Chapter 8

Predicting the Future of North Korea: Preparing for the Worst Case

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Introduction

Predicting the future is very difficult and dangerous, especially when it comes to the issue of North Korea. It is difficult since our knowledge and information of North Korea are very limited and scattered since North Korea is the most isolated country and difficult to penetrate. It is also dangerous since any failure in prediction will result in policy failure with huge cost later as we have experienced for the past 20 some years.

However, it is possible to predict the future of North Korea with some confidence by looking back on assumption failure cases: i.e., what was wrong with the past predictions of the future of North Korea and why they were wrong. We have underestimated and misjudged several important things about North Korea and North Korean problems: determination and capability to develop nuclear weapons; resilience of the North Korean regime itself; possibility or inevitability of reform and opening of the regime; and high expectation for Chinese roles in solving North Korean problems.

Paradoxically, the failed assumptions have given valuable lessons in predicting the future of North Korea. Given the trajectory of the current trends in North Korea, it is possible to say that a politically unstable, economically failing, and militarily dangerous North Korea is likely to be with us for some time into the future. Denuclearization of North Korea may be the least possible goal to achieve as long as Kim Jong-Un stays in power as the supreme leader of North Korea. Thus, in addition to all efforts to change North Korea's strategic calculus, in the meantime, it is necessary for us to think about ways and means to live with nuclear armed North Korea for some time into the future and to deny any benefit and leverage North Korea intends to acquire. At the same time, we must seriously think about the possibility of instability of North Korea and we must be ready to deal with such an unstable situation should it occur.

Failures in Predicting North Korea

Assumption 1: North Korea's nuclear weapons are for getting attention and bargaining. They are a tool for bargaining with the United States, not an end in itself.

The foremost and fatal assumption failure regarding North Korea is the underestimation of North Korea's determination to develop nuclear weapons. When the North Korean nuclear issue was first raised in the early 1990s, most of us believed that nuclear weapons were a bargaining chip. And the argument was that if price is right, North Korea would give up its nuclear weapons. So we went into a series of negotiations with North Korea to find out what North Korea wants and what we can offer. The Geneva Agreed Framework was the first in this kind of deal. And the September 19 Joint Statement had gone extra to accommodate North Korea's demands.

We have bought the same horse twice. But we have failed in achieving the goal of denuclearization of North Korea. Rather nuclear weapons have become an integral part of North Korea itself. North Korea has claimed that nuclear weapons are one of the

The main provisions of the agreement were: the DPRK's graphite-moderated 5 MWe nuclear reactor, and also the 50 MWe and 200 MWe reactors under construction, which could easily produce weapons grade plutonium, would be replaced with two 1,000 MW light water reactor (LWR) power plants by a target date of 2003; oil for heating and electricity production would be provided while the DPRK's reactors were shut down and construction halted, until completion of the first LWR power unit (the amount of oil was 500,000 tons of heavy fuel oil per year); the two sides would move toward full normalization of political and economic relations; the U.S. would provide formal assurances to the DPRK, against the threat or use of nuclear weapons by the U.S; the DPRK would take steps to implement the 1992 Joint Declaration on the Denuclearization of the Korean Peninsula; the DPRK would remain a party to the Nuclear Non-Proliferation Treaty; IAEA ad hoc and routine inspections would resume for facilities not subject to the freeze; existing spent nuclear fuel stocks would be stored and ultimately disposed of without reprocessing in the DPRK; and before delivery of key LWR nuclear components, the DPRK would come into full compliance with its safeguards agreement with the IAEA.

The Joint Statement of the Fourth Round of the Six-Party Talks goes as follow: 1) the six parties unanimously reaffirmed that the goal of the six-party talks is the verifiable denuclearization of the Korean Peninsula in a peaceful manner; 2) the six parties undertook, in their relations, to abide by the purposes and principles of the Charter of the United Nations and recognized norms of international relations; 3) the six parties undertook to promote economic cooperation in the fields of energy, trade and investment, bilaterally and/or multilaterally; China, Japan, the Republic of Korea (ROK), Russia and the U.S. stated their willingness to provide energy assistance to the DPRK; the ROK reaffirmed its proposal of July 12, 2005, concerning the provision of 2 million kilowatts of electric power to the DPRK; 4) the directly related parties will negotiate a permanent peace regime on the Korean Peninsula at an appropriate separate forum; 5) the six parties agreed to explore ways and means for promoting security cooperation in northeast Asia; and 6) the six parties agreed to take coordinated steps to implement the aforementioned consensus in a phased manner in line with the principle of "commitment for commitment, action for action."

