

KOREA STRATEGIC OUTCOMES

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Project Report for
"Stability on Korean Peninsula"

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Table of Contents

| | |
|---|----|
| Abstract | 5 |
| Introduction..... | 6 |
| Decision Calculus Construct | 8 |
| Technical Approach..... | 10 |
| Strategic Risk Computational Experiments..... | 11 |
| Observations..... | 13 |
| Conclusions and Recommendations..... | 18 |
| References..... | 19 |

Abstract

The GMU Korean Peninsula strategic outcomes project sought viable political-military options to achieve U.S. strategic objectives with respect to the Korean Peninsula, and examined whether executing these options will introduce risk to other regional U.S. objectives. Timed Influence Net (TIN) models were used to identify potential sources of strategic risk for the United States, and to develop a framework for use by operational planning teams. The TIN model started with possible end-states and examined influence factors that could contribute or undermine attainment of the end-state of interest—in this case Final, Fully Verified Denuclearization (FFVD). The model explored possible intermediate states that would be likely to occur on a path towards FFVD denuclearization and also considered potential US and partner influence factors that could contribute to the intermediate and end-states. Experiments suggest that denuclearization, if achieved, will require many years to implement and the achievement of political, economic, and military accommodations that seem improbable today.

1. Introduction

The objective of the SMA Korea Strategic Outcomes effort is to determine what the most viable political-military options are to achieve U.S. strategic objectives, and whether executing these options will introduce risk to other regional U.S. objectives. The effort examined the near, medium, and long-term strategic implications for U.S. objectives and relative U.S. influence, and the plausible second- or third-order effects that could most negatively impact the applicable regional economies, security environments, or political situations. GMU, in partnership with GTRI, focused on threats to regional security in Northeast Asia and the Western Pacific emanating from the DPRK.

The team led by George Mason University used Timed Influence Net (TIN) models to identify potential sources of strategic risk for the United States, and to develop a framework for use by operational planning teams. The framework and other tools were designed to support operational and engagement planning by USPACOM, USSTRATCOM, other interested Combatant Commands and their components. These frameworks were used as the foundation to construct TIN models and perform computational experiments.

The initial GMU-team study focus area was on identification of viable political-military options to achieve U.S. strategic objectives on the Korean Peninsula and assessment of how these options might introduce risk to other regional U.S. objectives to include relative U.S. influence in Northeast Asia. The effort developed an architectural framework which can be used to assess US strategic risk in the Pacific AOR resulting from the execution of political-military options designed to achieve U.S. strategic objectives on the Korean Peninsula, and (2) an influence net model of US strategic risk in the Pacific AOR related to U.S. strategic objectives on the Korean Peninsula.

The research approach adapted to inputs from the COCOM sponsors and the SMA Senior Review Group, but initially focused on the following questions:

- Given relevant, current geopolitical conditions, what are the most viable political--military options for achieving U.S. strategic objectives on the Korean Peninsula and what risks would these options introduce to other regional U.S. objectives?
- What can the U.S. military do to influence relevant third-party nations in support of our objectives?
- What are the worst-case scenarios regarding U.S. objectives and influence to include plausible second-or third-order effects that could negatively impact the Indo-Pacific economy, security environment, or political situation?

The project sponsors later expanded these questions as follows:

1. Given relevant, current geopolitical conditions, what are the most viable political-military options for achieving U.S. strategic objectives?
 - a. Would executing these options to pursue some U.S. objectives in Korea introduce risk to other regional U.S. objectives?

2. What are the near-term (0-2 years) strategic implications (political, security, economic) for U.S. objectives and relative international influence?
3. What are the medium-term (3-7 years) strategic implications (political, security, economic) for U.S. objectives & relative international influence?
4. What are the long-term (7+ years) strategic implications (political, security, economic) for US objectives and relative international influence?
5. How would third-party nations likely respond to U.S. actions, and
 - a. What can the U.S. military do to influence relevant third-party nations in support of our objectives?
6. What are the worst-case scenarios regarding U.S. objectives and influence?
 - a. What plausible second- or third-order effects could most negatively impact the Indo-Pacific economy, security environment, or political situation?

The following chart illustrates the decomposition of these questions to understand their relationships for use in developing the architectural framework underpinning the TIN model.

