear restraint rather than continue hedging is based on whether its core interests are fulfilled through the nonproliferation options offered. More specifically, given the costs of pursuing the bomb and the environment of deep insecurity such states operate within, nuclear aspirants will restrain from further nuclearization when: 1) the political and financial benefits presented to it clearly outweigh both the sunk and future costs of the hedging strategy; and 2) the security concerns of the nuclear aspirants can be offset by the assurances provided by the great power involved. Thus, aspirant states will undergo changes and fundamentally shift from a nuclear hedging strategy to a restraining behavior when these minimum conditions are satisfied.

The remainder of the article is organized as follows. In the next section, we first conceptualize the causal pathway of nuclear proliferation and make the case that nuclear behavior should be considered as a continuum rather than a dichotomy. We then develop and elaborate the asymmetric leveraging argument within the nuclear proliferation continuum in detail. In the following section, we test the theoretical arguments developed by conducting a comparative case study of North Korea and the 1994 Agreed Framework and Iran’s signing of the Joint Comprehensive Plan of Action more recently. North Korea and Iran’s nuclear strategies have been a case of serious concern to the international community over the past two decades and poses threats to the stability of the unipolar international system.\(^8\) The final section concludes with broad policy implications for the future of non-proliferation in the post-Cold War era.

**Nuclear Hedging and Proliferation Continuum**

With the end of the Cold War, nuclear weapons proliferation has become more of an exception rather than the rule.\(^9\) However, scholars and analysts have argued that this trend does not imply that “nations have lost interest in the acquisition of nuclear weapons, [rather, they] cannot voice this interest publicly in the international arena” due to the largely successful entrenchment of the now prevalent non-proliferation norm.\(^10\) Even though the nuclear club still remains exclusive, many more states have

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entertained the idea of developing their own and some have even engineered advanced nuclear programs which are only steps away from weaponization. In fact, the inherent structure of the non-proliferation regime lends itself to a state strategy known as nuclear hedging, whereby states intentionally straddle between nuclear non-proliferation and weaponization.

Hedging behavior undertaken by nuclear aspirants is characterized by two interrelated components – latency and ambiguity. Latency is observed when states purchase and/or develop sophisticated nuclear facilities, especially those that facilitate the militarization of nuclear programs within a short time frame ranging from weeks to years. For instance, the international community mostly became wary of Iran’s nuclear program in 2002 after the discovery of highly enriched weapons-grade uranium by the IAEA (International Atomic Energy Agency). Yet, latency alone is insufficient for nuclear hedging strategy. For doubts concerning the civilian nature of a state’s nuclear program to persist, dubiety in the form of occasional threats to militarize or unwillingness to accept the international verification process is a necessary component in order to be perceived as less benign than expected. That is, concealment and lack of transparency all serve to heighten concerns regarding an aspirant’s nuclear intentions. South Korea, for example, had strongly resisted the US’s alleged accusations of its covert weapons program despite evidence of the Chung-hee Park administration’s rapid technology procurement from France and Britain in the early 1970s. More recently, in response to North Korea’s growing nuclear threats, several South Korean politicians have also stepped up their calls for nuclear weaponization in part to remind the US that their country may nuclearize should extended...
nuclear deterrence be in doubt.\textsuperscript{17} In all, the latency of a state’s nuclear infrastructure and its intentional elusiveness form the basic traits of nuclear hedging that most scholars broadly agree upon.\textsuperscript{18}

Nuclear hedging behavior is motivated by external security environment or domestic factors, or both. On the one hand, states facing a powerful neighbor or a nuclear threat commonly engage in hedging behavior in order to protect its “local security incentives.”\textsuperscript{19} Nuclear hedging thus occurs when the aspiring state desires to deter against an existing nuclear threat and yet does not wish to initiate an arms race that destabilizes the region. For states protected by the US nuclear umbrella, it has been the alliance structure that has dictated motives for hedging – either fears of abandonment or renunciation of nuclear guarantees.\textsuperscript{20} On the other hand, a “sense of unfairness, injustice, and even anger” can affect the “collective mood” and similarly serve as domestic impetus for nuclear hedging.\textsuperscript{21}

Yet, apparently successful instances of nuclear restraint manifested in the recent Iran Nuclear Deal and the temporary halt to the North Korean program in the mid-1990s demonstrate that states may not always continue with the hedging strategy until they eventually possess the bomb. Rather interruptions of the aspiring state’s nuclear program imply that the international community can create opportunities through which the aspirant’s nuclear program can be contained. While such behavioral restraint appears secondary to denuclearization, brief suspensions may also be the best bet in buying the international community time to further negotiate with these “hard-core proliferants.”\textsuperscript{22} Thus, rather than study nuclear proliferation and de-proliferation as distinct outcomes, we represent it along a continuum and focus on this crucial intermediate step – nuclear restraint. Figure 1 below captures the full causal process of nuclear proliferation:

\textless INSERT FIGURE 1 HERE \textgreater

Nuclear restraint, the intermediate position between nuclear abstention and weapons acquisition, is defined as an aspirant’s conscious undertaking of “a policy or external commitment [that] keeps it

\textsuperscript{17} Robert Einhorn and Duyeon Kim, “Will South Korea Go Nuclear?” \textit{Bulletin of the Atomic Scientists}, August 15, 2016. Available at www.thebulletin.org
from proceeding with some prominent nuclear activities.”

