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April 2019

FUTURE SCENARIOS: WHAT TO EXPECT FROM A NUCLEAR NORTH KOREA

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SUMMARY

After decades of broken promises and failed diplomatic efforts, North Korea has built an arsenal of nuclear weapons and ballistic missiles. Chairman Kim Jong Un has vowed that his nuclear “sword”¹ will never be relinquished and that “denuclearization” comes only with global disarmament.

Kim froze testing, the most visible element of his nuclear and missile program. But he continues the most dangerous part, the expansion of his arsenal. De-escalation is not denuclearization, and North Korean “freezes” have a nasty tendency to thaw out.

North Korea has shown dissatisfaction over the failed Hanoi Summit with the United States in early 2019, but will it return to “fire and fury” by resuming tests? Testing would serve a mix of technical and political objectives, but at considerable risk. Tests would shatter the freeze on U.S. military operations around the Korean Peninsula, derail aid from South Korea, and cost Kim hard-won Chinese backing. And though the U.S. president would not lift sanctions in Hanoi, enforcement has weakened and China is now calling for sanctions relief. Kim’s charm offensive has enabled him to shed his pariah status without shedding his nuclear weapons.

Would international acceptance of North Korea’s nuclear status produce better behavior? Not likely. The Kim family business model is extortion; Jong Un, as ruthless as his father and grandfather, has an

unprecedented array of weapons at his disposal. Even if he freezes his entire program, Kim can generate new leverage by threatening to proliferate. North Korea’s history of selling nuclear know-how (remember Syria’s reactor) and its expanding uranium stockpile make that threat credible.

But the new North Korean weapon of choice is instead more likely to be cyber—a high-impact, low-cost, and low-risk digital-age way to steal cash, hack secrets, and terrorize wired nations. An elite corps of highly trained cyber hackers has already stolen hundreds of millions of dollars, blunting the effect of sanctions. Kim has linked cyber with nuclear weapons as another “all-purpose sword” and experimented with cyber attacks against critical overseas infrastructure. Developed nations are particularly vulnerable to Kim’s next weapon of mass destruction.

So, freeze or no freeze, North Korea remains a persistent threat. Only “coercive containment” can alter that—a strategy of denial and attrition that blocks Pyongyang from getting what it wants from the international community and that deters and defends against North Korea’s weaponry, including cyber warfare. This is indeed a tall order and would require unity among America’s allies and unprecedented cooperation between Washington and Beijing at a time of strained relations. Forging and implementing a coercive containment strategy will not be easy, but the alternatives offer no better choice.



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Little wonder the U.S. intelligence community asserts that North Korea has no intention of relinquishing its nuclear weapons.

EVOLUTION OF A NUCLEAR NORTH KOREA

In 1985, the Democratic People's Republic of Korea (DPRK, but hereafter, North Korea) acceded to the Nuclear Nonproliferation Treaty (NPT); repeatedly throughout the years that followed, North Korean leaders have committed to not pursuing nuclear weapons. In the 1992 Inter-Korean "Joint Declaration," the 1994 "Agreed Framework," and again in the 2005 "Six-Party Talks" joint statement, North Korea pledged to forgo or abandon its nuclear program. In the Six-Party Talks, North Korea also pledged to return to the NPT and full International Atomic Energy Agency (IAEA) safeguards at an early date, beginning with a full declaration of its nuclear programs and the disabling of all of its existing nuclear facilities.

In 2019, however, North Korea revealed that the only denuclearization process it would accept is one unconstrained by its past commitments or its obligations under legally binding United Nations (UN) Security Council resolutions. Kim used his New Year's address to signal that for him, denuclearization begins with significant reductions in U.S. military posture and operations in Northeast Asia, which are not likely near-term prospects.² Not only has North Korea ducked negotiations focused on dismantling its nuclear program, it has also shifted the agenda with the United States to elevate issues advantageous to Pyongyang, such as economic development, improved relations, and peace arrangements. In past negotiations, those issues were contingent on North Korean progress in fulfilling its denuclearization commitments. But the June 2018 Singapore Summit declaration downgraded the nuclear issue from its earlier status as the goal of talks to just one of several items to

address, and from an urgent priority to an aspirational target.

Definitions of denuclearization aside, North Korea has made abundantly clear that its nuclear status is nonnegotiable and essentially permanent. In 2012, Kim changed the nation's constitution to announce its status as a nuclear-armed state. Subsequent statements calling for high-level bilateral talks with the United States emphasized that its nuclear weapons are not "bargaining chips" but rather "a treasure" that will not be traded for "billions of dollars."³ Pyongyang declared that its "legitimate status as a nuclear weapons state will be maintained until ... nuclear threats from outside are put to an end completely."⁴ Sitting across from the U.S. Secretary of State at an Association of Southeast Asian Nations (ASEAN) meeting in 2017, North Korea's foreign minister called ballistic missiles and nuclear weapons a "rational strategic option" for defense that North Korea would "under no circumstances" negotiate away.⁵ Little wonder that the U.S. intelligence community unequivocally asserted that North Korea has no intention of relinquishing its nuclear weapons, which it views as critical to regime survival.