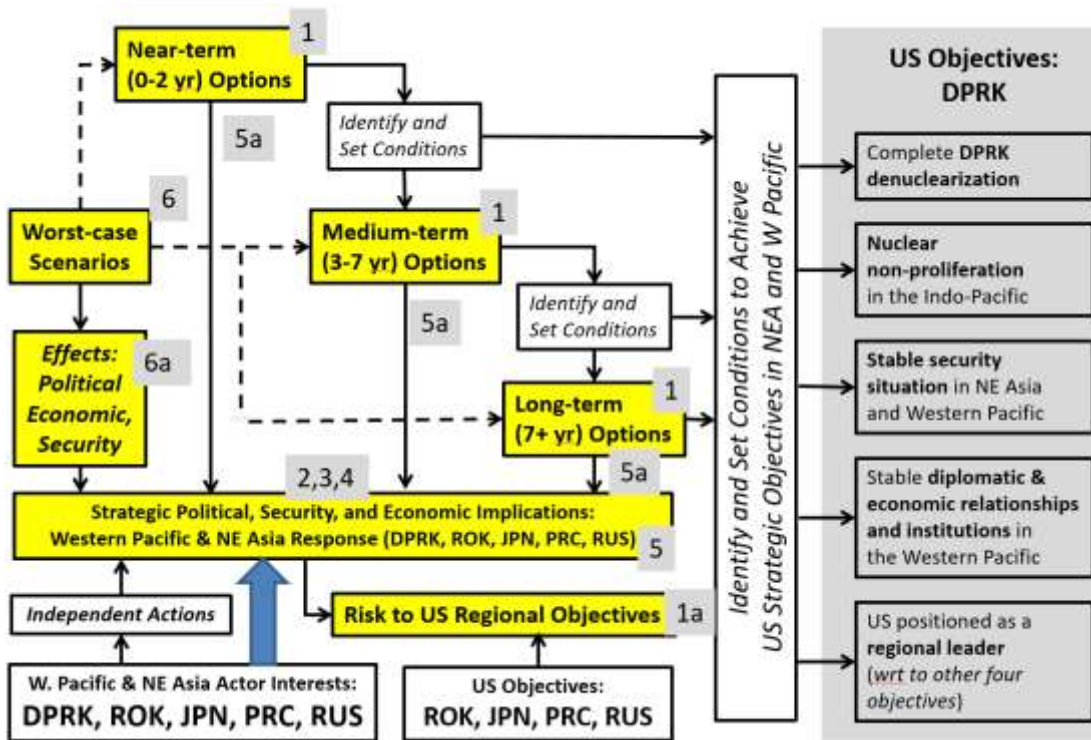


Figure 1. Problem Decomposition

2. Decision Calculus Construct

In the past, operational planning has focused primarily on developing concepts to defeat a potential adversary militarily. However, such an approach does not always satisfy political requirements. An alternative approach to influence the decision calculus of key regional actors was developed based on the Deterrence Operations Joint Ops Concept (DO-JOC). The concept which underlies this approach was named the Decision Calculus Construct (Fig. 2).

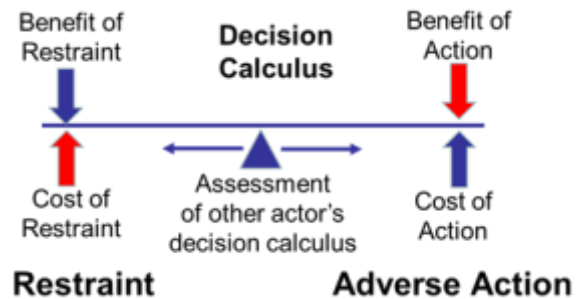


Figure 2. Decision Calculus Construct

Figure 2 depicts a balance between two activities: Adverse Action and Restraint (from taking Adverse Action). The study assumes that a Commander's intent is to shift the balance towards Restraint (from Adverse Actions) on the part of all the regional actors. The five influence vectors reflect the perceptions of the actor performing the decision calculus.