greatest achievements of Kim Il-Sung and Kim Jong-Il. And Kim Jong-Un's legitimacy is rooted in the succession, completion, and advancement of the policy of his grandfather and father—that is, nuclear-armed North Korea. Nowadays North Korea claims itself as a nuclear-power state as stated in the Constitution.³ For North Korea, nuclear weapons are not for bargaining. Rather they are the most important and reliable means for regime security.

Assumption 2: The North Korean regime is doomed to collapse sooner or later. Political instability, economic crisis, and social disintegration will bring about the collapse of the North Korean regime.

This kind of argument has been with us since the death of Kim Il-Sung in 1994. The sudden death of Kim Il-Sung was followed by the debate over regime collapse, or implosion. Compared to Kim Il-Sung, the new leader Kim Jong-Il looked quite weak and very unpredictable. Some argued the possibility of power struggle in the succession process. In addition, due to economic hardship, some people raised the concern of people's riot, as was witnessed in many Eastern European states. But the Kim Jong-Il regime survived the so-called "Arduous March" from 1994 to 1997⁴ and launched a new era of Seongun (military first). And Kim Jong-Il's North Korea has survived chronical and systemic economic crises for the past two decades and nullified the possibility of implosion conditioned by economic crisis.

When Kim Jong-Un succeeded in 2012, the same old argument began to surface. Constant personnel changes in the top leadership have made us think of regime instability, if not collapse. The removal and execution of Jang Sungtaek, and then later General Hyun Youngchul, must have created an atmosphere of fear among the elite. Power shift, or center of gravity, from the Korean People's Army (hereafter KPA) to Korean Workers' Party (hereafter KWP) could be regarded as a factor of power struggle. The most recent incident of Mr. Tae Young-Ho's defection can be a sign of a crack in the regime. But if we look back, there are similar cases of defection: Secretary Hwang Jangyeop, Ambassador Jang Seunggil, etc. During the period of 2001 to 2010, the number of North Korean defectors, who have come to South Korea, has increased sharply. If we include North

³ In the preamble of North Korea's Constitution, which was amended on April 13, 2012, it is stated that Kim Jong-Il has made North Korea a nuclear-power state.

⁴ The so-called Arduous March is a period of huge famine. It is estimated that 500,000 to 2,000,000 people died.

⁵ It is reported that in 2016 there were more than 60 public execution cases in North Korea.

Korea defectors that are still outside South Korea and somewhere in the world seeking asylum, we have witnessed "North Korean diaspora."

Despite all the above mentioned facts, the North Korean regime has shown a very strong resilience. Of course, nowadays Kim Jong-Un's North Korea has more instability factors such as weak legitimacy of Kim's leadership, changes in power structure, fear among the elite, higher expectation for better economic performance, and infiltration of information. But, to meet North Korea's challenges properly, we should guard against a kind of "wishful thinking": that is, Kim Jong-Un's North Korea will collapse soon.

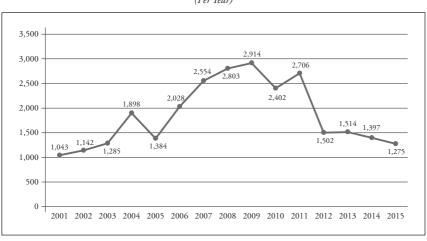


Chart 1. North Korean Defectors that Entered South Korea
(Per Year)

Assumption 3: North Korea has difficulties in overcoming technological barriers and mastering sophisticated technologies of weapons of mass destruction (hereafter WMD).

This assumption has led us to underestimate North Korea's technological and scientific capability in developing nuclear weapons and delivery systems. That assumption led us to believe that time is on our side. However, the pace and scope of North Korea's nuclear weapons development program far exceeded our estimate. North Korea has staged five nuclear tests up to now. After having the fifth nuclear test on September 9, North Korea has claimed that it has miniaturized light, various, and standardized nuclear warheads. Whether it was either a success or failure, each test must have contributed to the advancement of nuclear weapons development. North Korea is nearing the completion

of miniaturization of nuclear warheads.

