

North Korea on the Brink

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North Korea's (DPRK) five-day outburst of nuclear and ballistic missile testing offers further evidence of its ability to threaten the stability of the Korean Peninsula and the security of U.S. friends and allies in East Asia. In just one week in late May, Pyongyang conducted one nuclear and six ballistic missile tests, defying the United Nations Security Council Resolution 1718 prohibiting nuclear and missile testing. The situation grows more worrisome as the provocations show little sign of abating. Preparations for a Taepodong-2 intercontinental ballistic missile (ICBM) test are underway, possibly aimed toward Hawaii¹ and the DPRK also warned of "thousand fold" military retaliation against the U.S. and its allies if "provoked."² The ominous warnings emanating from Pyongyang followed President Barack Obama's call for a global and regional "strategic alliance" to contain the "grave threat" posed by North Korea's ambitions.³

Testing commenced on Memorial Day with an underground nuclear detonation followed hours later by three short-range ballistic missile (SRBM) launches. Director of National Intelligence Dennis Blair concluded the nuclear blast's explosion yield was "approximately a few kilotons"⁴ or significantly more powerful than the DPRK's initial nuclear test in October 2006. On May 26, Pyongyang fired two more SRBMs as the UN Security Council convened and a final missile three days later while the regime officially abrogated the Korean War armistice. The brazen spate of testing adds to a sordid record. North Korea conducted Taepodong-2 tests in April 2009 and July 2006⁵ and, of course, dramatically withdrew from the Nuclear Nonproliferation Treaty (NPT) in October 2006.⁶

The U.S. remains rightly focused on constraining North Korea's nuclear capabilities and the prospects for sharing knowledge and technology with others. Following the tests, Defense Secretary Robert Gates said, "The transfer of nuclear weapons or materials by North Korea to states or non-state actors would be considered a grave threat to the United States."⁷ One should not forget the North's rapidly maturing missile program while examining the nuclear question. Both represent clear dangers for the U.S. and other nations. The nuclear program, however, requires reliable and effective missiles to deliver warheads to the target. Its missile capabilities have immensely improved in recent years. A robust SRBM arsenal permits the DPRK to strike anywhere on the Korean Peninsula. The No Dong medium range ballistic missile (MRBM) can strike out to 1300 km. The aforementioned Taepodong-2's potential range puts the U.S. homeland in jeopardy. Kim Jong Il's engineers hope to convert the ICBM to solid fueled propulsion and successfully complete all three stage separations to minimize launch time and maximize range.⁸

Pyongyang's proliferation activities create opportunities to threaten the U.S. without firing a shot. The North could surreptitiously strike the U.S. homeland by sharing missile technology with terrorist groups. Armed by North Korea, Al-Qaeda could employ a ship-borne missile attack concealing its patron's involvement. The so-called "ship-borne SCUD threat"⁹ received attention after the Rumsfeld Commission

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highlighted its potential in 1998.¹⁰ A rogue state or terrorist organization could anchor an ordinary container ship off the U.S. coast, fire a missile, and scuttle the ship, thus removing an adversary's fingerprints from the crime scene.

How can the United States damage, deter, or defeat Kim Jong Il's missile program? We must implement a comprehensive strategy that (1) neutralizes the North's indigenous missile building capabilities, (2) impedes proliferation networks, and (3) offers credible response options should missile testing continue or in the event of an attack. Future strategies must recognize Pyongyang's misbehavior consistently undermines international negotiations and therefore conceptualize the problem in terms of "threat reduction" rather than praying for a negotiated breakthrough.¹¹ Enforcing severe economic sanctions and strengthening nonproliferation regimes hinder both the DPRK's internal missile development and the selling of its technology abroad to help fund the program. Layered missile defense capabilities and preemptive strikes offer credible options if Kim Jong Il's government follows through on its promises to carry on with missile testing and possibly initiate attacks. Each component of the overall threat reduction strategy has advantages and disadvantages, meaning the U.S. cannot rely on one measure alone.