North Korea has also made progress since early 2018 toward its further goal of international tolerance, if not acceptance, as a nuclear state. Although the Trump administration continues to seek "full and final denuclearization" by North Korea, it has abandoned the position that America will not "talk for talk's sake" or that, given its record of broken promises, North Korea must begin by taking irreversible steps to dismantle its nuclear program to comply with UN Security Council resolutions. The United States has also abandoned the aggressive deadlines originally laid out by National



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Security Advisor John Bolton in favor of an open-ended process, with President Trump repeatedly assuring North Korea that the United States is “in no particular rush.”⁶

PARTIAL FREEZE... BUT FAR FROM FROZEN

The president and senior U.S. officials regularly cite with pride the fact that North Korea has not launched an intercontinental ballistic missile (ICBM) or detonated a nuclear bomb since its barrage of provocative tests in 2017. North Korea's unilateral suspension of provocative tests is certainly welcome, particularly given the dire threats by President Trump to take military action in response. A suspension is also a prerequisite for negotiations, since the United States could not be expected to ignore another ICBM launch or nuclear detonation. But a freeze is a far cry from progress toward denuclearization. A freeze may be a good first step, but it is a bad last step. Moreover, a freeze on testing does not mean that its nuclear and missile programs are frozen. Not only is a unilateral North Korean moratorium instantly reversible but also, by Kim Jong Un's own admission, his nuclear and missile production facilities continue to build up the North's arsenal. Estimates by the U.S. Defense Intelligence Agency suggest that North Korea likely produced enough uranium for roughly nine additional nuclear bombs in the eight-month interval between the Singapore and the Hanoi Summits.⁷

North Korea's strategy appears to be to induce the United States to prioritize maintenance of the moratorium on tests over dismantlement of North Korea's programs. This approach aims to achieve the twin benefits of charging rent for a pause in overt provocations and moving the United States and others toward tacitly

acquiescing, however reluctantly, to North Korea's de facto nuclear status. Through this maneuver, North Korea moves the moratorium on testing from being a prerequisite for deal making to becoming the deal itself. The benchmark for measuring progress is no longer how much closer North Korea has come to declaring, disabling, dismantling, and relinquishing its nuclear or ballistic missile stockpiles and facilities. Instead, Kim has substituted the yardstick of how many months he has gone without detonating or launching one.

But North Korean freezes have a nasty tendency to thaw out once the international community starts to balk at Pyongyang's escalating demands. North Korea agreed to a moratorium on missile tests from 1999 to 2005 and later halted missile and nuclear tests for nearly three years during President Obama's first term. North Korea recommitted to a freeze on ballistic missile testing in the short-lived “Leap Day Deal” in 2012, only to proceed with the launch of a satellite with a rocket using precisely the ballistic missile technology forbidden by the UN Security Council. North Korea disingenuously claimed it was not violating its pledge and strained credulity further by claiming the launch was part of a planned moon mission.⁸ Clearly, Kim uses space vehicle launches as a ploy to test American resolve, not to test missiles.

BAIT OR BARGAIN?

In addition to a partial freeze, Kim has volunteered other apparent good-will gestures, such as the offer to destroy the Punggye-ri nuclear test site and to dismantle the Sohae missile launch facility at Tongchang-ri. And what's not to like about North Korea unilaterally dismantling elements of its nuclear and missile programs? By taking the initia-



The unilateral steps announced by North Korea prior to the Singapore Summit were low-cost gestures that made good strategic sense from its perspective.



Punggye-ri Nuclear Test Site, USGS Earthquake Hazard Program, Wikimedia Commons, February 2013

tive and putting something on the table, albeit something well short of denuclearization, Kim set up North Korea to begin demanding “corresponding measures” from the United States. This tracks with North Korea’s long history of demanding rewards for “good behavior.”

The unilateral steps announced by North Korea prior to the Singapore Summit were low-cost gestures that made good strategic sense from its perspective. But how much value do they offer? Both measures, which have proven easily reversible, were dismissed by many analysts as largely cosmetic. When Kim Jong Un declared the completion of his nuclear weapons development program following the successful testing of a thermonuclear device, he pointed out that “no additional nuclear tests are needed”⁹—meaning the Punggye-ri nuclear test site was obsolete. The Sohae missile facility is one of several fixed sites in North Korea being rendered superfluous by the regime’s use of hard-to-detect mobile launchers. Instead, since Western satellites closely monitor