The restraining strategy manifests in official agreements and state policies committing to stay clear of non-peaceful uses of nuclear programs and other proliferation activities, such as the sale of nuclear-related weapons technology. However, nuclear restraint is not a guarantee for non-proliferation. With the stipulation of states’ right to pursue peaceful nuclear energy programs in the NPT, states can always rebuild and further enhance their nuclear programs as long as they appear to stay within the confines of civilian use. Hence, inasmuch as nuclear restraint impedes aspirants from militarizing its nuclear capabilities, the temporal nature of nuclear restraint likewise suggests that the program could eventually proceed towards either renunciation or weapon acquisition.

From a conceptual standpoint, the restraining strategy can be distinguished from the overall process of nuclear reversal. The main difference between the two lies primarily in the degree to which states forego their nuclear development. Nuclear restraint is “more modest than nuclear reversal” and refers only to cases where states agree to restrict, rather than completely give up, the development of particular facilities, test or declare itself as a nuclear weapon state. Whereas nuclear restraint is evident in policies and public declarations, which denote a temporary check in the country’s nuclear program, nuclear reversal is identified more so by the dismantlement of a state’s nuclear program.

**Nuclear Restraint and Asymmetric Leveraging**

International Relations scholars have provided various theoretical explanations for the causes of nuclear restraint in the international system. Aspirants oftentimes forego full development of their nuclear program due to pressures and incentives of the security environment, logic of coercion within alliance politics, domestic political orientation and economic interests, and psychological factors.

Notwithstanding the strength of the arguments, the existing explanations do not give enough attention to the implications of nuclear hedging – the threat potential of the hedging strategy and the inherent costs of going nuclear – when explaining nuclear restraint. Without considering these complexities intrinsic to such a major decision as “going nuclear,” extant propositions risk reducing the policy shift to conditions circumstantial to the issue of nuclear restraint. Subsequently, we bring the hedging

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23 Levite, “Never Say Never Again,” p. 68.
27 Hymans, “Theories of Nuclear Proliferation,” p. 461.
strategy to the fore to better understand the nuances of nuclear restraining behavior. In the process, we identify the conditions under which nuclear restraint is more likely to be adopted.

Given the general traits of nuclear hedging behavior, we argue that nuclear aspirants restrain from full weaponization or further development of its nuclear program due to asymmetric leveraging. This is a condition in which aspirants perceive themselves benefiting from a position of greater bargaining leverage than their negotiating great power counterparts. As such, aspirants restrain when they perceive the occurrence of such an advantageous position marked by great powers’ agreement to: 1) meet its longstanding political demands; and 2) request for concessions that lie close to the aspirants’ delineated boundaries. Asymmetry does not necessarily mean that the great powers are negotiating from a position of weakness. Likewise, the potentially enticing deals do not necessarily indicate an escalation in the aspirants’ bargaining power. Rather, it denotes a situation where the nuclear aspirant’s eagerness to reap benefits at a manageable cost motivates it to advance talks by reciprocating through restraint as a confidence-building measure. Since nuclear restraint is reversible and concessions are within expectations, the rewards should likely appear to be a huge yield on the great powers’ part in favor of the aspirant. In this state of bargaining asymmetry, wherein non-great power aspirants believe themselves to be in the best position to have the great powers meet their core demands at a relatively low cost, we expect aspirants to exercise nuclear restraint.

The asymmetric leverage explanation works well within the premises of nuclear hedging outlined above. First, the prohibitive economic costs of procuring and maintaining technological facilities, sanctions-related political and security risks, and the threat of regime change have deterred affluent countries like Japan and Germany to rethink their nuclear options. As such, once states decided that the nuclear hedging strategy is worthy of these inherent risks, nuclear aspirants would have few reasons to stop hedging or even stop short of weapons acquisition unless an unusually advantageous deal is offered. In other words, the benefits of restraining should clearly outweigh the benefits of continuing with the nuclear hedging strategy. The fulfillment of the aspirant’s longstanding claims serves as a minimal requirement since it is not only rare but should also have presumably been denied many times before.

Second, underlying the strategy of nuclear hedging is also the aspirant’s desire to evince a convincing threat of nuclearization to its adversaries or the international community at large. Similar to the cost-based argument above, we find the element of threat potential vital because, without which, there is little value in the great effort put into concealment and the designing of grand

narratives to keep the state’s intention ambiguous.\textsuperscript{29} By threat potential, we do not mean that the program is developed merely as a tool to negotiate with the great powers; in fact, few aspirants have proliferated simply to do so.\textsuperscript{30} Instead, we recognize that aspirants desire some form of indigenous capability to deter and defend itself from potential nuclear states.\textsuperscript{31} Hence, great powers’ agreement to maintain a certain level of concessions that satisfies the aspirants can serve as a form of reassurance and further encourage the restraining behavior. Moreover, security-related issues of hedging behavior help us better understand the mechanisms through which deterrence-related assurance (and reassurance) policies to nuclear aspirants operate.\textsuperscript{32}

In sum, given the high costs of pursuing the bomb and the international (or regional) environment of deep insecurity such states operate within, aspirants will restrain from the further development of its nuclear weapons programs when two interrelated conditions associated with nuclear hedging strategy are satisfied. First, the political and financial benefits presented to the nuclear aspirant should clearly outweigh both the sunk and future costs of pursuing the nuclear option. Second, security assurances provided by the great power should be able to offset (or at least temporarily blunt) the security concerns of the nuclear aspirant. It is only through such asymmetric leveraging that nuclear aspirants will undergo changes to its nuclear hedging strategy and fundamentally shift towards nuclear nonproliferation. Aspirant states shift from a nuclear hedging strategy to a restraining behavior when these minimum conditions are satisfied.