What makes the situation even worse is that advancement not only in quality but also in quantity has been achieved. North Korea has become capable of producing more weapon-grade fissile material. North Korea has two nuclear programs: plutonium-reprocessing and uranium-enrichment. Most recent reports say that North Korea has reprocessed spent fuel rods after the Yongbyon 5MWe reactor restarted operations in 2013 and separated plutonium at the Radiochemical Laboratory at the Yongbyon site, acquiring up to a total of 5.5 to 8kg of weapon-grade plutonium in addition to the 25-30kg already in stock as of the end of 2014. Uranium-enrichment program has become a much more serious problem. In November 2010, North Korea invited Dr. Siegfried Hecker and revealed a uranium-enrichment facility in Yongbyun. That is not the one and only facility North Korea has. There must be more enrichment facilities hidden somewhere in North Korea. There are at least 10 facilities related to the uranium program. All these mean that there is no limit in producing weapon-grade uranium by North Korea. By 2020, North Korea is estimated to have enough fissile material for a minimum of 20 to a maximum of 100 nuclear weapons.

The estimate of North Korea's separated plutonium stocks as of the end of 2014 is from the International Panel of Fissile Materials' Global Fissile Material Report 2015 report. Regarding additional activities related to North Korea's fissile material production, see David Albright and Serena Kelleher-Vergantini. 2016. Plutonium, Tritium, and Highly Enriched Uranium Production at the Yongyon Nuclear Site. Washington, D.C. After North Korea's fifth nuclear test this September, Dr. Siegfried S. Hecker wrote on 38 North that "North Korea may have a stockpile of 32 to 54 kilograms of plutonium now" (Hecker 2016), which is worth six to eight plutonium-based nuclear bombs. He estimated that North Korea's plutonium production capacity is "limited to six kilograms per year", which means that they can produce enough to make one new bomb every year.

⁷ Uranium mines are located in Sunchon (South Pyeongan province), Pyongsan (North Hwanghae province) and Musan (North Hamgyong province). Uranium mills are located in Pyongsan and also Pakchon (North Pyeongan province). Uranium enrichment facilities are suspected to be located at Cheonma Mountain (North Pyeongan province), Yongbyon, Hagap (Jagang province), Yongjo-ri (Ryanggang province), and Pyongsan. See STRATFOR. 2016. "Interactive: North Korea's Nuclear Facilities." https://www.stratfor.com/interactive/interactive-north-koreas-nuclear-facilities; and also Ryu, Y. W. and Kwon, K. 2002. "북 우라늄농축 실험장소 10여곳 [North Korea could use approximately 10 locations for uranium enrichment test]." NK Chosun. http://nk.chosun.com/news/articleView. html?idxno=24902.

	Current	Forecasts for Year 2020		
	Stockpile (as of end of 2014)	Low-end	Medium	High-end
Nuclear Arsenal	10–16	20	50	100
Nuclear Weapon Equivalent	15–22	29	69	125
Separated Pu	30–34kg	50kg	80kg	154kg
WGU	100–240kg	280kg	790kg	1,230kg

Table 1. Estimate of North Korea's Nuclear and Missile Capabilities⁸

Source: David Albright. 2015. Future Directions in the DPRK's Nuclear Weapons Program: Three Scenarios for 2020. Washington, D.C.

Along with the development of the nuclear weapons program, North Korea has developed and deployed various types of delivery systems earlier than we expected. Nowadays North Korea is estimated to have about 30 to 50 medium-range missiles, known as Musudan, being deployed. After witnessing several failures in test fire from April to June 2016, South Korea and the U.S. concluded that North Korea is still far away from having an operational medium-range missile. Against such estimation, North Korea had a successful test fire of Musudan on June 22nd. Another case of under-estimation of North Korea's missile capability is SLBM. When North Korea first tested SLBM in May 2015, most people said that it will take at least three to five years for North Korea to have operational SLBMs. That assumption is simply nullified by North Korea's SLBM test on August 24, 2016. Within 15 months after the first test, North Korea has overcome technical barriers in developing SLBMs. North Korea will not stop the improvement of its WMD. The pace and scope of WMD development will be conditioned by political will, not by technological barriers. And we are and will be faced with "more, better, longer, and deadlier" North Korea's WMD.