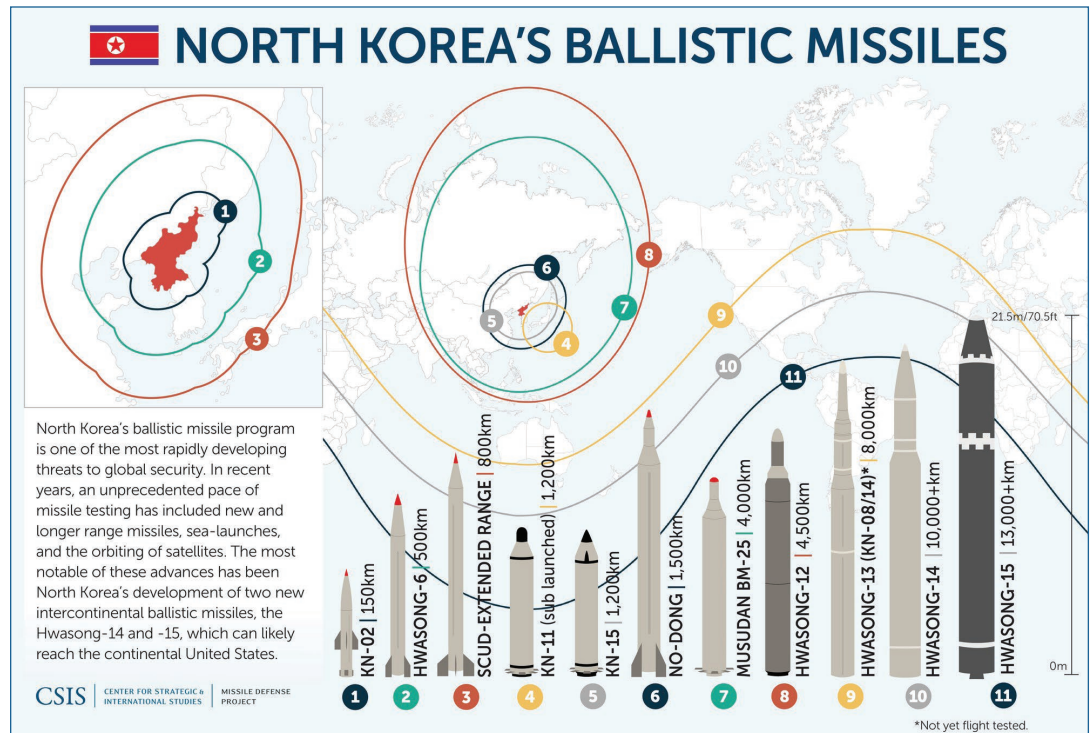
Sohae and other well-known facilities, these sites have become in effect billboards that North Korea uses for diplomatic signaling. Evidence of new construction can send Western leaders’ pulses racing, or the dismantling of even a minor structure gives the impression the North is taking steps toward compliance.

WILL NORTH KOREA OPT FOR ESCALATION?

The failure of the Hanoi Summit has raised fears of a return to “fire and fury,” a scenario that cannot be ruled out. In early November 2018, North Korea’s Foreign Ministry had already released a statement warning it might “change its stand and resume building up nuclear forces” if the United States failed to loosen sanctions and take other conciliatory steps.¹⁰ Kim Jong Un issued an ultimatum in early April, warning that the freeze expire by the end of 2019 if the U.S. did not take a more accommodating approach at a third Summit meeting.¹¹ Returning to escalation when its



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Missiles of North Korea, Missile Defense Program, Center for Strategic and International Studies, June 2018.

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A resumption of nuclear testing would serve some of the North's political and bargaining purposes. More significantly, further tests would advance its technical goals by enabling the development of increasingly compact and higher-yield bombs. Smaller nuclear warheads facilitate delivery by long-range missiles. Higher nuclear yields reduce the importance of missile accuracy, particularly against civilian targets such as U.S. cities.

North Korea has two remaining technical objectives for its missile program: range and warhead survivability. The Hwasong 15 missile tested in November 2017 flew to a high altitude, but it landed fewer than 600 miles from its launch pad. Scientists calculated this meant that a flatter trajectory could have enabled a range of up to 8,000 miles, covering the entire continental

United States.¹² So one remaining step is for North Korea to conduct a "horizontal" ICBM flight that validates the missile's long-range capability. A second imperative is to demonstrate that the missile's warhead can survive atmospheric reentry in those conditions, perhaps the trickiest problem remaining for North Korea's engineers. In 2017, North Korea's foreign minister explicitly warned that Pyongyang might conduct such a test with a nuclear warhead in a remote area of the Pacific Ocean as a way of removing any doubt about its capabilities.¹³

North Korea is also believed to be working on ways to defeat America's nascent ballistic missile defense (BMD). One tactic is simply to overwhelm BMD interceptors with large volleys of ICBMs. North Korea is known to be building up its fleet of ICBMs and experimenting with more threatening, hard-to-detect solid-fueled rockets. Other



A carefully staged satellite launch is in effect a North Korean warning flare that signals its impatience and puts the United States in a bind by wrapping the violation in nominally civilian communications cover.



Supreme Leader of North Korea Kim Jong Un, 禁书网, Flickr, 2017

strategies that North Korean engineers may be pursuing include the use of dummy warheads, multiple independently targeted warheads (MIRVs), and maneuverable warheads (MARVs). Any and all of these technologies present immense challenges to missile defense and increase the likelihood of a success if North Korea were to launch a nuclear attack against a U.S. city.

OR WILL IT TREAD CAREFULLY?

Yet whatever the technical advantages of resumed testing, the downside risks to North Korea are vast. By placing a moratorium on ICBM launches, Kim may be making a virtue of necessity, since the next real advancements in the North's missile program would be hugely provocative. North Korea's ICBM program is already close to a threshold at which a retaliatory or a preemptive U.S. strike could not be ruled out. A long-range flight test of an ICBM, even with an inert warhead, might carry too much risk for Kim Jong Un. Even if it did not precipitate a "bloody nose,"

an ICBM launch or a nuclear test would shatter the freeze on major U.S. military operations around the Korean Peninsula, bringing a resumption of U.S.–South Korea joint exercises and the movement of aircraft carriers, strategic bombers, submarines, and other assets that North Korea would like to keep away. Resumed testing would undercut South Korean President Moon's ability to provide assistance and build economic ties to the North; would surely cost Kim the hard-won backing of Chinese leader Xi Jinping; and would open the door to resumed sanctions enforcement, if not new sanctions levied by the UN Security Council.