\textbf{Case Studies: North Korea and Iran}

In order to test the arguments of asymmetric leveraging presented in the above section and further analyze the causal pathways from nuclear hedging to one of restraint, we analyze two critical cases of nuclear restraint in the post-Cold War era: the 1994 US-North Korea Agreed Framework and the more recent Joint Comprehensive Plan of Action (JCPOA). We use process-tracing technique and congruence method to infer and test the causal process while maintaining high level of conceptual validity.\textsuperscript{33} We primarily focus on the negotiation phase between the nuclear state and aspirant under analysis that ultimately paved the way for each aspirant to adopt nuclear restraining behavior from a strategy of hedging. In the individual cases, we identify the longstanding goals of each country prior to the signing of the landmark agreements and assess the terms negotiated between the aspirant state

\textsuperscript{29} Bowen and Moran, “Living with Nuclear Hedging,” pp. 694-695.


\textsuperscript{31} According to Levite, deals negotiating nuclear restraint have often involved the US extending “both positive and negative security assurances, [which] pertain not only to U.S. conduct but also to the behavior of third countries of particular concern to the country that the United States is trying to dissuade form acquiring nuclear arms.” Levite, “Never Say Never Again,” p. 77.


and the great power involved. Moreover, we identify asymmetric conditions and the subsequent
certainty-building measures that allowed North Korea and Iran to switch from nuclear hedging to
restraining behavior. In other words, we aim to further elaborate the antecedent variables and
necessary conditions that led to the adoption of nuclear restraining behavior in the international
system.\footnote{For more on necessary and sufficient condition causal chains, see Gary Goertz and Jack Levy, “Causal
Explanation, Necessary Conditions, and Case Studies,” in Gary Goertz and Jack S Levy, ed., \textit{Explaining War
and Peace: Case Studies and Necessary Condition Counterfactuals} (London: Routledge, 2007), pp. 23-29.}

\textit{North Korea and the Agreed Framework}

North Korea’s nuclear program dates back to 1956 when the Soviet Union first “signed two
Program,” \textit{The Nonproliferation Review} Vol. 2, No. 3 (1995), p. 25.} While the academic and
policy communities continue to diverge on when and why Pyongyang eventually weaponized its
uclear program, two longstanding and overarching goals can be parsed out.\footnote{For instance, Yongho Kim, \textit{North Korean Foreign Policy: Security Dilemma and Succession} (Lanham,
Nah Liang Tuang, “Explaining North Korean Nuclear Weapon Motivations: Constructivism, Liberalism, and
Realism,” \textit{North Korean Review} Vol. 9, No. 1 (2013), pp. 61-82.} First, fear of potential
US nuclear attacks serves as a driving force behind Pyongyang’s desire to normalize its relationship
with the US.\footnote{Hyung-min Joo, “Deciphering What Pyongyang Wants,” \textit{Problems of Post-Communism} Vol. 61, No. 4
and Current Politics,” pp. 26, 28.} In addition, since US-North Korea relationship remains mediated only through an
armistice, normalized ties particularly via a formal resolution could better ameliorate US hostility
towards North Korea in the future.\footnote{According to the North Korean regime, no change has occurred in the most important condition of its
denuclearization: namely, the elimination of U.S. hostility, which poses “the gravest threat to our survival.” Joo,
“Deciphering What Pyongyang Wants,” p. 26. Also, see Beal, \textit{North Korea}, p. 54.}

Second, Pyongyang has long desired to be integrated into both the international community and the
global economy.\footnote{Nah, “Explaining North Korean Nuclear Weapon Motivations,” pp. 66-70.} While many take North Korea’s isolationist status for granted, the long-term view
of the country’s foreign policy suggests otherwise. Throughout the 1970s, for instance, Pyongyang
pursued diplomatic relations with the Nordic countries and Australia, and has opted to be a part of
international organizations such as the WHO (World Health Organization) and FAO (Food and
Agricultural Organization).\footnote{Beal, \textit{North Korea}, pp. 63-4.} Even if economic integration is not crucial by itself due to the country’s
preference for self-sufficiency, it matters to the ruling Kim family and the elites in terms of regime
survival.\footnote{Kim, \textit{North Korean Foreign Policy}, pp. 5-6, 13, 88.}
However, much of the focus has been on Pyongyang’s repeated acts of inciting nuclear crises and seemingly ceaseless demands. Accordingly, the argument is that the North Korean nuclear program functions, to varying degrees, as a bargaining chip aimed at compelling the US to grant economic aid and other security-related assurances. In consequence of several rounds of such a “cyclical pattern,” the US in particular has thus become wary of “rewarding the North” for fear of encouraging Pyongyang to leverage the threat of potential nuclearization for concessions. As a result, the imposition of sanctions and trade embargoes continues to be the preferred option of the US and the international community. In particular, such behavior towards North Korea continued until its refusal to sign the IAEA safeguards agreement in 1991 and again in 1993 with further threats of withdrawal from the NPT.