Sanctions

An indigenous missile program requires an industrial base to producing increasing numbers of more sophisticated missiles. Effective economic sanctions diminish the North's capacity to build missiles and force increasing reliance on outside parties to sell it critical technology. The U.N. Security Council passed new sanctions on June 12.¹² Resolution 1874 instructs member states to sever financial ties with the DPRK unrelated to humanitarian efforts. The resolution also "calls on United Nations members to search North Korean ships, with the crews' consent, if there are 'reasonable grounds' to suspect that banned cargo is

aboard. If the crew does not accept inspection on the high seas, North Korea is to direct the vessel to a port for inspection by local authorities."¹³ The first test of the new sanctions regime is already taking place as an American Navy destroyer continues to shadow a North Korean freighter suspected of carrying illicit cargo to Myanmar.¹⁴

The new Security Council measures are harsher than previous sanctions, which were vaguely worded and all but ignored by China.¹⁵ More important, there is little appetite among the U.S., China, Russia, South Korea, and Japan to entice North Korea back into negotiations by offering carrots instead wielding sticks. Rewards for participating in Six Party talks were funneled into the North's nuclear and missile programs.

There is tremendous debate regarding the effectiveness of sanctions. Do they truly change undesirable behavior or merely punish ordinary citizens for their leaders' misdeeds? With regard to North Korea, most experts agree that sanctions enacted in 2006 did little, mostly because of Chinese refusal to comply.¹⁶ Economist Marcus Noland concluded their impact was "trivial to the point of being undetectable."¹⁷ Some argue, however, that the threat of sanctions might be more effective than their actual imposition.¹⁸ Once sanctions are imposed they lose their deterrent value, sanctioning countries lose some diplomatic leverage, and affected nations begin scheming ways to undermine the sanctions. In this case, sanctions might be worth pursuing, in part, because the international community views them as punishment rather than a means to restart negotiations. There is no diplomatic leverage lost because the goal is strangling the DPRK's economy instead of resuscitating the Six Party talks.

The fate of Resolution 1874 rests with both international will to clamp down forcefully on North Korean proliferation and how closely the Chinese follow the agreement. Beijing may be the only country that can exert internal pressure on Kim Jong Il's government to back

off missile development and testing. As noted, China holds substantial leverage over North Korea because it accounts for nearly three-quarters of North Korea's trade. China also provides 90 percent of the North's fuel, almost all of its food aid, tolerates many illegal North Korean financial activities on its soil, and traditionally advocates for weakening UN sanctions against Pyongyang.¹⁹

With China's cooperation, even if sanctions fail they might engender closer relations among participating states, particularly those in the Six Party talks. But the failure of previous sanctions tempers optimistic assumptions that sanctions can significantly diminish North Korea's ability to build and sell missiles. Nonproliferation organizations must be part of the solution.

Missile Technology Control Regime (MTCR)

Sanctions can be augmented by strengthening the Missile Technology Control Regime (MTCR). Pyongyang must ultimately be able to afford its missile program and either develop or import the necessary technology to build sophisticated missiles. A major source of the regime's revenue comes from selling missiles like the No Dong and associated technology to countries and terrorist organizations such as Iran and Hezbollah.²⁰ Nonproliferation efforts will help shut down this lucrative source of revenue and keep North Korea from acquiring valuable components.

The MTCR is an informal and voluntary organization of 34 countries (including Russia, but not China) formed by the Group of Seven industrial powers in 1987. Members agree to common guidelines restricting exports of missiles and related technologies capable of flying more than 300 kilometers and carrying more than a 500 kilogram payload. The numbers are not arbitrary; 300 kilometers is the minimum distance required for a strategic strike and 500 kilograms is the minimum weight for a first-generation nuclear warhead.²¹ While the MTCR

has stopped or delayed some missile programs, its effectiveness is limited because membership is voluntary, there are no verification or enforcement mechanisms, and existing ballistic missile arsenals are not covered.²²

Sharpening the MTCR's dull teeth may make it more difficult for North Korea to obtain sophisticated technologies and enhance the credibility of missile defenses and other deterrence measures. In subsequent MTCR agreements, members should include as many missile countermeasures or "penetration aids" as possible among the list of banned exports. Currently, only penetration aids integral to reentry vehicles are banned. Penetration aids such as decoys help attacking missiles evade defenses by confusing tracking and interceptor systems. The countermeasures render defenses less credible and thus potentially encourage attackers to risk strikes and defending nations to strike preemptively.²³ The trade in penetration aids also enhances North Korea's proliferation efforts because they make ballistic missiles more attractive to potential buyers.