Launching a rocket to put another satellite in orbit is another matter. North Korea historically used satellite launches as an alibi for testing forbidden ballistic missile technology. But its missile program has now advanced successfully to a level where the benefits from a satellite launch are more diplomatic than technical. A carefully staged satellite launch is in effect a North



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Korean warning flare that signals its impatience and puts the United States in a bind by wrapping the violation in nominally civilian communications cover.

SLOW ROLL AND SANCTIONS

Since early 2018, Kim Jong Un has gone to great lengths to refashion himself as a reasonable statesman seeking security and economic development through dialogue and diplomacy. His efforts have won increased Chinese political and economic support and spurred a push for inter-Korean economic projects by the pro-engagement Moon administration. While state media may continue to warn that his patience is not unlimited and brandish the threat of resumed testing, Kim seems inclined to extend the moratorium on testing. By maintaining a freeze and keeping open the prospect of eventual denuclearization, Kim can continue to chip away at sanctions while resisting demands for a truthful accounting or full international access to the North’s nuclear facilities. Even without a breakthrough from summit diplomacy, North Korea’s international isolation is steadily diminishing as the world gradually acclimates to the new normal of North Korea as a *de facto* nuclear weapons state.

While most international sanctions are likely to remain in place, at least in the short term and at least on paper, more may be waived as inducements for North Korea to show restraint. China, in the immediate aftermath of the failed Hanoi Summit, escalated its call for the UN Security Council to provide formal sanctions relief to the North. While the United States has resisted, the erosion of sanctions enforcement by North Korea’s neighbors and trade partners appears likely to accelerate. No longer perceived as a pariah, North Korea

has enhanced its sanction work-arounds with trading partners such as China, Russia, and Vietnam. A report by the panel of experts set up by the UN Security Council to monitor sanctions enforcement concluded last fall that Pyongyang was evading sanctions “with impunity,” citing violations that it said “render the latest UN sanctions ineffective.”¹⁴

The net effect of an erosion of sanctions is to alleviate financial pressure on the Kim regime and free up badly needed resources, enabling Kim at last to fund both guns and butter—along with luxury goods. Even the present state of “no tests, no denuclearization” helps him deliver economic performance that both strengthens his position at home and funds the strategic programs that reinforce his leverage internationally. The path of least resistance for North Korea, and likely for its neighbors as well, is to avoid escalation and maintain the status quo of a moratorium on North Korean tests and major U.S.–South Korea exercises, while paying lip service to denuclearization, conducting inconclusive talks, and trading modest confidence-building measures.

It is not far-fetched, therefore, to foresee a scenario in which North Korea increasingly resembles Pakistan, an acknowledged nuclear, non-NPT state with normal international relations and only minimal, vestigial penalties for having defied the international nonproliferation regime. The resemblance is not accidental; North Korea has paid close attention to Pakistan’s nuclear evolution and in fact acquired the key nuclear technology required to launch its own program from the father of Pakistan’s nuclear bomb, A.Q. Khan. Pakistan, like North Korea, is also a divided country, facing a vastly larger and stronger adversary



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with nuclear weapons with which it had fought and lost a devastating war.

Pakistan demonstrated how nuclear weapons served effectively as a deterrent against a powerful neighbor when in 1999, a year after Pakistan's first nuclear test, India was forced to de-escalate a confrontation triggered by Pakistan's armed incursion into Indian-held Kashmir. North Korea also saw that the United States felt compelled to assist Pakistan with untold billions of dollars in military, economic, and other aid, including helping safeguard its nuclear arsenal, despite Pakistan's ongoing material support for the Taliban forces battling U.S. troops in Afghanistan. By joining the Nuclear Suppliers Group, Pakistan added a veneer of legitimacy to its status. Surely another draw for North Korea's leaders was the huge boost to Pakistan's prestige among developing nations and the upsurge of national pride once it demonstrated its nuclear status.

AND IF NORTH KOREA SUCCEEDS?

North Korea is no more likely to relinquish its nuclear leverage than is Pakistan. But is there at least some consolation in the hope that a nuclear North Korea might also resemble Pakistan as a relatively "normal" nation operating largely within the bounds of the international order? Or is it wishful thinking to suppose that a cult-like hereditary totalitarian dictatorship, whose foundational doctrine is to resist foreign influence and to gain control over the Korean Peninsula, might change its stripes? Would North Korea fundamentally change the character of its external behavior after its defiance of international law proved successful?

We can look to North Korea's history for clues. Its model has been to use the leverage of threats to extract "profits" from its neighbors by putting their security and wider regional stability at risk. As Sung-Yoon Lee, a leading Korea analyst from Tuft's Fletcher School of Law and Diplomacy, put it in congressional testimony, "for Pyongyang, it pays to provoke."¹⁵ Kim Il Sung seized the USS *Pueblo* and launched brazen assassination attempts against South Korea's president. Kim Jong Il began nuclear testing and later ordered the lethal torpedo that sunk the South Korean naval vessel Cheonan in 2010. Kim Jong Un's tenure already includes repeated nuclear tests, including a hydrogen bomb, multiple long-range ballistic missiles, ambushes along the demilitarized zone (DMZ), overseas assassinations using chemical weapons, and theatrical threats of nuclear annihilation against U.S. cities. The Kim dynasty has consistently exploited its neighbors' rational aversion to risk to command attention and extract concessions.