Between 1985 and 1991, North Korea had continuously demanded that the US withdraw all nuclear weapons from South Korea and “guarantee no use of nuclear weapons against Pyongyang” before it signed the IAEA safeguards agreement. However, it was not until December 1991 that South Korean President Tae-Woo Roh finally declared the removal of all tactical nuclear weapons from the Korean peninsula. In addition, to assuage some of Pyongyang’s fear, the US had also promised to suspend Team Spirit joint military exercises and signaled its willingness to normalize relations “once the nuclear issue is settled.” In view of these security assurances and apparent commitment towards denuclearizing the peninsula, North Korea reciprocated by rectifying the safeguard agreement in 1992.

The path to the Agreed Framework proved to be turbulent. Plans to withdraw US forces from the peninsula were quickly postponed and US-ROK joint military exercises resumed on grounds that “no

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48 Kim, North Korean Foreign Policy, p. 89; and Litwak, Preventing North Korea’s Nuclear Breakout, pp. 8-9.
50 Beal, North Korea, p. 52. On other reciprocations and acts of restraint, see Litwak, Preventing North Korea’s Nuclear Breakout, p. 12; and Sigal, “The North Korean Nuclear Crisis.”
actual action [could be observed] by North Korea to [abandon] its nuclear program.”\(^{51}\) Consequently, Pyongyang threatened to exercise its “legitimate right” and withdraw from the NPT noting unfair demands by the IAEA to conduct “special inspections” on two of its nuclear sites and in part due to the US abrogation of its promises.\(^{52}\) In the process, Pyongyang revealed conditions it sought the US to satisfy in order for it to return to the negotiation table.\(^{53}\) By June 11, 1993, the claim to withdrawal was suspended following a Joint Statement by the two countries in which “Washington promised not to use force (including nuclear weapons) against North Korea, to respect its sovereignty, and not to interfere in its internal affairs.”\(^{54}\) These political and security-related assurances, in Pyongyang’s view, marked the first step in addressing the issues of US hostility and nuclear threat.\(^{55}\)

However, tension persisted and talks were not back on track until Jimmy Carter’s meeting with Kim Il-Sung in June 1994.\(^{56}\) This unprecedented summit laid the foundation for further rounds of negotiation as Kim agreed to “‘freeze’ its nuclear weapons program and resume high-level talks with the United States.”\(^{57}\) In exchange for North Korea’s official agreement to hold its nuclear development, President Bill Clinton suspended its call for further sanctions.\(^{58}\) Despite the June summit being the first serious diplomatic engagement between the US and North Korea, several issues were subsequently resolved rather quickly. For example, agreements to normalize diplomatic relations, lift economic sanctions, and “not to launch a nuclear attack against Pyongyang” were established almost immediately, without much contradiction.\(^{59}\) Yet, other thornier issues such as the provision of the light-water reactors, shipment of the spent fuel out of North Korea, and special inspections by the IAEA remained high on the agenda throughout most of the period.

After many rounds of intense discussions and some unexpected turn of events, such as the passing of Kim, the grand bargain known as the Agreed Framework was finally signed in October 1994. On one hand, North Korea agreed to demonstrate nuclear restraint by freezing its Yongbyon plutonium

51 Kim, *North Korean Foreign Policy*, pp. 91-2.
57 Davenport, “Chronology of U.S.-North Korean Nuclear and Missile Diplomacy.”
59 While “the issue of security assurances” was “far more difficult”, the US delegation succeeded in having both governments agree to the granting of such security promises, albeit with conditions, earlier than it did in concluding the issue of financing the light-water reactors. In fact, the issue of security assurances was resolved largely within four days through promises by the US delegation to deliver Pyongyang’s concerns directly to President Clinton. Joel S. Wit, Daniel B. Poneman and Robert L. Gallucci, *Going Critical: The First North Korean Nuclear Crisis*, (Washington, D.C.: The Brookings Institution, 2004), pp. 290-3, 226, 252.
production facilities and allowing the IAEA to inspect it. The US, on the other hand, guaranteed not to use nuclear weapons against North Korea, offered to establish diplomatic representation in Pyongyang, and promised to provide North Korea with $4 billion worth of ‘proliferation-resistant’ light-water reactors, a 10-year supply of heavy fuel oil and a loosening of the existing economic embargoes. The deal essentially satisfied most of Pyongyang’s longstanding demands, namely its need for economic assistance and security reassurances, and particularly, its desire for the normalization of US-North Korean relations in the post-Cold War era.

Moreover, the North Korean delegation managed to exclude stipulations that would have obliged Pyongyang to immediately ship its spent fuel out of the country. From the outset, North Korea’s chief negotiator, Sok-ju Kang, had admitted to his counterpart, Robert Gallucci, that the precondition for the shipment of North Korea’s spent fuel could not be abided “because it did not trust the United States to fulfill its end of the deal without keeping leverage until the bitter end.” In fact, this aspect remained off the table until the very end of the negotiations. On top of this lever, Kang had also successfully sold the idea of “a stage-by-stage freeze” to Gallucci with further promises to freeze the nuclear program only proceeding once the US delivered its half of the bargain. This general framework for further action fits squarely with North Korea’s predilection for “reciprocity,” a characteristic of the way Pyongyang built trust and confidence.