On the Adverse Action side of the balance are two opposing influences — Benefit of Action and Cost of Action. This is the traditional understanding of deterrence which stressed *impose cost* (in response to an action) and *deny benefit* of action as a means of deterring adverse behaviors. On the Restraint side of the balance are two influences - *cost of restraint* and *benefit of restraint* (not conducting the adverse activity). A potential perceived cost of restraint is that a government will lose power or face domestically, with partners or with competitors. Potential benefits could come from the international community or regional actors in the form of economic, political, or social advantages derived from the exercise of restraint.

The fifth, and perhaps most overlooked influence vector, is the Regional Actor's perception of the competitor's decision calculus. The Regional Actor's perception can tilt the balance toward Action (such as to gain advantage by acting first), or toward Restraint (when the competitor's likely proactive course of action is less onerous as the likely response course of action).

The DO-JOC posits that an actor must make cost-benefit decisions to either conduct an adverse action or exercise restraint. The central idea of the DO-JOC is to decisively influence the adversary's decision-making calculus in order to prevent hostile actions against US vital interests. This is the objective of joint operations designed to achieve deterrence. For purposes of this study, the central idea is to influence actor behaviors to support US strategic geopolitical interests. The specific behaviors examined during this

study were those associated with Final, Fully Verified Denuclearization (FFVD) of the Korean Peninsula.

Understanding how these factors are interrelated is critically important to determining how best to influence the decision-making calculus of adversaries. Success is not solely a function of whether adversaries perceive the costs of a given course of action (COA) as outweighing the benefits. Rather, adversaries weigh the perceived benefits and costs of a given course of action in the context of their perceived consequences of restraint or inaction. For example, deterrence can fail even when adversaries perceive the costs of acting as outweighing the benefits of acting if they believe the costs of inaction are even greater.

Joint military operations and activities traditionally contribute to the objective of deterrence by affecting the adversary's decision calculus elements in three ways: Deny benefits, impose costs, and encourage restraint. However, military capabilities can also enable other US and partner instruments of power to be more effective. This is called "Unified Action" of which "Whole of Government" operations are a subset. Direct military means include force projection, active and passive defenses, global strike (nuclear, conventional, and non-kinetic), and strategic communication, i.e., the alignment of actions with intended message. This is often confused with communication strategy. Enabling means include global situational awareness (ISR), command and control (C2), forward presence, security cooperation and military integration and interoperability, and assessment, metrics, and experimentation. Additionally, military planners can be of great assistance to other parts of government by helping them analyze the mission, develop and assess courses of action, and model effects of actions.

The perceived benefits and costs of a given Course of Action (COA) to either conduct an adverse behavior (relative to another actor's perception) or to exercise restraint have two essential elements that influence adversary decision-making. First, each benefit and cost has some relative value to the adversary, (i.e., how much does he perceive he will gain by reaping a given benefit or how much does he perceive he will lose by incurring a particular cost). Second, each benefit and cost has a relative probability estimate associated with it in the mind of the adversary; i.e., how likely does he believe it is that he will reap a given benefit or incur a particular cost by acting or not acting.

One additional factor profoundly influences an adversary's decision calculus: his risk-taking propensity. An adversary's risk-taking propensity affects the relationship between values and probabilities of benefits and costs when in the process of reaching a decision. Risk-averse adversaries will see very low probability but severe costs as a powerful deterrent, while risk acceptant adversaries will discount costs in their pursuit of significant gains.

Finally, an actor's decision calculus may be influenced by his perception of the other actors' decision calculus and the time he believes is available to reach a decision. It is important to note that perceptions are more important to an actor's decision calculus than the actual facts underlying these perceptions. Therefore, the conceptual model assumes

that stability increases when the actors assess that each other's decision calculus will favor restraint over adverse action.

3. Technical Approach

The Timed Influence Net Model starts with possible end-states and examines influence factors that could contribute or undermine attainment of the end-state of interest—in this case Final, Fully Verified Denuclearization (FFVD).

In building the model, we explored possible intermediate states that would be likely to occur on a path towards FFVD denuclearization: Nuclear posture reduction, stop nuclear production, end to nuclear tests, conventional posture reduction, acceptance of international nuclear inspections, opening of borders (economic partnership), formation of a NW Asia political-economic institution, DPRK-ROK political-military agreement.

We also considered potential US and partner influence factors that could contribute to the intermediate and end-states: US/ROK end exercises, US/ROK reduction of conventional posture, International sanction reductions (in response to positive, verifiable DPRK behaviors), removal of trade and finance restrictions, and US/partner economic aid.