Pyongyang's approach is to raise tensions to a crescendo, then shift to a conciliatory tone with calls for compromise or dialogue. By exploiting the hopeful, often naïve, relief felt by publics and policymakers abroad, North Korea has repeatedly used the ensuing talks to obtain political and economic rewards: a process that North Korea expert Andrei Lankov once described as "milking the cow."¹⁶ Alas, these interludes of dialogue and restraint have always proved to be short lived, since the last stage of North Korea's pattern has been to escalate its demands and backtrack on promises until Pyongyang's negotiating partner balks or loses patience. Then follows a return to the provocation cycle—"rinse and repeat," as the saying goes.



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PERESTROIKA? NOT LIKELY.

Much has been made of the choice of venue for the second Kim-Trump Summit; Vietnam has been cited as role model for North Korean reform. But the Vietnamese system is an unlikely candidate for Kim Jong Un to emulate. Vietnam has a rotating, collective leadership that by North Korean authoritarian standards is a loosely run socialist ship. Vietnam's membership in the Association of Southeast Asian Nations (ASEAN), a political and economic association of friendly neighboring partners, is utterly alien to North Korea. And whereas Vietnam completed the conquest and absorption of its southern compatriots more than four decades ago, North Korea still has a long way to go.

The Kims have always prioritized regime security and absolute control. They have sought to ensure that food and material benefits were dispensed directly and exclusively by the state through a politically weighted system designed to reward loyalty. Beijing's repeated efforts to interest Kim Jong Il or his son in Chinese-style economic reforms went nowhere. Occasional North Korean experiments with carefully quarantined special economic zones also stalled due to political concerns.

North Korea has recently seen the emergence of some private enterprise, quasi-legal markets, and a class of relatively prosperous entrepreneurs, sparking hope in some quarters that reform may be imminent. But these developments are the product of simple necessity, not policy. The state distribution system collapsed with the end of Soviet aid, and gross mismanagement of the economy combined with sanctions forced citizens to fend for themselves or starve. Kim's father, Kim Jong Il, did his best to shut down

private markets, although with mixed success. The current North Korean regime has made a virtue of necessity by taxing these private transactions to compensate for state revenue lost as a result of sanctions. But allowing individuals to accrue wealth through private enterprise carries political risk, since it allows money, and therefore power, to flow beyond the control of the dictatorship. Who knows if Kim would roll back private enterprise if he could afford to, but he would gain that option once economic assistance began to flow.

Even if Pyongyang were to reach a deal freezing its nuclear and ICBM programs and creating economic opportunities and foreign investment, North Korea's pattern of leveraging threats for political and economic gain is unlikely to change. North Korea is surrounded and feels threatened by larger, stronger, wealthier nations. The first principle of North Korea's political doctrine, *juche*, is to avoid dependency and protect autonomy. The Kim dynasty rules as a repressive police state with a morbid fear of foreign influence and color revolutions. Just as the fate of Libyan leader Muammar Gaddafi showed Kim what happens to a regime that renounces its nuclear deterrent, the lessons of the Solidarity movement in Poland and the fate of Romania's Ceaușescu serve as a warning against liberalizing reforms and insidious foreign influence.

BUT "THIS TIME IS DIFFERENT"

The Trump administration claims that "this time is different" with North Korea. That may well be true, but unfortunately it does not work to America's advantage. What is different is that North Korea has become a more formidable adversary. One difference, as we have seen, is that Kim Jong Un is a millennial, a creature of the twenty-first



Kim’s willingness to admit failure and take risks and decisive action is a striking difference from the past. It is hard to argue that these characteristics will work in the West’s favor.



United States President Donald Trump and Supreme Leader of North Korea Kim Jong Un at the Hanoi Summit February 2019, Shealah Craighead, Official White House Photo, Flickr

century and the internet. He has no fear of flying. Whereas his father was a recluse, Kim Jong Un has shown a flair for international diplomacy and has handled himself adroitly on the world stage. Kim’s willingness to admit failure and to take risks and decisive action is a striking difference from the past. It is hard to argue that these characteristics will work in the West’s favor.

An even more adverse change is the completion of North Korea’s basic nuclear weapons development and delivery programs. Having successfully demonstrated both atomic and thermonuclear devices, North Korea has crossed the Rubicon. As Kim stated plainly in late 2017, his nation “finally realized the great historic cause of completing the state nuclear force.”¹⁷ North Korea is steadily enlarging its stockpile of bomb-grade uranium and plutonium. Its research and development continue unchecked. And while North Korea has not demonstrated that its nuclear warheads can survive reentry, defense planners must now operate on the assumption that they can. Former

U.S. Defense Secretary Jim Mattis publicly acknowledged that North Korean missiles can now “hit everywhere in the world.”¹⁸

FUTURE THREAT SCENARIOS

Nuclear bombs and ballistic missiles are formidable deterrents, but the imminent threat of their use would likely end the Kim dynasty. A return to “fire and fury” carries heavy risk for all parties, making an extension of the “freeze-for-freeze” status quo the likely path of least resistance. If Kim Jong Un is loath either to denuclearize or to resume provocative testing, what tools can he employ to regain asymmetric leverage and blunt sanctions, if not remove them? How can Kim extract benefits from the international community without either relinquishing his “nuclear sword” or brandishing it in a way that could prove dangerous to his regime?

