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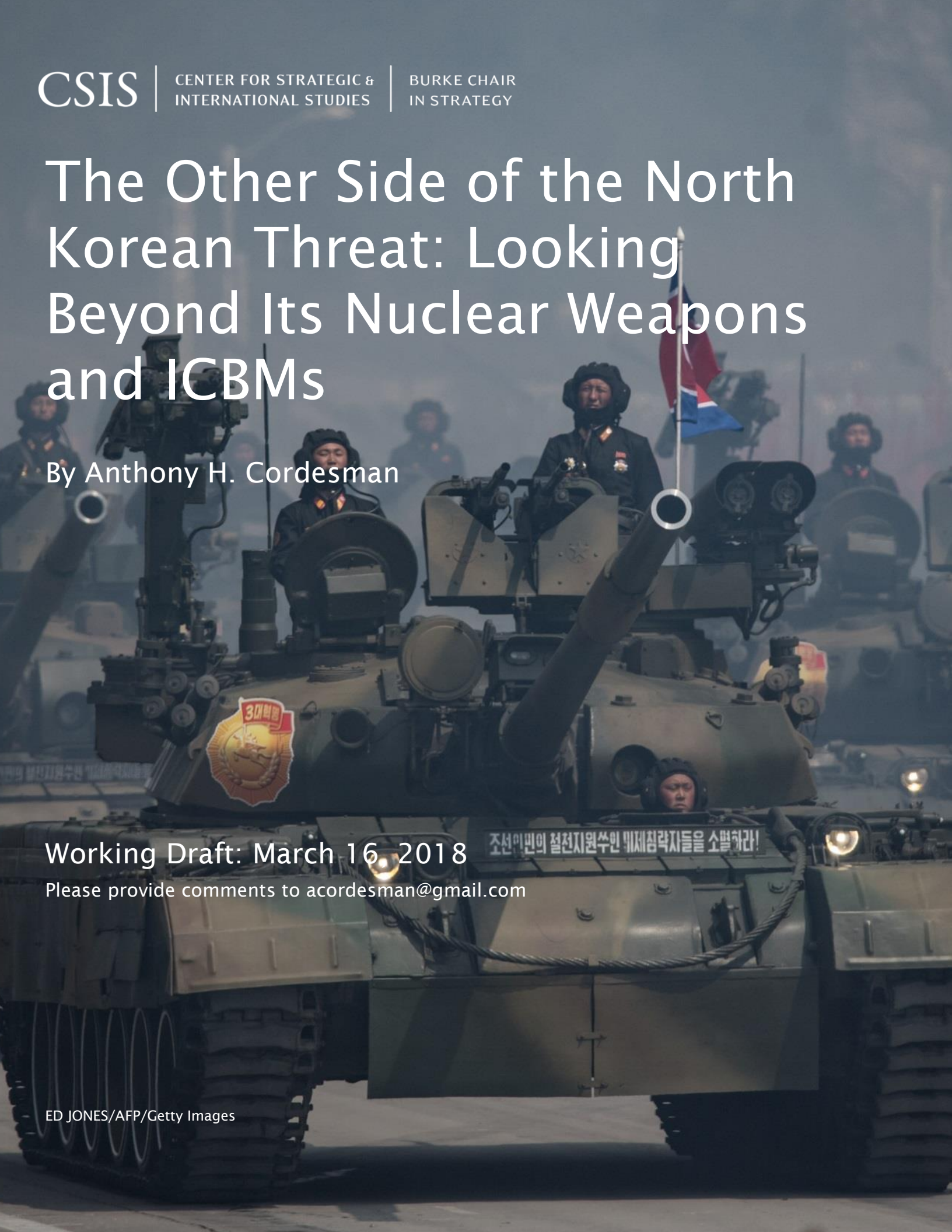
The Other Side of the North Korean Threat: Looking Beyond Its Nuclear Weapons and ICBMs

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Working Draft: March 16, 2018

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Anthony H. Cordesman

The United States, South Korea, Japan—and every other state affected by the stability and security of Northeast Asia—has a strong incentive to find a way to end North Korea's nuclear threat and its development and deployment of ICBMs. At the same time, no one can afford to forget that North Korea poses a much wider range of threats from its conventional forces and shorter-range missiles—particularly as it develops ballistic and cruise missiles with precision strike capabilities.

U.S. diplomacy and strategy cannot afford to focus solely on nuclear weapons, particularly when North Korea has the option of developing biological weapons with the same lethality as nuclear weapons. The U.S. cannot afford to ignore the conventional threat that North Korea poses to South Korea—a threat that could inflict massive casualties on South Korean civilians as well as create a level of conventional war that could devastate the South Korean economy.

North Korea's Militarization of an Economically Crippled State

North Korea is the most militarized country in the world relative to its small gross domestic product (GDP). Any such estimates of North Korea's GDP are highly uncertain because North Korea does not report any meaningful statistics on its economy or military spending. However, the CIA estimates that North Korea has an extraordinarily small GDP for a state with such large military forces: some \$40 billion in 2015 in purchasing power parity (PPP) terms, and \$28 billion in 2013 in official exchange rate terms—by far the most relevant measure of economic strength in terms of the size of a modern economy. Its per capita income for a population of 25.2 million was only \$1,700 in 2015.