Estimates for WGU stockpile can differ widely as it is still unclear how many centrifuge plants North Korea has built and is running. The report by Dr. Albright in 2015 assumes that North Korea operates one or maybe two centrifuge plants to produce WGU. In his report with Kelleher-Vergantini in 2016, Dr. Albright suggests that North Korea might have 13–21 nuclear weapons as of June 2016. The estimates are not as comprehensive as the 2015 report, as Albright and Kelleher-Vergantini only consider activities at the Yongbyon site and do not include productions that could happen in a second centrifuge plant, meaning that the upper bound of the weapons-estimate could be greater than expected.

Assumption 4: North Korea can and will reform and open itself. Engagement with North Korea in soft issue areas will provide a favorable environment for North Korea to take an alternative path.

The essence of Sunshine policy during the Kim Dae-Jung and Roh Muhyun administration is the belief that engagement with North Korea from the economic and social areas (easier issues) will lead North Korea to open and reform itself since North Korea wants to reform and open itself toward the outside world. Hostile policies of the United States and the conservative administrations of South Korea have made North Korea stick to the old system and aggressive policies. So if we provide a non-hostile environment for North Korea, North Korea will adopt reform and opening.

Thus, to convince North Korea about its non-hostile intent, South Korea under progressive governments tried to engage North Korea economically and socially. Even the United States has shown several times of its non-hostile intent or security guarantee in different forms toward North Korea since 1994. None of them have worked.

Geumgangsan Tourism Project (Mt. Keumgang tourism project), Gaesung Industrial Complex (GIC) Project, and the meetings of separated family members are the most notable examples of such policy. Unfortunately, none of them have brought about any meaningful change in North Korea. On the contrary, South Korea has become a hostage of those projects and domestic debate over these projects never ends. Some people argue that marketization of the North Korean economy is going on under the Kim Jong-Un leadership. On June 28, 2012, Kim Jong-Un launched "new measures for economy management improvement" as his father did exactly 10 years before. On March 31, 2013, Kim Jong-Un announced the so-called *Byeongjin Policy* (parallel development of nuclear capability and economy). Like his father who failed, his ambition and plans to revitalize the North Korean economy have not produced any meaningful results yet.

All the measures North Korea has taken are rather limited in scope. There is and will be no systemic economic reform at all due to political reason—regime stability. For North Korea, political stability is much more important than economic development. So any measure which might undermine the political stability of North Korea cannot be

The key elements of the new economy management improvement measures are: sub-work teams at the farms will be reduced to 4–6 persons; the state will collect 70 percent of the production quota and the farm will keep the rest; the farm can keep any production above the established quota; produce retained by the farm can be sold in the market at free-market prices; and private investment in production is allowed if under the auspices of state or cooperative enterprises. For more details, see Randall Ireson. 2012. "Agricultural Reform Again—or Not?" 38 North. http://38north.org/2012/11/rireson111512.

considered as an option. It is not external environment but internal political reason for North Korea to reform and open.

Assumption 5: The role of China is very important in solving North Korean problems. China will cooperate with the others-the U.S., the ROK, and Japan.

For the past two decades, it has been argued that Chinese cooperation is essential in solving North Korean problems since China has the largest leverage over North Korea across different dimensions: political, economic, and military. China is the one and only ally of North Korea. China is the main provider of almost everything: energy, food, industrial goods, hard currency, etc. China accounts for as much as 90 percent of North Korea's trade. China provides almost 90 percent of the energy North Korea needs. Over the past two decades, the U.S. and South Korea have been asking China to be on the same page with them. However, China has been shielding North Korea from international pressure and providing assistance, economic as well as political, to North Korea. There could be two reasons for Chinese reluctance: concern over North Korean regime stability; and tendency to view North Korean problems from the perspective of U.S.-Chinese geopolitical rivalry.