Our primary clue is that North Korea’s principal export has long been threats: the threat posed by its troops massed along the DMZ, from massive artillery and rockets



The world is belatedly awakening to what may well be North Korea's new weapon of choice, cyber.

just 30 miles from Seoul, and more recently from nuclear weapons and ballistic missiles. There is no reason to expect Pyongyang's basic business model to change. But it is eminently plausible that Pyongyang might introduce some new product lines.

NUKES FOR SALE?

One option available to Kim is the threat of nuclear proliferation, playing on the fear that Pakistan's A.Q. Khan could be reincarnated as North Korea's "A.Q. Kim." In his January 2019 New Year's address, Kim volunteered, unprompted, that North Korea would not proliferate nuclear weapons. But rather than reassurance, this type of pledge can be read as a menacing reminder of what North Korea is capable of if "the U.S. stubbornly ... continues the policy of sanctions," as Kim went on to say.¹⁹ By publicly introducing the risk of proliferation, albeit while promising restraint, is Kim hinting where he may turn if sanctions relief is not forthcoming?

Proliferation, of both conventional arms and nuclear technology, has long been a source of revenue for North Korea. Over the years, it has developed a global network for conventional weapons and ballistic missile sales to countries throughout Africa, Asia, and the Middle East. In the early 2000s, North Korea began helping Syria's Bashar al-Assad with the design and construction of an illicit nuclear reactor, modeled on the graphite reactor in Yongbyon, to produce weapons-grade plutonium. The Al Kibar reactor famously was destroyed by an Israeli air raid in 2007 before it could begin operating. A UN report in 2012 alleged that North Korea had attempted to sell nuclear-related material to Syria.²⁰ The U.S. director of national intelligence's 2018 threat assessment report to Congress singled out the threat from

North Korea's proven willingness to proliferate dangerous technology.²¹

North Korea has privately brandished the threat of proliferation as leverage in past negotiations. Former U.S. negotiators report past efforts by their North Korean counterparts to trade nonproliferation pledges for concessions from the United States. In 2009, when then-Special Representative Steve Bosworth visited Pyongyang, the North Koreans made a direct threat. Complaining that U.S. sanctions prevented North Korea from providing its people with imported goods, Bosworth's counterpart warned that he might be unable to prevent "hard-liners" from proliferating nuclear material or technology to compensate for the effect of sanctions.²² Bosworth, like his predecessors, warned of dire but unspecified consequences for any act of proliferation, and there is no evidence that Pyongyang made an effort to proliferate. However, given North Korea's growing stockpile of uranium and plutonium, the threat to sell fissile material is even more plausible today than in the era when North Korea *only* had enough fissile material for two or three bombs.

CYBER... THE NEW WMD

The world is belatedly awakening to what may well be North Korea's new weapon of choice, cyber. The attractions of cyber theft and cyber terror to North Korea are considerable. Cyber attacks can be camouflaged to make attribution uncertain, particularly given the degree to which North Korean hackers are embedded in China or utilize Chinese servers. North Korea's primitive infrastructure, its national intranet system's disconnection from the World Wide Web, and a draconian regulation of communications technology all serve to shield it



Cyber allows North Korea to conduct low-intensity but damaging strikes against developed countries with highly computer-dependent infrastructure, with far lower risk of retaliation than nuclear or missile testing, let alone an armed attack.



from scrutiny and largely insulate it from cyber retaliation. Developing offensive cyber capabilities does not depend on procurement of difficult-to-obtain specialized equipment, nor is it particularly expensive. And unlike missiles and nukes, cyber is a revenue generator, not a cost center. Cyber allows North Korea to conduct low-intensity but damaging strikes against developed countries with highly computer-dependent infrastructure, with far lower risk of retaliation than nuclear or missile testing, let alone an armed attack.

North Korea's elite cyber force, under the control of its military and the Reconnaissance General Bureau, Kim's clandestine security apparatus, is composed of about 7,000 hackers, extensively trained in specialized domestic programs and, in some cases, trained also in Russia and China.²³ The regime speaks of its disruptive cyber capability in the same terms as its nuclear weapons and ballistic missiles, adding it to the list of Pyongyang's "all-purpose swords that guarantee our military's

capability to strike relentlessly," according to a report by the South Korean intelligence service.²⁴

North Korean offensive cyber activities seem to align around three apparent goals: first, intelligence collection; second, harassment, disruption, and retaliation; and third, revenue generation through cyber theft.

Intelligence: The cybersecurity firm CrowdStrike has documented frequent North Korean intrusions into government and military systems to steal sensitive information. North Korea hacked the smartphones of South Korean politicians and high-level military officers to intercept messages and phone calls. North Korean hackers in 2016 stole more than 40,000 defense documents including 60 classified files from contractors in South Korea that contained information on F-16 fighters and drones. North Korea is also believed to have stolen a PowerPoint summary of the U.S. military's top secret war plan "OPLAN 5027."²⁵



The regime is using cyber attacks to begin demonstrating a cyber war capacity that can destroy civilian infrastructure.

The fallacy in paying rent to put North Korea's nuclear program in remission is that the price will keep going up, and Pyongyang's extortionate business model will not change.