Elaborating further on the point of confidence-building, Kang also explicitly noted that “confidence would be demonstrated if… Washington supported the acquisition of new reactors by the North.” Reacting to Pyongyang’s insistence on receiving the light-water reactors and yet noting the domestic political constraints in the US, one State Department official devised a so-called “beefed-up” guarantee, which “suggested language that the president would ‘use the full powers’ of his office to deliver the new reactors.” While the North Korean delegation initially hesitated to accept a legally non-binding guarantee, Pyongyang was eventually impressed by such a promise and Kang was allowed to “[welcome] the American willingness to take ‘full and ultimate’ responsibility for the provision of new reactors.” In return, Kang reciprocated by expressing further willingness to expedite the key provisions of the agreement.

Economically, the generous financial aid via sanctions relief and energy assistance appear especially timely and beneficial when juxtaposed against North Korea’s economic situation in the

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63 Wit, Poneman and Gallucci, Going Critical, p. 299
64 Beal, North Korea, p. 84; and Wit, Poneman and Gallucci, Going Critical, p. 278.
65 Wit, Poneman and Gallucci, Going Critical, p. 225.
66 Wit, Poneman and Gallucci, Going Critical, pp. 266-7.
67 Wit, Poneman and Gallucci, Going Critical, p. 274.
1990s. Then, North Korea was experiencing a severe famine which led to the death of approximately 1 million civilians. Poor national harvest in the early 90s and the collapse of trade arrangements with the Soviet Union in the aftermath of the Cold War all led to the further exacerbation of the already dire economic situation. Hence, U.S. officials suggested that North Korea could have been “desperate” to accept the huge economic rewards that could concomitantly stabilize its relatively new regime. In terms of security, while negative nuclear security guarantees were not new in the US-North Korea nuclear discussions, “the Agreed Framework committed the US publicly and formally to not using or threatening to use nuclear weapons against the DPRK”, which crucially implies the “permanent suspension of the ‘Team Spirit’.” This arrangement could thus have mollified North Korea’s distrust in any weak promises such as that which it had experienced following its concession to sign the safeguards agreement in 1993.

Lastly, in order to normalize US-DPRK relations, one of the prime concerns of Pyongyang, the US offered to open diplomatic and political channels with its counterpart. In addition to high-level contacts, arrangements to exchange low-level diplomatic offices were made and proved vital to boosting North Korea’s confidence. Indeed, diplomatic exchanges such as Jimmy Carter’s visit and Washington’s agreement to open liaison offices were regarded by North Korea as a demonstration of US commitment to the deal almost tantamount to the ‘beefed-up’ guarantee which Kang became extremely concerned with and was even “happy” upon receiving it.

Pyongyang was able reap beneficial terms at relatively low costs as postulated by the asymmetric leveraging explanation. The bulk of the concessions centered on the need to “freeze its plutonium production program at Yongbyon.” However, at the time of signing, North Korea had only developed, although unknown, but small amounts of the needed fissile material. A 1987 CIA’s (Central Intelligence Agency) internal report stressed the significance of energy requirements rather than weapons-grade plutonium behind North Korea’s pursuit of the nuclear option. Likewise, Dr. Siegfried Hecker pointed out that North Korea lacked a fully functioning deterrence capability in 2002. Thus, Tim Beal concluded, “if [North Korea] did not have the capability to weaponize in 2004, it seems unlikely that they had it in the early 1990s.” In other words, the nuclear material amount

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68 Robert Hennelly, “Sanctions on North Korea may be losing their Bite,” CBSNews, January 8, 2016. Available at www.cbsnews.com
76 Beal, North Korea, p. 255.
77 Beal, North Korea, pp. 76-77.
back in 1994 was not only far from the actual point of weaponization but it had also required North Korea to sacrifice relatively little in return.

In addition, a review of North Korea’s ease in resuming its nuclear program when its faith in reaping the rewards faded attested further to the low barrier at which it had to stop its advancement. In 2002, after much delay in the establishment of diplomatic offices and the construction of the reactors, and the continuing bellicose rhetoric by President George W. Bush, Pyongyang hastened the progress of its nuclear development and managed to “[build] a plutonium weapon within months.” This outcome eventually expedited the destabilization of Northeast Asia’s security environment as a uranium-based weapon would have taken at least a decade given the stage of development North Korea was at back in 1994.

Overall, the North Korean case study strongly supports the asymmetric leveraging thesis. As expected, North Korea signed the deal when there were greater signs of US commitment towards the conclusion and materialization of the Agreed Framework. However, notwithstanding the augmented trust in its counterpart, Pyongyang was not naïve either. While it continued to strive for the attainment of its key goals, namely, security guarantees, diplomatic normalization and economic aid, the North Korean delegation made sure to hold on to key bargaining chips, such as the shipment of the spent fuel. This was in order to maintain certain levers early in the negotiation. Moreover, it certainly managed to defend its interests by pushing for a stage-by-stage exchange of concessions, which applied in particular to the delivery of light-water reactors in return for Pyongyang’s phased progress in the freezing of its nuclear program. Through this recommendation to trade nuclear material for concessions in phases, Pyongyang’s request lends support to the postulation inherent in the asymmetric leveraging argument, which suggests that aspirants should find minimal concessions more reassuring to their security. Indeed, owing to the stage-by-stage progression, Pyongyang could then monitor the US’s delivery of its promises. When the US failed to follow through, Pyongyang still retained enough to not make itself vulnerable to potential threats.