Key Assumptions: (1) DPRK pursues economic growth strategy, (2) DPRK and ROK reach a political-economic and military arrangement, and (3) China does not oppose the intermediate strategic environmental states along the denuclearization path.

Figure 3 offers a graphical depiction of the basic model, which focused on a pathway to Final, Fully Verified Denuclearization (FFVD).

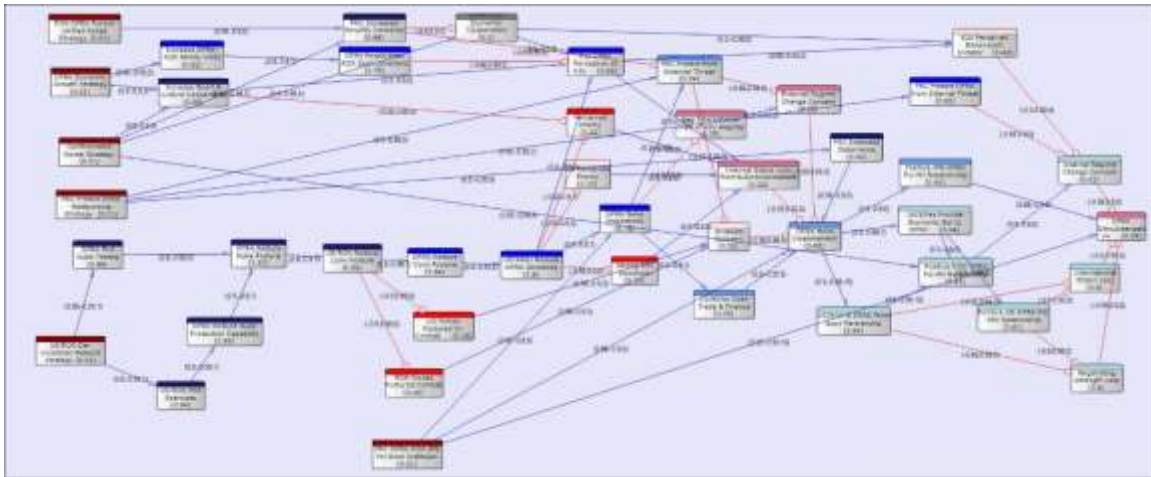


Figure 3. DPRK Denuclearization TIN Model Depiction

4. Strategic Risk Computational Experiments

A key objective of this SMA project was to determine plausible pathways to DPRK denuclearization, which for purposes of this assessment was defined as Final, Fully Verified Denuclearization (FFVD). As the technical approach suggests, we started with FFVD as the desired end-state and then identified key influence factors that would contribute or detract from its achievement. We postulated that FFVD would be preceded by reversible nuclear disarmament, but would also require the DPRK government to assess that nuclear weapons would not be necessary to assure continuation of the regime. These influence factors were again decomposed to identify steps along a possible pathway to Final, Fully Verified Denuclearization (FFVD). The probability profile for a pathway based on the establishment of a confederated Korea peninsula as suggested by South Korea President Moon can be found in Figure 4. Because these conditional probabilities are best understood relative to one another, the model suggests that nuclear disarmament is significantly more likely than achieving FFVD. It also suggests that both will require years to accomplish. The early year perturbations in the nuclear disarmament conditional probability line reflects the influence of external actor responses to initial ROK and DPRK cooperation and stability efforts.