Harassment and Disruption: In retaliation for the unflattering comic portrayal of Kim in the movie *Interview*,²⁵ North Korean hackers inflicted significant damage to Sony Pictures in 2014. Other digital attacks include the serious disruption of hospitals in the United Kingdom along with ransom demands to some 300,000 users in 150 countries in the 2018 “WannaCry” episode. In 2013, during a major U.S.–South Korea military exercise and just days after the UN Security Council adopted new sanctions following North Korea’s third nuclear test, malware was used to disrupt South Korean banking and public broadcast networks. It took weeks for these systems to recover. Those attacks were followed by large-scale denial-of-service attacks against defector-led media, the South Korean presidential office and other government agencies, along with the deletion of large numbers of banking records. Officials estimate South Korea has incurred more than \$650 billion in damages from North Korean cyber attacks.²⁶

Cyber Theft: The private cybersecurity firm FireEye reports that North Korea is targeting financial institutions and cryptocurrency exchanges and manipulating interbank financial systems to raise large sums of money for the North Korean regime; estimates from South Korean monitoring groups range as high as USD \$1 billion per year.²⁷ The UN Panel of Experts recently reported to the Security Council that Pyongyang has used cyber theft to create a war chest of at least USD \$670 million including digital currency stolen from cryptocurrency exchanges in South Korea and elsewhere in Asia.²⁸ In February 2016, North Korean hackers netted USD \$81 million from the Bangladesh Central Bank by hacking the U.S.-based SWIFT system and, but for sloppy grammar, nearly

succeeded in stealing as much as USD \$1 billion. In 2017, the same North Korean hacking unit was implicated in the theft of USD \$60 million from a bank in Taiwan and tens of million more from India and Chile as recently as November 2018.²⁹ Other attacks have been documented in the United States, Southeast and South Asia, Eastern Europe, South America, and Africa.

The North Korean cyber threat is significant and evolving. North Korean defector reports assert that the regime is using cyber attacks to begin demonstrating a cyber war capacity that can destroy civilian infrastructure and inflict large-scale fatalities.³⁰ As one cybersecurity expert pointed out, “cyber warfare levels the global playing field in a way nuclear weapons can’t for North Korea. The risk-return calculation for hacking versus nukes is exponentially different.”³¹ The U.S. Department of Homeland Security and the Federal Bureau of Investigation revealed malicious attacks against infrastructure in the United States and 17 other countries by “Hidden Cobra,” the U.S. government’s code name for North Korean cyber attacks.³²

The data security company Rapid7, which publishes the National Exposure Index, rates the United States as the most vulnerable to disruptive cyber attacks in every index.³³ South Korea and Japan are not far behind. U.S. Director of National Intelligence Dan Coats has warned of the vulnerability of American infrastructure, which he described as “under attack.”³⁴ Vice President Michael Pence called for a “cyber security moonshot,” warning that adversaries are seeking to infiltrate and shut down American power stations and grids, citing a ransomware attack in 2018 that crippled public services in Atlanta, Georgia.³⁵



Diplomacy, even buttressed by threats and inducements, has proven insufficient as a tool to divert North Korea from its menacing strategy.

Pre-digital-era infrastructure facilities are often retrofitted with makeshift internet linkages that can easily be compromised. Moreover, 80 percent of America's critical infrastructure is privately owned,³⁶ and the cost of upgrading existing power plants, air traffic control facilities, rail systems, cell-phone networks, or dams is unattractive to business. As the internet of things pervades everyday life, particularly in the industrialized West, new interconnectivity provides new opportunities for malicious cyber attacks.

IMPLICATIONS

North Korea, even if it is not overtly testing and brandishing nuclear weapons, remains a threat. Even a verified halt to its nuclear and ballistic production is only a first step, given the size of its arsenal and fissile material stockpile. The fallacy in paying rent to put North Korea's nuclear program in remission is that the price will keep going up, and Pyongyang's extortionate business model will not change.

North Korea's emerging pattern of cyber thefts and attacks underscores that the problem is not simply its possession of nuclear weapons and the means of delivery. Denuclearization alone is inadequate to eliminate the North Korean threat, given the availability of new cyber weapons. The crux of the problem is North Korea's ability to threaten and coerce its neighbors with impunity, regardless of its weapon of choice.

WHAT ARE THE OPTIONS?

Each new U.S. administration has conducted internal reviews of its options. None has found easy answers or foolproof countermeasures. All have concluded that diplomacy is an essential ingredient. Every

administration since George H.W. Bush has opened channels of communication and, where possible, direct negotiations with North Korea. All have been convinced that negotiations must be the vehicle for setting the terms for any ultimate settlement. Diplomacy, even buttressed by threats and inducements, has proven insufficient as a tool to divert North Korea from its menacing strategy.

Security threats tend to invite hard power solutions. The Pentagon has developed plan after plan for military strikes, but successive presidents have set each aside. An attack aimed at destroying North Korea's nuclear facility and/or its command and control network would entail unfathomable risk to civilian populations in the region and perhaps to American cities as well. The paranoid Kim regime has had abundant opportunity to plan for a doomsday scenario.

Regime change is another dangerously unworkable option. The United States does not have the tools necessary to overthrow the Kim dynasty. Such an effort would face tremendous opposition from the Chinese, Russian, and South Korean governments. Even if Kim Jong Un were somehow unseated, history shows us there is little reason to think a successor regime would be an improvement.