Iran and the Joint Comprehensive Plan of Action (JCPOA)
Contrary to the nearly two-decade-long controversy over Tehran’s intended goal and the projected capability of the Iranian nuclear program, its early phase of development beginning in the 1950s was a shared endeavor heavily supported by the US, United Kingdom, West Germany and France. In

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1976, President Gerald Ford even offered Iran a reprocessing facility for plutonium extraction, which is the technology that the US is “trying to prevent Iran from acquiring today.” However, since the 1979 Iranian Revolution, the once warm US-Iran relations quickly collapsed into a state of mutual distrust. Heightened hostility tainted the mutual perception of each other’s actions from the Iran-Iraq War to Tehran’s supposed nuclear collaboration. For Iran, the West’s shifts in attitude towards the Iranian nuclear program, topped with its position amongst regional adversaries like Iraq and Israel signaled the need for self-sufficiency in order to guarantee regime survival and also restore its place as a regional power.

In the immediate aftermath of the 9/11 attacks, tense relations between Iran and the great powers were strained further. On the one hand, Tehran became more certain that the US was intent on pursuing a policy of regime change as the George W. Bush administration labeled it as part of the “axis of evil” and expressed willingness to consider “all options” despite Iran’s assistance in toppling the Taliban regime. On the other hand, Tehran felt wrongly accused when the international community doubted the civilian nature of its nuclear program based on evidence from its covert uranium enrichment plant at Natanz and a heavy water production plant in Arak. Tehran maintained that it was not obliged to declare such developments since it was not a signatory to the IAEA 93+2 Additional Protocol. Moreover, Iran regarded its nuclear initiative remaining within the bounds of a peaceful civilian program. Thus, the Iranian leadership felt discriminated and targeted when the US, Russia and three European nations – France, UK and Germany (EU3) – pressed Iran to cease all enrichment programs and accept the Additional Protocol. Finally, when threats of economic sanctions and referral to the United Nations Security Council (UNSC) were recommended by the US, EU3 and the IAEA towards the end of 2003, Ayatollah Khomeini commissioned a negotiating team to “obtain maximum concessions from their foreign counterparts in return for cooperation.”

82 Mousavian, *The Iranian Nuclear Crisis*, p. 44.
84 For example, in 1992, China came under US’s pressure to terminate its arrangements with Iran. Consequently, Iran was left to deal with the one metric ton of uranium hexafluoride, which was initially intended for a “uranium hexafluoride complex” supposedly to be developed by both countries. Mousavian, *The Iranian Nuclear Crisis*, p. 54. Also, Sagan, “How to Keep the Bomb from Iran,” p. 47; and Sina Toossi, “How We Got Here: A History of Missed Opportunities with Iran,” *Foreign Policy in Focus*, November 7, 2013. Available at www.fpif.org
85 Sagan, “How to Keep the Bomb from Iran,” p. 56; Mousavian, *The Iranian Nuclear Crisis*, p. 58.
88 “On 19 June 2003, the U.N. watchdog agency urged Iran to sign and ratify the Additional Protocol which would allow inspectors more access to nuclear sites and the right to sudden inspections.” Semira N. Nikou, “Timeline of Iran’s Nuclear Activities,” *The Iran Primer*, May 24, 2017. Available at www.usip.org
89 “Nuclear,” *Nuclear Threat Initiative*.
90 Mousavian, *The Iranian Nuclear Crisis*, p. 100.
A closer look at Iran’s proposals over this period reveals four broad interrelated areas of concerns. First, in order to restore its international standing as a regional power, Iran believed that it had to eventually engage the West as a strategic partner. In the process, Iranian leaders hoped to shed the rogue state title which the US and Israel would have the world believe in. Second and relatedly, Iran wanted the US to halt its hostility and recognize Iran’s “legitimate security interests in the region.” Third, it wanted the international community to recognize the legitimacy of its nuclear program, which some believe to be a symbol of Iran’s technological superiority and status. Finally, Iran wanted all sanctions levied against them to be lifted in order to be fully integrated into the global economy.

However, despite Iran’s continuous demands, the Bush administration, which was convinced it could change the Iranian regime through both military threats and economic sanctions, ignored calls for dialogue. Subsequently, as Iran ramped up its nuclear development in response to what it perceived as an insincere and hostile West, the US, later joined by EU3, insisted on “zero uranium enrichment,” the implementation of harsher economic sanctions, and, to a lesser extent, the possibility of overthrowing Islamic rule in Iran. Irreconcilable differences continued to widen and by 2013, Iran was experiencing an excess of 40 percent inflation rate and the devaluation of its currency (Rial) by half. By mid-2013, however, direct talks finally resumed between Iran and the US.

Evident in Ayatollah Khomeini’s letters and speeches, there is no illusion that one of his chief concerns was indeed the economic situation levied against Iran. As he stated, “Iran accepted negotiations essentially with the goal of cancelling oppressive economic and financial sanctions.” Moreover, by observing the terms of the final JCPOA, one would also notice the great attention