Table 2. Trade between China and North Korea (2011–2015)

(Unit: Thousand \$, %)

	2011	2012	2013	2014	2015		
Export to China	2,464,188	2,484,699	2,913,624	2,841,476	2,483,944		
Import from China	3,165,181	3,527,843	3,632,909	4,022,515	3,226,464		
Total Volume	5,629,369	6,012,542	6,546,533	6,863,991	5,710,408		
Dependency	89.1	88.3	89.13	90.19	91.34		

Source: KOTRA, Global Window

Note: Trade between North Korea and Hong Kong is excluded from the DPRK-China data set as a separate entity.

Trends of North Korea's foreign trade are based on data from South Korea's Korea Trade—Investment Promotion Agency's (KOTRA) database. In the midst of international sanctions being strengthened over the years, North Korea's trade dependency on China kept increasing and finally exceeded 90 percent of total foreign trade in 2014. For the latest report, see KOTRA. "2015년 북한 대외무역 동향 [North Korean Foreign Trade Trends 2015]," Global Window. http://news.kotra.or.kr/user/globalBbs/kotranews/11/globalBbsDataView.do? setIdx=249&dataIdx=151201&pageViewType=&column=&search=&searchAreaCd=&searchNationCd=&searchTradeCd=&searchStartDate=&search EndDate=&searchCategoryIdxs=&searchIndustryCateIdx=&searchItemCode=&searchItemName=&page=1&row=10.

There are three principles of China's policy toward the Korean Peninsula: peace and stability on the Korean Peninsula; denuclearization of the Korean Peninsula; and solving problems through diplomatic dialogue. Whenever an incident or a crisis takes place, China argues for patience, self-restraint, flexibility, and dialogue. Not so much pressure. For China, regime stability of North Korea, not denuclearization of North Korea, is the most important thing. China believes that a chaotic situation in China's periphery would undermine China's national interests. China believes that putting too much pressure on North Korea can lead to an unstable regime situation in North Korea. So China has shown reluctance to put enough pressure, any kind of pressure, on North Korea to change North Korea's strategic calculus.

Secondly, in recent years, China tends to view the North Korean issues from the perspective of geostrategic rivalry with the U.S. For the Chinese, the U.S. approach toward North Korea is part of the U.S. rebalance, or pivot, strategy which is designed to encircle China. Whenever the United States and its allies take measures to counter North Korean provocation, China interprets them as being directed toward China via North Korea. The Chinese reaction to the decision to deploy THAAD (terminal high altitude area defense) in South Korea is a good example. Despite all the efforts South Korea and the United States made to explain the decision and intent, China still sees it as being targeted toward China, not North Korea. Nowadays the U.S-China dimension overshadows the North Korean problems. So if U.S.-China relations become conflictual and confrontational, neither cooperative nor competitive, it will become much more difficult to have Chinese cooperation in dealing with North Korean challenges. All these mean that in order to solve North Korean problems, we must solve the China problem.

Based upon the review of the assumptions we used to have over North Korean problems, it is possible to say that the prospect for resolving North Korean problems is not very promising. We shall be faced with politically unstable, economically failing, and militarily threatening North Korea shielded by China.

Alternative Approach: Counter-Byeongjin Strategy of Deterrence, Sanctions, and Targeted Strategic Engagement

For instance, the China Daily posted an editorial on its website, defining THAAD as "a clear, present, substantive threat to China's security interests" and criticized South Korea for "[turning] its back on China...by hosting THAAD". To be fair, the piece did acknowledge that South Korea "has legitimate security concerns." See China Daily. 2016. "THAAD poses real threat to security of China," Opinion/ Editorials. http://www.chinadaily.com.cn/opinion/2016-07/15/content_26096252.htm.

Time is running short for resolving the North Korean nuclear problem. Completion of the North Korean uranium program will heighten the possibility of proliferation. Furthermore, North Korea will likely enhance both its nuclear and delivery capabilities faster than we have estimated. If North Korea attains the ability to target mainland United States, it would be able to challenge and invalidate the underlying assumptions of the U.S. extended (nuclear) deterrence umbrella: that is, North Korea can strike the mainland United States with its nuclear weapons and the so-called de-coupling issue can rise. The credibility of U.S. extended deterrence will be questioned by its allies—South Korea and Japan. And North Korea's demands will naturally become heavier. These problems are exacerbated by the fundamentally unstable and unpredictable nature of the Kim Jong-un regime.