At the other end of the spectrum is the option of reconciling ourselves to the unhappy reality that denuclearization is at best a distant goal and choosing to accommodate North Korea's demands for sanctions relief and foreign investment. The theory here holds that North Korean behavior and society can be transformed through assistance and economic engagement and the accompanying flood



Extended tolerance of a mature nuclear program, even if it is frozen, ultimately amounts to de facto acceptance of North Korea's nuclear status and leads to incremental normalization of its international standing.

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of outside information. Some argue, not unreasonably, that Kim is young and recognizes the importance of economic development to retain power throughout his lifetime. Others reason that this approach would make a virtue of necessity, given the reality of North Korea's arsenal, the unlikelihood of North Korea relinquishing it, and the belief that its leaders are not suicidal, that they would not precipitate a regime-ending nuclear war. That calculation is joined with the hope that a relaxation in tensions and sanctions, in tandem with warming relations between North Korea and the international community, might set the country on a more responsible and conciliatory path.

The Obama administration actually explored such an option, playfully nicknamed the "Big Mac Attack" after the fast-food chain that this scenario envisioned springing up in the North. The approach posited removing all barriers to trade with North Korea, normalizing diplomatic relations, beginning peace treaty negotiations, and opening U.S. doors to travel and commerce with the North. But then as now, it was clear that the long-term effects would be uncertain at best, while in the short term such a gamble would provide Kim with fresh resources to allocate to his military and security services, offering little hope of reform but substantial risk.

A variant form of accommodation is the "freeze-for-freeze" standoff in which neither side escalates or makes major concessions while negotiators explore confidence-building measures and debate the issues. But the problem with this approach is that extended tolerance of a mature nuclear program, even if it is frozen, ultimately amounts to de facto acceptance of North Korea's nuclear status and leads to

incremental normalization of its international standing. Such an outcome invites a breakdown in the nonproliferation regime and raises the credible specter of wider nuclear breakout as other countries follow suit. It is easy to imagine a future South Korean government deciding that the North cannot be the only Korea with nuclear weapons, particularly given new uncertainties in America's commitment to defending allies. But it is hard to imagine Japan, faced with two nuclear Koreas and the same uncertainties about the United States, remaining wedded to a nonnuclear defense. Thus, a freeze, while preferable to "fire and fury," will not achieve regional stability or stem North Korea's pattern of threatening behavior.

COERCIVE CONTAINMENT

Barring a miracle, what remains after discarding the hardest and softest policy options is a coercive containment strategy of denial and attrition that blocks Pyongyang from getting what it needs from the international community. This means more than simply defending against a nuclear North Korea. If complying with international law is the last thing that North Korea wants to do, then a coercive containment strategy should make compliance the last and only thing that North Korea can do to maintain regime survival.

The logic is straightforward. Preventing North Korea from profiting from nuclear extortion and criminal activities is a prerequisite to getting it to abandon those activities. Even a totalitarian dictator must deliver some measure of economic performance, and Kim has made big public promises of prosperity. And impeding North Korea's ability to successfully strike the United States or its allies with nuclear and cyber weapons,



What will matter most in stemming North Korea's threats and altering its behavior will be restoring and enlarging cooperation between the United States and China.

either through countervailing defense measures or credible deterrence, will reduce North Korea's leverage and its options.

Skeptics argue that economic sanctions have been tried and failed, but that simply is not true. The ramping up of international sanctions in response to North Korea's nuclear demonstrations was painfully slow, and enforcement of those sanctions was spotty at best. North Korea's economy is overwhelmingly dependent on China, and it is no accident that Kim Jong Un offered an olive branch and announced a freeze in early 2018, mere months after China finally agreed to impose sectoral sanctions and began enforcing them. The application of well-enforced economic sanctions has not yet been tried for any sustained period, and the alacrity with which Kim reversed course is an encouraging indicator that they can indeed have an effect.

Defense and deterrence are similarly important components of a strategy to undercut North Korea's ability to use blackmail. To be effective, they require resources, resolve, clarity, and credibility. If U.S. missile defense systems can reduce North Korea's chances of a successful strike, the threat value of its missiles is diminished. If an explicit U.S. declaratory policy plus a collaborative international intelligence network can reduce North Korea's chances of covertly transferring fissile material, the threat of nuclear proliferation is diminished. And if enhanced cyber defense can be combined with denial of access to servers outside North Korea, the threat from its

cyber attacks and thefts is diminished.

What will matter most in stemming North Korea's threats and altering its behavior will be restoring and enlarging cooperation between the United States and China. Meaningful pressure can only be brought to bear on North Korea with the active support of China. China cannot be expected to apply significant pressure on North Korea without significant trust in the United States, confidence in a shared approach, and mutual agreement on an overall strategy for the Korean Peninsula, if not Northeast Asia as a whole. At the same time, solidarity and coordination between Washington and its allies in Seoul and Tokyo will also be necessary to forge and implement a coercive containment strategy.

Thus, the three interrelated components of an effective strategy of coercive containment will be diplomacy, defense, and deterrence. The fact that these are not new policy elements does not discredit the strategy; it simply underscores the importance of getting each right. Diplomacy is the tool for forging the shared strategic approach that presents North Korea with both seamless international unity and a path toward resolution. Defense is a tool to blunt North Korea's ability to use its weapons, including cyber, and therefore reduce Pyongyang's leverage. And deterrence is a tool for preventing escalation and managing risk. As daunting as the requirements of coercive containment may seem at the present time, the alternatives, war and appeasement, leave us no better choice.

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