94 Even before sanctions were implemented, “[t]he crisis in September 2003 … contributed to economic pessimism and uncertainty that spurred the flight of capital from the country.” Mousavian, The Iranian Nuclear Crisis, p. 79.
95 “Increasingly, Bush administration spokespeople were advocating "preemption" to counter proliferation… When asked, in April 2006, whether the Pentagon was considering a potential preventive nuclear strike against Iranian nuclear facilities, President Bush pointedly replied, ‘All options are on the table.’” Sagan, “How to Keep the Bomb from Iran,” p. 55-6.
96 Jonathan Steele, “Iran’s Economy Could Grow by 2 Percent if Sanctions are Lifted,” Middle East Eye, May 25, 2015. Available at www.middleeasteye.net
97 Ayatollah Khamenei claimed that only the naïve will engage in direct talks. However, on March 2013, he changed his stance, replying that “he is not opposed to direct talks with the United States.” Nikou, “Timeline of Iran’s Nuclear Activities.” For a more in-depth discussion on the reasons for Khamenei’s change in stance, see Seyyedamir Hossein Mahdavi, “A Comprehensive Nuclear Deal with Iran: Not Mission Impossible,” Middle East Brief, No. 85 (October 2014), pp. 1-8.
devoted to the lifting of sanctions imposed by the UN, the US and the European Union (EU). Depending on various estimates, Iran could expect to benefit from a windfall of between $30 and $180 billion dollars at the time of signing of the agreement.100

Yet, while economic benefits constitute a core part of the incentive structure, numerous scholars have argued that they have been quite limited from a broad perspective. Iran had been withstanding such sanctions, albeit non-nuclear related, beginning from 1979 and has endured the impact since.101 Moreover, despite Khomeini’s concern with the economy, he had also ensured that the negotiating team closely observed Iran’s “red lines,” which comprise, for instance, the great powers’ respect of its right to continue with research and development in the area of uranium enrichment.102 In order to meet such demands, the negotiating counterparts have allowed Iran to retain its enrichment facilities – an outcome which was deemed “unthinkable” and squarely contradicted the US and EU3’s zero uranium expectation. The final agreement corresponded with Tehran’s need to not only retain and derive legitimacy for its nuclear program but it also yielded implicitly to Tehran’s pursuit of international status based on its nuclear capabilities.103 Similarly, Iran has demonstrated great pleasure in outmaneuvering Israel in winning over the US and, more broadly, the international community’s support for its nuclear program. The Iran nuclear deal was in essence a “betrayal” to President Benjamin Netanyahu, who had to witness not only a loss of support in the US Congress, but also amongst leaders in the region and the UNSC who voted in favor of the agreement.104 In the political realm, Iran has thus clearly attained its goals of weakening Israel, however temporarily, and has managed to gain recognition for its ‘inalienable’ right to a nuclear program.

Lastly, a more crucial aspect of the entire negotiation process was President Obama’s overwhelming silence on the issue of regime change.105 Denouncing his predecessor’s belief in that “not talking to countries is punishment to them,” President Obama sought to engage Iran “without preconditions” from the day he was elected.106 While concerns with US’s bargaining leverage still remained, the deeply distrustful Iranian clerics might not have considered the possibility of direct talks without this condition.107 Indeed, Tehran had mentioned multiple times that confidence-building

102 Olmstead, “Iran’s Parliamentary Resolution on the JCPOA.”
measures were necessary in order for progressive steps to proceed.\footnote{For instance, in a resolution by Ayatollah Khamenei to President Rouhani, he highlighted that the “[r]esigning [of] the Arak heavy water reactor and also, if necessary, exchanging enriched [fuel] reserves depend on the finalization of agreements, assurances, and trust-building with regards to their implementation.” Olmstead, “Iran’s Parliamentary Resolution on the JCPOA”. On other confidence-building measures, see Kelsey Davenport, “History of Official Proposals on the Iranian Nuclear Issue,” Arms Control Association, January 2014. Available at www.armscontrol.org} However, Obama administration was the first to initiate and reciprocate Iran’s calls for dialogues. Furthermore, given Iran’s treatment of regime change as a key primordial concern, assuaging such concerns of regime survival can be conceived as a logical and essential first step.\footnote{Mousavian, The Iranian Nuclear Crisis, pp. 2-5; and Sagan, “How to Keep the Bomb from Iran,” pp. 47, 54, 59.} Ultimately, this implicit political guarantee laid the ground for further discussions between the US and Iran from around 2011 which kept direct communication lines open.\footnote{Mousavian, The Iranian Nuclear Crisis, p. 327; and Solomon, “Secret Dealings with Iran Led to Nuclear Talks.”} These talks gave Iran confidence that the US was willing to listen to Tehran and negotiate with the region, which fit in with its regional security concerns and interests in keeping the region de-nuclearized.\footnote{Nader Entessar, “Iran’s Nuclear Decision-Making Calculus,” Middle East Policy Vol. 16, No. 2 (2009), p. 26.}

On the point of regional implications of the Iran nuclear deal, the US had dedicated substantial effort in extending security assurances in particular to the Gulf States to garner their support for the deal. In part, the US could be reacting to the onslaught of aggressive rhetoric and threats by countries such as Saudi Arabia and Egypt, which fear the consequence of a nuclear capable Iran.\footnote{Jeff Mason and Roberta Rampton, “Obama Vows to ‘Stand By’ Gulf Allies Amid Concern over Iran Threat,” Reuters, May 15, 2015. Available at www.reuters.com} However, in the security interests of the US and Iran, a consequently nuclearized Middle East would only jeopardize the former’s endeavor in reinforcing the non-proliferation regime and puts the latter, which has just signed the deal, at a military disadvantage. For Iran, however, the US’s hesitance to extend a nuclear security guarantee to the Gulf States, and instead urged them to also “cooperate among themselves” in addition to the US’s enhanced military exchanges and conventional weapons sales could have signaled a tacit US reluctance in absorbing the region in case of a nuclear war.\footnote{Mason and Rampton, “Obama Vows to ‘Stand By’ Gulf Allies Amid Concern over Iran Threat.”} While such an inference might be a stretch from the more traditional notion of security reassurances, President Obama’s apparent preference for a de-nuclearized Middle East in the lead up to the deal nonetheless coincided with Iran’s political and security demands regarding the region.