To solve North Korean problems, we need to have two conditions being met: changes in North Korea's strategic calculus (or changes in North Korea's belief in its own nuclear and missile program) and changes in China's policy toward the Korean Peninsula. And we should be able to answer the following questions:

- How can we deter and defend effectively against North Korea with increasing WMD capabilities? Will conventional deterrence work? Under what condition should we think of and go for non-conventional options? Can we be sure of U.S. extended (nuclear) deterrence if the U.S. is under the direct threat of North Korea?
- How should we handle an unstable situation in North Korea should it occur? What would be the objective—unification or another division? What are the issues and challenges in an unstable North Korea? What would be other parties' reaction to an unstable situation? Should we actively intervene or should we simply wait and see? What would be a desirable framework of cooperation in handling instability in North Korea?
- How should we handle humanitarian issues of North Korea? Should we pursue humanitarian engagement vis-à-vis North Korea? Should the humanitarian issues be a political/diplomatic tool to press North Korea further? Is there a way to bring about changes in the North Korean society?
- Will the current economic sanctions (smart sanctions or targeted sanctions)
 work? If not, what other things should we do? Should we engage North Korea
 economically? Will economic engagement change North Korea's policy over
 nuclear weapons and others?
- How can we maintain international coalition? Can we have all the concerned parties on the same page? Can we agree on approaches? The devil is in the details.

To effectively address the North Korean nuclear challenge, policymakers need to recognize that resolving the problem will require a long-term outlook given the regime's nuclear ambitions. As such, any strategy for resolving the North Korean problem will require a comprehensive and integrated approach that also addresses regime transformation. Similarly, countries interested in resolving the North Korean problem need to have shared objectives and establish a common approach. This requires that the other five countries from the Six-Party Talks be on the same page since no other issue is as grave and threatening as the North Korean nuclear problem. Furthermore, these countries need to adopt a clear consensus on the objectives and the priority that there must be denuclearization of North Korea, neither non-proliferation nor regime security of North Korea, and the establishment of a permanent peace regime—through unification of the Korean Peninsula. From these shared objectives, a comprehensive roadmap and action-plan must be adopted.

The integral part of a comprehensive integrated denial approach must aim to deny North Korea's pursuit of its *Byeongjin* policy by utilizing various means and tools in an integrated manner. To be effective, this policy toward North Korea must be consistent, durable, and proactive, rather than reactive. So we can think of four general strategies: Strengthening the current extended nuclear deterrence posture to deny North Korea the political and military utility of nuclear weapons, adopting not just sanctions themselves but smart sanctions strategy to make North Korea pay a high price for having nuclear weapons, adopting a conditional and targeted engagement strategy (especially in terms of humanitarian measures and information influx) to bring about changes in the North Korean society, and maintaining a coalition among concerned parties, especially China, to ensure the effectiveness of this strategy by denying North Korea any chance of exploiting differences among the others over North Korean nuclear problems.

First, the U.S. must strengthen its extended nuclear deterrence posture. This requires that policymakers tailor deterrence with full spectrum dominance and escalation controllability. This includes the following measures: ISR (intelligence, surveillance, reconnaissance) capability upgrade to monitor all of North Korea 24/7; enhanced immediate deep strike capabilities on the Peninsula for preventive/preemptive purpose; comprehensive air and missile defense infrastructure beyond the current THAAD system; and passive protective measure for people's life. Such an approach would leave all the options on the table, allowing for considerable amount of strategic clarity with concrete action items. Trilateral security cooperation among the U.S., ROK, and Japan is also necessary to make such a strategy or approach properly work. Three countries

should work together to enhance ISR over North Korea. For this purpose, GSOMIA (General Security of Military Information Agreement) between the ROK and Japan should be concluded sooner. For defense of the ROK and Japan, cooperation must include anti-submarine warfare, mine-sweeping operation, air- and sea-lift, etc. All these are about maritime domain awareness. For offense in any kind of format, the ROK and the U.S. should upgrade deep strike capabilities as soon as possible. The ROK should complete the so-called Kill-Chain as soon as possible, not circa 2023. The U.S. should modify and upgrade the USFK, including deployment of dual-capable weapon systems on the Peninsula. The re-introduction of non-strategic nuclear weapons by the United States and establishment of nuclear planning group (NPG) as in NATO must be under consideration for psychological, not really operational, effects of deterrence and re-assurance. Finally, the ROK should seriously think about protective measures and consequences management for its people should nuclear exchange take place. All these will make deterrence, dissuasion, and defense more credible and reliable. By having more robust deterrence posture vis-à-vis North Korea, we shall be able to convince North Korea that nuclear weapons have no political and military utility at all.