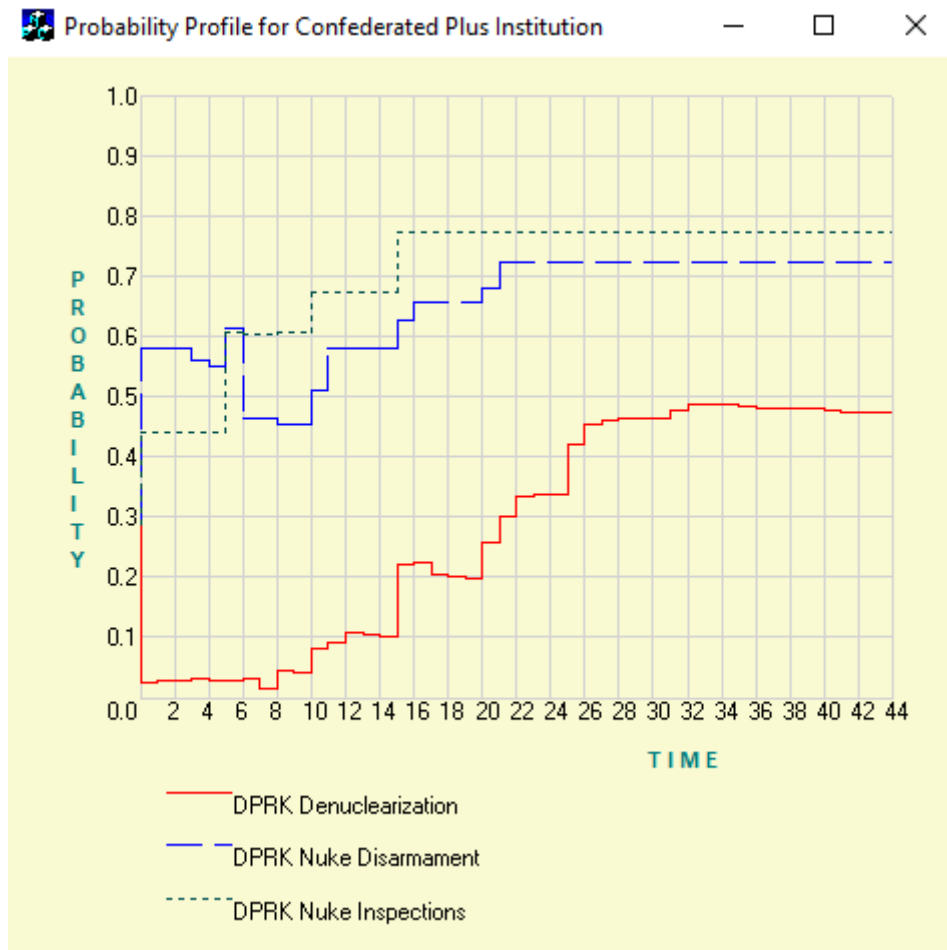


Figure 4. Confederated Korea Pathway to Denuclearization (FFVD)

We also ran a set of computational experiments to understand the implications of a Unified Korea with expanded political and economic relations on the potential to achieve Final, Fully Verified Denuclearization (FFVD). This approach (Figure 5) appears to be less effective in large part due to likely pushback from the PRC and its ability to threaten regional actors economically, militarily, and politically.