While some may push for increased verification and enforcement mechanisms, such measures may actually discourage important countries such as China from joining the agreement. Former U.S. nonproliferation official Richard Speier, who helped craft the original MTCR, says the U.S. must, first and foremost, demonstrate the political will to crack down on proliferators before adding verification and enforcement provisions that may complicate diplomatic relations.²⁴ The case of American officials successfully pressuring the Argentine government to dismantle the Condor II ballistic missile program in the late 1980s exemplifies the high-level political will necessary to disrupt proliferation networks. Then-President George H.W. Bush warned then-Argentina President Carlos Menem that the U.S. would cut off foreign aid to Buenos Aires if the program continued.²⁵ If U.S. leaders continue to selectively enforce MTCR provisions, as they have done on numerous occasions in the past,

then new verification and enforcement procedures will lack credibility.

The MTCR could be an important tool for fighting proliferation, particularly if high-level U.S. leaders vigorously enforce existing provisions, penetration aids are blacklisted, and non-MTCR countries possessing advanced missile technology sign up. Yet we must assume some known proliferators will remain outside the MTCR and unscrupulous members might cheat. A comprehensive nonproliferation strategy requires some authority to, say, stop a ship suspected of carrying missile components to become credible.

Proliferation Security Initiative (PSI)

One answer to the enforcement problem might be the Proliferation Security Initiative (PSI), an effort begun by the United States in 2003 to interdict shipments of weapons of mass destruction (WMD) and missiles and technologies used to deliver WMD payloads. In line with its flexible and dynamic design, PSI is often described as an “activity not an organization.”²⁶ According to the State Department, 95 countries on six continents are participating. Participants perform cargo interdictions at sea, in the air, or on land of all vessels “reasonably suspected” of carrying banned cargo when passing through national territory. Interdictions occurring in international waters or airspace are constrained by international law. PSI’s goal is two-fold: to increase the risk and cost for proliferators and to dissuade others from pursuing weapons in the first place.²⁷ The initiative has proved successful on many occasions since its launch: in June 2006, former Undersecretary of Defense Robert Joseph claimed the U.S. and its partners prevented transfers in roughly two dozen instances in 2005-2006.²⁸

If the U.S. convinces Indonesia, Malaysia, India, Pakistan, and especially China to join, then PSI will become more effective. A recent RAND study conducted for the Department of Defense suggests several ways that the U.S.

might change each country’s cost-benefit calculations.²⁹ Regarding China, the authors suggest conveying to China the consistency between PSI’s principles and protecting the right of genuinely innocent passage of vessels. Since Beijing has already placed three major ports under PSI purview, extending authority to cover all ports is a large but not inconceivable step.³⁰

Some PSI critics assert the initiative is weakened by its decentralized structure and lack of specific international mandate forcing cooperation.³¹ The U.S. might remedy these problems by organizing a central intelligence clearinghouse instead of sharing information on an ad-hoc basis.³² International law prevents the U.S. from stopping suspicious ships unless authorized by the “flag state” or country to which the ship is registered. The U.S. should continue bilateral efforts to obtain shipboarding agreements receiving authority to unilaterally search suspicious ships.

The PSI’s “activity not an organization” philosophy is a positive direction for nonproliferation efforts to head. The initiative eschews the bureaucratic nature of other arms control agreements that stifle enforcement efforts. Yet there are still complicated questions of international law that must be resolved before PSI can reach its full potential. The growing membership must also ensure PSI’s decentralized structure does not ultimately impede efforts to share intelligence. U.S. leadership is needed to structure the intelligence gathering and dissemination institutions critical to PSI’s success.