Second, complementing deterrence, a smart sanctions strategy must be developed. There are two aspects of smart sanctions strategy: comprehensiveness and sustainability. This strategy would require sanctions going beyond the current targeted sanctions under UNSC Res 2270. Res 2270, which is said to be the toughest sanctions vis-à-vis North Korea so far, has many loopholes in it such as exclusion of trade, which affects the livelihood of North Korean people. To make Byeongjin fail, we need to have more comprehensive, not targeted, sanctions including regular trade and financial sectors much more like sanctions vis-à-vis Iran. It is doubtful whether China, whose primary concern is regime stability of North Korea, will accept and fully implement such comprehensive sanctions vis-à-vis North Korea. In this respect, there exists potential for greater coordination between Japan, South Korea, and the United States. Introduction of comprehensive smart sanctions will make life of the North Korean elite harder and difficult and ultimately nuclear weapons will become a liability rather than an asset. In other words, we have to make North Korea pay an unbearable cost of having nuclear options. Along with this line, the United States should seek and implement more actively secondary boycott. Of course, China may not like the secondary boycott. But we have put more pressure on China using the secondary boycott card effectively.

To make sanctions workable, we need to have monitoring and coordination mechanisms among the key players. UNSC has established the sanctions committee. But

the work of the sanctions committee can be limited by political factors. To complement and to ensure the effectiveness of sanctions, we need to think of an informal consultative body, which monitors and coordinates sanctions enforcement among the key players such as the U.S., Japan, the ROK, EU, and ASEAN. This body does not have any legal authority. But the existence and functioning of such a body have symbolic political significance in one sense, and ensure effectiveness of sanctions to a certain degree.

Third, any engagement with the North Korean regime must be conditional. The "door" for dialogue must be kept open. However, dialogue should not occur just for the sake of dialogue. Furthermore, dialogue must be pursued through multiple channels. Concerned parties must also seek to reduce tension through channels such as militaryto-military dialogues. There are forms of assistance that can be unconditional, such as a provision of emergency humanitarian assistance. This soft and indirect approach would complement military-to-military exchanges. Other forms of local and smaller scale economic assistance can be mutually beneficial to both South and North Korea. When focusing on cooperation projects between North and South Korea, both parties must focus on small, not big, exchange and cooperation programs. Parallel to this, education and training programs in technical areas must also be sought. Other multilateral fora should be utilized when engaging North Korea. Humanitarian engagement can gradually and finally bring about changes in North Korea. Along the same line, it is necessary to think of ways to increase information infiltration and dissemination. It will take some time to see the impact of information infiltration and dissemination. But it is a necessary measure to make the ordinary North Korean think of an alternative future and empower North Korean people as a force of change.

Last, any approach toward North Korea requires enduring cooperation among the coalition of concerned parties on the desired outcome of North Korean nuclear problems. This necessitates that the coalition agree on the desirable end state of the Korean Peninsula and what its implications would be for Northeast Asia. Adopting a common goal can help the coalition identify tangible areas for improving cooperation to achieve this goal. On this regard, the ROK should take the lead in providing a vision of a unified Korea and its policies after the unification.

Conclusion

North Korea's policies and rhetoric indicate that it has no interest in giving up its nuclear weapons—thus, its nuclear program is non-negotiable. Additionally, the response from the concerned parties toward the North Korean nuclear program has been undermined

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because of differences over approach, varying priorities among regional powers, and the view of the North Korea problem through the lens of the U.S.-China relationship. Therefore, the North Korean nuclear problem will not likely be resolved in a short period of time. Any solution to the North Korean nuclear problem will require addressing the North Korean problem as a whole—keeping in mind that the gradual transformation of the North Korean regime may be the only enduring solution for the North Korean nuclear problem. The current denial strategy must be sought more actively, requiring a well-calculated mix of carrots and sticks. A starting point for this strategy is to develop robust and reliable deterrence. It is also essential that there is more cooperation among the coalition of concerned parties.