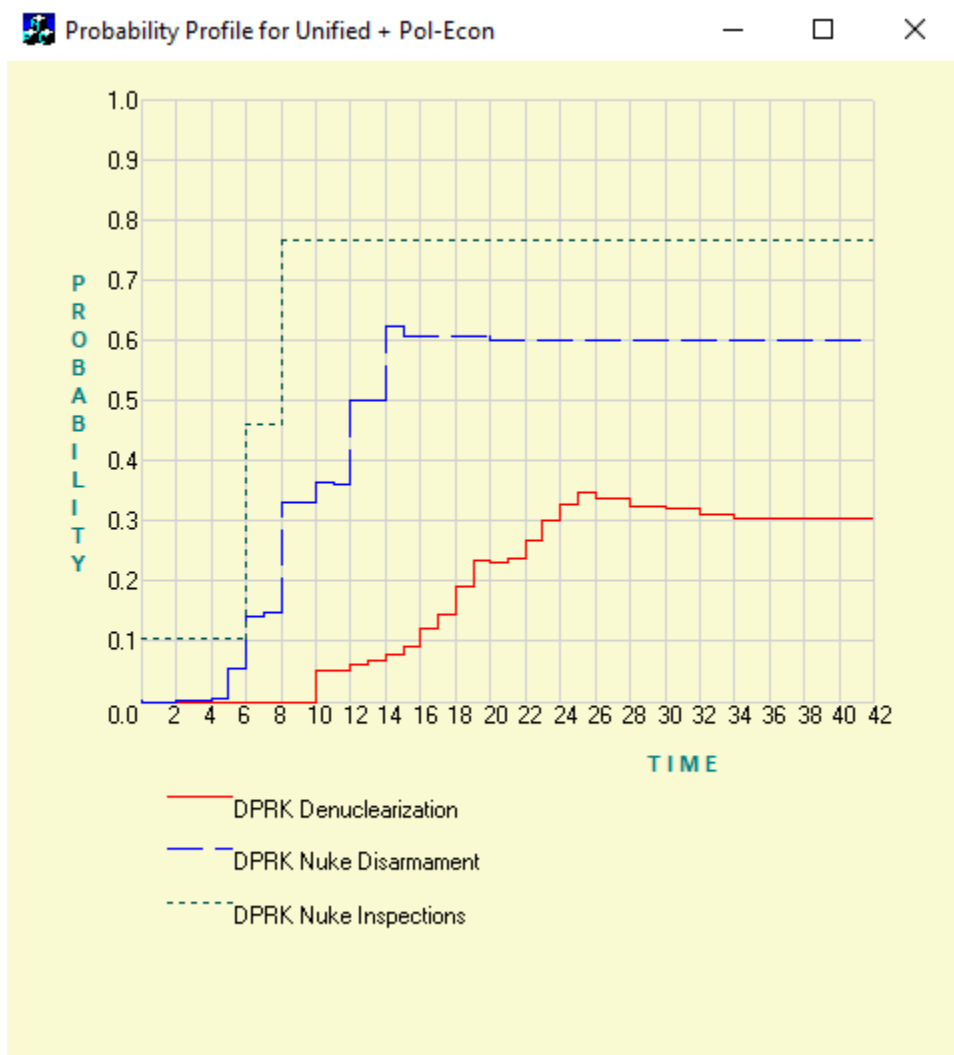


Figure 5. Unified Korea Pathway to Denuclearization (FFVD)

5. Observations

Analysis to find a win-win scenario for all the key actors (DPRK, Republic of Korea (ROK), U.S., China, and Russia) suggests that there is a pathway to Final, Fully Verified Denuclearization (FFVD), but such a path would require DPRK relationships with the USG and Japan that seem inconceivable at the present time. That said, no one would have predicted today's US relationship with Vietnam in 1975. Modeling offers several insights:

- Denuclearization is heavily dependent on KJU's perception that nuclear weapon capability is not necessary to ensure regime survival either internally or externally
- A conundrum exists: Eliminating the external threat exposes the DPRK population to the realization that their counterparts in the ROK are much better off socially and economically posing regime risk
- KJU's definition of denuclearization is reversible nuclear disarmament, not Final, Fully Verified Denuclearization, which is a lower bar than the US objective, but may offer a useful intermediate goal on a long-term path to FFVD
- Moving from disarmament to true denuclearization (FFVD) would entail development of a DPRK relationship with the US and Japan that is inconceivable in the near term, but not impossible in the long term (model is change in US-Vietnam relations between 1975 and 2015)
- A DPRK-US/Japan relationship leading to FFVD would likely require the US to take a significantly different role in the region in the long term, the result of yielding regional leadership to regional security and economic institutions
- Should the ROK (and US) pursue a unified Korean Peninsula strategy (friendly to the West), the PRC is likely to undermine the FFVD path through economic coercion against the ROK and possibly political coercion against the DPRK
- A PRC perception that a unified Korea would be friendly to the West will reduce the potential for achievement of the political and economic intermediate states that offer a path to DPRK nuclear disarmament

The sponsors were also interested in identifying potential Indo-Pacific "Regional Destabilizers," whether man-made, natural disaster, or of an economic nature. The focus of this effort was to identify pathways to denuclearization of North Korea while preserving stability in the region. Denuclearization will require the DPRK leadership to believe that the regime (a) does not need nuclear weapons to protect against external regime change, and (b) does not need an external threat to promote support of the DPRK population for its government. Modeling suggests several potential destabilizers:

- Worsening of DPRK economic conditions (regardless of cause)
- Kim dynasty perception of an internal elite threat to the government
- Japan initiate nuclear program due to withdrawal of USG extended deterrence commitment
- Errant DPRK missile test leading to Japanese casualties

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- DPRK perceived loss of PRC protection against US and Japan
- DPRK perception of improved PRC relations with Japan and ROK (shift from DPRK)
- Korea unification plan that undermines PRC perception of DPRK as a buffer state
- DPRK population perception of Kim government after exposure to ROK economic and social environment
- DPRK Pandemic medical crisis
- Covert attack on DPRK government, nuclear or missile programs, or economy attributed to USG