While Iran was able to meet all of its longstanding demands by agreeing to the JCPOA, it certainly came at a cost. For instance, despite its relative advancement over the past forty years, it is now bound by the deal to use only first-generation centrifuges for the next ten years. Likewise, in spite of Iran’s antipathy towards excessive foreign verification regimes, it is now bound by an unprecedently
intrusive monitoring and verification measures. Yet, when delving into the technicalities and the sticking points that could have collapsed the deal, one finds that Iran gained a favorable outcome on these points. Iran was able to: 1) retain enriched uranium for research purposes, 2) obtain only time-bound limitation on its use of the Arak reactor, 3) gain international recognition for its nuclear program, and 4) lift all sanctions related to its nuclear program. Stated differently, rather than having to dismantle all its facilities, Iran had only to be bound by a set time in exchange for all the benefits that could rebuild its crumbling economy and tarnished international reputation.

Much like North Korea and the Agreed Framework, findings from the Iranian case similarly show that nuclear aspirants tend to sign deals when it is able to meet all the outlined essential goals at a cost low enough. In Iran’s case, these incentives referred to the huge expected economic windfall, retention of its enrichment program, diplomatic triumph over Israel and no further threats of regime change. In return, Iran had to subject itself to strict verification, and reverse its nuclear advancements by adopting less modern facilities. Yet, the regional geopolitical situation and the time-bound nature of the eventual deal meant that Iran had not traded away all of its autonomy in deciding its nuclear future. Moreover, in both cases, slow but steady confidence-building steps indeed seemed crucial in convincing Iran and North Korean decision-makers that the great powers involved were committed to the negotiation and, subsequently, meeting the aspirants’ chief demands. Specifically, while the US’s accession to primary demands early on in the negotiations served that role in North Korea’s case, President Obama’s initiative to dialogue with Tehran seemed to have played a similarly key role in the Iranian case study.

Conclusion
Similar to policies aimed towards nuclearization, the decision to forego it is likewise costly and oftentimes a contentious endeavor. By conceptualizing the nuclear proliferation process as a continuum, we examined the conditions under which aspirants shift from a nuclear hedging to a restraining policy. We have argued that asymmetric leveraging at the negotiation table provides the necessary conditions under which nuclear aspirants accept the terms of nonproliferation. Specifically, a course of nuclear reversal is much more likely to be undertaken by the hedging state when presented with favorable political and financial packages and security assurances by the nuclear state involved and the international community more broadly. That is, it is only when these minimum conditions are satisfied that nuclear aspirants will undergo changes from a hedging to a restraining strategy and shift course towards nuclear nonproliferation.

In the process of examining the nuclear proliferation process in detail, the two critical cases provide support for the asymmetric leveraging argument developed here. In both cases, nuclear deals

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were signed only when the minimal conditions of the aspirant states were met. North Korea signed the Agreed Framework in 1994 after the US displayed greater commitment towards its outlined goals of security guarantees, diplomatic normalization and economic aid. Moreover, a stage-by-stage exchange of concessions, such as the phased progress of freezing its nuclear program, provided North Korea with much needed security reassurances in implementing the deal. Similarly, Iran recently signed the JCPOA when presented with asymmetric incentives that included the retention of its enrichment program and the avoidance of regime change-related threats in addition to the financial packages. The costs for Iran at the time of the signing were relatively low given the regional geopolitical situation and the time-bound nature of the eventual deal. Lastly, both cases included key confidence-building mechanisms attached to the deal that ultimately proved to be critical in convincing the decision-makers of each country.

The theoretical and policy implications that follow from our research are threefold. First, conceptually linking hedging and restraining behavior helps us better understand the whole process of nuclear proliferation and provide policymakers with a full spectrum of options in dealing with future nuclear aspirants. For instance, it has recently been noted that reassurance strategy serves as a valuable yet distinct means through which nuclear states can signal nonaggressive intention to aspirants.115 Our study supports this claim and shows that there are varieties of reassurance strategies within the nuclear reversal framework. Second, in addition to the asymmetric nature of negotiations, bargaining with aspirant states should be regarded as a process rather a distinct outcome. As such, aspirant’s security and financial concerns should be continuously dealt with even after the signing of the nuclear deals. Finally, our case studies support studies that have argued against regime type explanations for nuclear proliferation, and vice versa.116 Once provided with the right financial and security packages, both North Korea and Iran, despite their regime type, were willing to agree to nuclear deals and accept nuclear restraining behavior. In all, given the appropriate incentives and concessions to alleviate their security and financial concerns, aspirants are more than willing to accept nonproliferation deals and shift away from nuclear hedging strategy.

FIGURE 1: Nuclear Proliferation Continuum: Re-conceptualization

Nuclear Hedging

Nuclear Reversal

Argument: Asymmetric Leverage

Nuclear Non-Proliferation (Abstention)

Nuclear Restraint

Nuclear Proliferation (Weapon acquisition)