Neither sanctions nor any nonproliferation organization can help if Pyongyang puts more sophisticated missiles on the launch pad. Missile defense and preemptive strike options are needed to respond if the U.S. decides further North Korean missile tests are unacceptable or in the event of an attack.

Missile Defense

Missile defense provides a credible option against limited North Korean missile attacks if conventional deterrence fails. Before Pyong-

yang's April 2009 Taepodong-2 test, the head of U.S. Pacific Command Admiral Timothy Keating said the American missile defense forces were prepared to shoot down any North Korean missile on the order of the President.³⁵

How could the U.S. and its allies construct a comprehensive network of missile defenses that isolate North Korea? Henry Sokolski recommends persuading "like-minded states with missile defenses that they should develop a much more reliable capability to shoot down nuclear-capable missiles fired by Nuclear Non-proliferation Treaty (NPT)-violating states."³⁴ Improving regional defenses will strengthen the NPT by providing violators like North Korea "real incentive to come back into compliance."³⁵ Sokolski notes that the U.S., Russia, South Korea, and Japan lack a reliable capability to destroy a North Korean missile during the boost and ascent phases. It is profitable to explore options to destroy missiles right after launch because they are easily detectable, move slowly, and have yet to deploy countermeasures.³⁶ Rather than concentrate on fixed terminal or area defenses, many thoughtful missile defense experts such as Theodore Postol envision airborne defenses to destroy missiles before they leave the DPRK's airspace. Unmanned Aerial Vehicles (UAVs) such as the Predator drone would be deployed around the Korean Peninsula linked to sensor and battle management systems. Postol writes, "The defense would have fast accelerating interceptors that could home in on and destroy the large, slow and fragile ICBMs" and that only five drones could conceivably maintain a continuous patrol of Korean Peninsula airspace for extended time periods.³⁷

Beyond strengthening regional capabilities against short and medium range threats, the U.S. must further develop its Ground-based Midcourse Defense (GMD) to protect against long-range missile attacks. Currently, ground-based interceptors (GBIs) are stationed in Alaska and California. Radar and tracking assets guide GBIs toward the target before the interceptors' "kill vehicles" use kinetic energy

to destroy incoming missiles in the midcourse phase of flight.³⁸

The Obama Administration's budget proposal signals it will reverse plans to increase GBI numbers from 30 to 44 by 2011. Vice Chairman of the Joint Chiefs of Staff General James Cartwright told the Senate Armed Services Committee that the Pentagon's original estimate that 44 interceptors were necessary to destroy a 15 missile North Korean salvo was based on older national radar and terminal defense capabilities that have since improved. Cartwright argued the U.S. is in a "different environment" vis-à-vis a limited North Korean threat because "as we have developed first the terminal capability with THAAD [Terminal High-Altitude Area Defense], Patriot [Patriot Advanced Capability-3], and SM-3 [Standard Missile-3], it has taken some of the stress off of the midcourse."³⁹ He added the precision provided by the newest Sea-Based X-Band radar (SBX) allows the U.S. to destroy more missiles using fewer interceptors.⁴⁰ Taking the long-range threat seriously means using the best technology available to track and learn from the North's Taepodong tests. It seems ironic that General Cartwright mentioned SBX's utility for tracking North Korean missiles because Secretary Gates unfortunately chose not to employ SBX to track the April Taepodong test. Former Missile Defense Agency (MDA) head LTG Henry Obering said the SBX is three or four more times more powerful than other tracking assets in the region including radar aboard Aegis submarines, the Cobra Dane radar in Alaska, and X-band systems in Japan.⁴¹ Neglecting to use the Pentagon's most powerful sea-based radar precluded analysts from "collecting finely detailed launch data or testing the radar in real-time crisis."⁴² Defense Secretary Gates, fortunately, ordered the SBX deployed off Hawaii to monitor North Korea's planned Taepodong-2 test that might be headed toward the American archipelago.⁴³