We also examined viable pol-mil options to achieve a complete and verifiable denuclearization of the DPRK. This included consideration of how regional actors would respond and the potential to introduce strategic risk. Our assessment is that Final, Fully Verified Denuclearization (FFVD) will not be possible if the Kim regime believes nuclear weapons are needed as a hedge against a US-led effort for regime change or perceives that they provide value internationally because of fears regarding disposition of the nuclear materials should the government fall. Therefore, FFVD will require a completely different relationship between the USG and DPRK than exists today, and that relationship can't pose a risk to either the PRC or Japan.

Since the USG is a key actor in the negotiation, it will be difficult for the USG to play a role as the independent facilitator. President Moon is attempting to serve in this capacity, but it will take many years to build a level of trust that would allow the DPRK and USG to perceive one another as negotiating in good faith. Based on initial modeling, actions to build trust might include:

- Given DPRK and PRC distrust of the US, US best approach is to facilitate discussions among the other regional actors
- ROK (and US) should pursue confederated Korean peninsula with shared economic objectives but not a politically united Korea which would pose a security threat to the PRC.
- Any negotiation with DPRK must account for KJU concerns about potential for regime change. FFVD is not the form of denuclearization that will meet KJU's security and political needs
- To offer a long-term path to complete denuclearization, negotiations must not undermine DPRK's perception of KJU as a "benevolent" leader
- The US should support ROK efforts toward the DPRK recognizing that sometimes they will diverge from US interests.
- Disarmament will offer a useful intermediate step on a long-term path to denuclearization (FFVD)
- Establishment of regional political-economic security and cooperation institutions with PRC, Japan, DPRK, and ROK participation could serve as the forum for building trust; complicating this arrangement would be the mechanism to also include the USG and Russia

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- A confidence-building approach that has proved successful in other parts of the world would be to conduct humanitarian or disaster-relief exercises with US, PRC, ROK, DPRK, Japan, (and possibly Russia) participation

From a perspective of strategic risk to US objectives due to regional actor response, we assessed the following:

- Promoting increased cooperation regionally will lead to an increased role for the PRC at the expense of US leadership in the region
- Exposing the DPRK military and population to the significantly better conditions in the ROK will undermine the Juche perception of the Kim regime, potentially destabilizing the country
- Involving Russia in the denuclearization process adds additional negotiating complexity, but if Russia feels excluded, it is likely to take steps to undermine the process—keeping the US occupied works to their benefit and DPRK nuclear weapons are not a threat to them
- Nuclear weapons are of great value to DPRK; Kim regime may attempt to trade or sell the nuclear technology even as it gives up the weapons as a means to obtain a return on investment

We assessed worst-case scenarios regarding U.S. objectives in the Indo-Pacific region to identify plausible second- or third-order effects that could most negatively impact the Indo-Pacific economy, security environment, or political situation. As a basis for this assessment we postulated that the US seeks stability in the Indo-Pacific region with PRC hegemony kept in check, no threat of nuclear weapon use, no further proliferation of nuclear technologies, and the US positioned as a leader in the region. Additionally, the DPRK regime depends heavily on anti-Japan sentiment to elicit loyalty from a generally ill-informed population, blames US-led sanctions for their economic plight, is committed to a DPRK-led unified Korean peninsula, and seeks to reduce US influence in the region by altering the US relationship with the ROK. We found that worst-case scenarios include:

- Civil war in the DPRK following actions to foment a regime change
- Perception that US will attempt to eliminate DPRK nuclear weapons through military action
- DPRK regime sell nuclear technology to provide source of funds if regime threatened
- DPRK missile strike (even if accidental) against Japan with demands for US military response
- PRC perception that ROK and DPRK economic and security cooperation poses a threat
- Korean unification process that does not take PRC security concerns into account
- Increased contact between ROK and DPRK populations stimulating DPRK unrest as people begin to question the Juche narrative the Kim regime has promoted for years
- Massive famine or medical epidemic that can be blamed on US-led sanctions leading Kim regime to distract attention through attacks against Japan, US forces, and even ROK

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We also examined ways that the U.S. might positively and negatively impact the evolving situation with the DPRK. A key consideration is to recognize that the Kim regime's key objective is to remain in power. As such, it perceives nuclear weapons as a hedge against external regime change and it employs its Juche ideology to sustain its totalitarian rule. USG and partner actions that promote the DPRK's perception that there is no threat of external regime change will be received positively (but warily); perceived threat of actions that could lead to regime change will have negative impact. Similarly, actions that promote the Kim regime's standing among the DPRK population will be well received, while actions that undermine the Juche principles will have negative impact.

Positive actions might include:

- Promote development of a ROK-DPRK economic partnership and expanded social exchange including investments by ROK in DPRK industry
- Conduct multinational humanitarian assistance and disaster relief exercises with DPRK, ROK, PRC, US, and possibly Russia
- Build economic relief plans for DPRK that do not undermine perception of Kim regime (tough US sell—can't be seen as a US or ROK rescue of the DPRK)
- PRC-USG agreement to guarantee Kim regime protection from external attack (tough to protect against an internal attack)

Negative actions might include:

- Threatening increased US nuclear capabilities in the region
- Actions that could be perceived as posturing to covertly topple the Kim regime
- Actions that undermine internal perceptions of the Kim regime
- Actions that create DPRK population unrest
- Mass exodus of DPRK population to ROK or China if borders are opened

We also considered it important to examine U.S. opportunities to empower the ROK to negotiate a solution that would remove both the nuclear and conventional instabilities on the peninsula. Arguably, the nuclear and conventional instabilities on the peninsula can be attributed to fact that the Korean War never ended; the armistice was a military agreement to cease hostilities that was signed by the United Nations force Commander and a representative of the Korean People's Army. As long as a state of conflict exists, instabilities are inevitable. A true peace agreement would be an arrangement between the ROK and DPRK governments. The USG can assist the ROK to address the obstacles that have prevented progress on a peace treaty:

- Work with the international community to decouple DPRK recognition as a legitimate nuclear power from its legitimacy as a government empowered to sign a peace agreement
- Empower the ROK to implement President Moon's Korean Peninsula strategy to achieve peace on the Korean peninsula:

(1) Avoid military conflict,

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- (2) Abide by the Joint Declaration on the Denuclearization of the Korean Peninsula (and challenge the DPRK to do the same),
 - (3) Allow South Korea to take a primary role in resolving the inter-Korean issue,
 - (4) Continue international pressure against North Korea to guide them toward negotiating the nuclear issue in good faith, and
 - (5) Increase ROK national defense self-reliance
- Support ROK efforts to improve the social and economic welfare of the DPRK population while maintaining international pressure against the DPRK to prevent further military expansion

6. Conclusions and Recommendations

- Denuclearization is heavily dependent on KJU's perception that nuclear weapon capability is not necessary to ensure regime survival either internally or externally
- Eliminating the external threat exposes the DPRK population to the realization that their counterparts in the ROK are much better off socially and economically which could be perceived to pose a regime risk.
- KJU's definition of denuclearization is reversible nuclear disarmament, not Final, Fully Verified Denuclearization (FFVD), which is a lower bar than the US objective
- Disarmament may offer a useful intermediate goal on a long-term path to denuclearization (FFVD).
- Moving from disarmament to true denuclearization (FFVD) would entail development of a DPRK relationship with the US and Japan that is inconceivable in the near term, but not impossible.
- A US-DPRK relationship supporting FFVD would likely require the US to take a significantly reduced role in the region long term, likely through yielding of US regional leadership to a regional security and economic institution
- Should the ROK (and US) pursue a unified Korean Peninsula strategy (friendly to the West), the PRC is likely to undermine the dismantlement and FFVD denuclearization path through economic coercion against the ROK and possibly political coercion against the DPRK.
- A PRC perception that a unified Korea would be friendly to the West will reduce the potential for achievement of the political and economic intermediate states that offer a path to DPRK nuclear disarmament.
- Denuclearization will require the DPRK leadership to believe that the regime (a) does not need nuclear weapons to protect against external regime change, and (b) does not need an external threat to promote support of the DPRK population for its government.
- Bottom Line: Denuclearization, if achieved, will require many years to implement and the achievement of political, economic, and military accommodations that seem improbable today.

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