While the Obama Administration's defense budget request is skeptical regarding GMD, it

proposes new emphasis on ascent phase missile defense systems. The Aegis Ballistic Missile Defense (BMD) is one system possessing ascent phase interception capabilities.⁴⁴ The 16 Aegis BMD combatants in the Pacific Fleet use the Standard Missile-3 to defeat short and intermediate range missiles. Congressional confidence in Aegis BMD is high — the President requested nearly \$689 million for its budget in Fiscal Year 2010, a 58% increase over last fiscal year's appropriations⁴⁵ — and popular with regional allies such as Japan.⁴⁶

Missile defenses are clearly an integral part of deterring and defeating North Korea's missile program, despite the lively debate concerning which systems are cost-effective, geopolitically practical, and technologically feasible. Pyongyang's plans to test fire a Taepodong toward Hawaii must ensure that no system is deigned "off-the-table." Missile defenses work best when they are "layered" and interception attempts occur at all phases of flight, taking pressure off one system to function perfectly.

Preemption

What other options besides missile defense remain if the President decides the upcoming Taepodong test is unacceptable? A preemptive strike would destroy it on its launch pad. In 2006, current Under Secretary of Defense-designee Ashton Carter and former Defense Secretary William Perry recommended obliterating a Taepodong-2 using a submarine launched cruise missile carrying a high-explosive warhead.⁴⁷ Relying on preemption in the absence of missile defense is a dangerous strategy. Preemption assumes Kim Jong Il's notoriously erratic regime would respond to a strike in a "rational" manner by de-escalating its provocations. Such assumptions, however, place great faith in Pyongyang's rationality without examining the negative consequences that could arise from aggressive American action. As its recent statements indicate, North Korea

might respond forcefully to American preemption by firing on South Korea, Japan, and other targets. It could invade the South, thus committing the United States to a land war as North Korean forces engage American troops stationed along the Demilitarized Zone (DMZ). Given the world's reaction to America's intervention in Iraq, it is difficult to argue that our friends and allies in the region would welcome preemption. Perry and Carter admit that South Korea would probably vociferously oppose any preemptive action because it might receive retaliatory strikes. Clearly, preemption is a risky strategy; such aggressive actions should be considered only if a missile launch is deemed intolerable and we lack confidence in current missile defenses to shoot it down.

Conclusion

Since surprising and alarming the world with its first Taepodong test in 1998, Pyongyang has demonstrated a frustrating ability to squeeze concessions out of the U.S. and its friends and allies in East Asia while continuously progressing toward marrying a nuclear warhead with a sophisticated long-range ballistic missile. The U.S. must consider its options for denying the DPRK further access to advanced missile technology and defeating its current arsenal.

Containing North Korea's missile program requires a comprehensive threat reduction strategy given Pyongyang's repeated misbehavior. Tough sanctions and nonproliferation regimes can damage the North's ability to build missiles and profit from their sale. PSI's focus on enforcement should be the model for future nonproliferation strategies. A layered missile defense system, in partnership with regional allies, must form the core of efforts to deter and defeat missile tests and attacks. Preemptive strikes are tools of last resort. A strategy encompassing these prescriptions — recognizing each one's limitations — might convince Pyongyang to quit buying and selling missiles and end its development program.

Notes

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13. Choe Sang-Hun, "Test Looms as U.S. Tracks North Korean Ship," *New York Times*, June 22, 2009, www.nytimes.com/2009/06/22/world/.../22korea.html.
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16. A comprehensive review is documented in Marcus Noland, "The (Non-) Impact of UN Sanctions on North Korea," *Asia Power*, Vol. 7, January 2009, <http://www.nbr.org/publications/element.aspx?id=6125cfbc-e55f-461b-b55d-d44f58ebfe6c>.

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36. Ibid.
37. Theodore Postol, "Defensible Missile Defense," *New York Times*, March 12, 2009, http://www.nytimes.com/2009/03/12/opinion/12postol.html?_r=2.
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