In contrast, the CIA estimates that South Korea had a GDP of \$2,027 billion in 2017 in purchasing power parity (PPP) terms (over 50 times the most recent figure reported for North Korea), and \$1,530 billion in official exchange rate terms (55 times that of North Korea). The CIA also estimates that South Korea has a GDP per capita of \$39,400 in 2017, for a population of 51.2 million. This is twenty-three times the most recent figure the CIA reports for North Korea.

There is no way to put North Korea's military spending in perspective relative to the size of its economy or the level of spending in South Korea. There are no reliable estimates of North Korean military spending. The International Institute for Strategic Studies (IISS) and the Stockholm International Peace Research Institute (SIPRI)—the usual sources for comparable data—do not report any figures for North Korea.

South Korea does report its military spending publicly, however, and the IISS reports a figure of \$35.7 billion in 2017. This is only 2.3% of South Korea's GDP, but its roughly equal to North Korea's entire GDP in PPP terms by CIA estimates, and much larger than North Korea's GDP using the more relevant official exchange rate metric.

Massive North Korean Theater and Conventional Forces Despite Economic Weakness

It is, however, possible to compare the size of North Korea's military forces to those of South Korea using the data from the 2018 edition of the IISS *Military Balance*—widely considered to be the most reliable open source estimate. These comparisons are shown in **Figure One** below, and

they raise critical questions about the various estimates of North Korea's GDP and the need for credible estimates of the cost of its military efforts. Put simply, it is not clear how North Korea can generate forces so large with an economy the size of the CIA estimates.

One possible answer, however, lies in the slow rate of modernization in North Korea's forces. Aside from its ICBMs and MRBMs, most of its missiles are based on Soviet designs that date back decades to the Cold War. Its tanks are all mixes of T-34/T-54/T-55/T-62/Type-59/Chonma/Pokpoongs—largely obsolete or obsolescent main battle tanks and obsolete PT-76 light tanks. Its other armored vehicles are large personnel carriers, rather than fighting vehicles, and while its artillery and artillery rockets are effective, its forces have limited numbers of self-propelled systems.

North Korea does have significant asymmetric naval forces, special forces elements, and relatively modern submarines. However, its surface navy is also aging, and highly dependent on the SS-N-2 anti-ship missile—a system that has been significantly upgraded over time, but was developed in the 1960s. Its larger Romeo submarines date back to the 1950s.

North Korea's bombers are obsolete IL-28 Beagles which first flew in 1948, and were withdrawn from Russian service in 1980. North Korea has no real advanced modern fighters and half of its combat strength consists of MiG-15s, MiG-17s, and MiG-19s. It relies heavily on aging MiG-23s and MiG-21bis aircraft, and its most advanced fighters are 18 export versions of the MiG-29. Its only "modern" attack aircraft consists of 34 Su-25s—an inferior and dated version of the U.S. A-10. Its surface-to-air missiles consist largely of 38 obsolescent S-200s (SA-5s), 179 Cold War-era SA-2 and 133 Cold War-era SA-3s.

The sheer mass of this force, its readiness, and the proximity of significant elements to the DMZ boundary of South Korea still make it extremely dangerous, as do the capabilities of its large asymmetric forces, but South Korea has far more modern land, naval, and air forces.

(For a detailed assessment of the North Korean and South Korean balance see Anthony H. Cordesman with the assistance of Charles Ayers, *The Military Balance in the Koreas and Northeast Asia*, 2017, CSIS, <https://www.csis.org/analysis/web-book-military-balance-koreas-and-northeast-asia>.)

The Strategic Importance of Theater and Non-Nuclear Threats, and the Unique Vulnerabilities of South Korea's Civil Sector

At the same time, **Figure One** reveals three critical aspects of the strategic balance that are all too easy to ignore as long as the U.S. focuses on North Korea's nuclear and ICBM forces. First, **Figure One** shows that South Korea and Japan are critical U.S. allies and strategic partners both in limiting China's ability to dominate Asia and establishing a stable balance of security in the region. South Korea and Japan also are critical trading partners and play a critical role in meeting the needs of the U.S. domestic economy. No U.S. negotiation with North Korea can afford to ignore South Korea and Japan's national security needs.

Second, the U.S. must pay as much attention to the vulnerabilities of its strategic partners as to its own vulnerabilities. The U.S. cannot ask Japan to support it in defending South Korea or dealing with China and ignore this fact.

Third, The U.S. cannot ignore the special vulnerabilities of South Korea's civil population which are shaped by a high population concentrated in urban areas with only limited dispersal

capability, a capital and key economic center near the DMZ and within artillery and rocket range of massive and sheltered North Korean fire capabilities, and a high dependence on the continuous functioning of its major ports and infrastructure. These vulnerabilities have been addressed in detailed testimony to Congress in a separate Burke Chair analysis entitled *South Korea's Civilian Vulnerabilities in War*, which is available on the CSIS web site at <https://www.csis.org/analysis/more-nuclear-threat-north-koreas-chemical-biological-and-conventional-weapons>.

The Special Importance of Biological Threats

Even if North Korea fully ends its nuclear weapons efforts, it has made significant progress in two areas which offer potential substitutes. One is biotechnology—creating the capability to deploy genetically engineered weapons with lethality potentially equal to those of nuclear weapons.

These risks have also been addressed in detailed testimony to Congress in a separate Burke Chair analysis—entitled *More Than a Nuclear Threat: North Korea's Chemical, Biological and Conventional Weapons*, which is available on the CSIS web site at <https://www.csis.org/analysis/more-nuclear-threat-north-koreas-chemical-biological-and-conventional-weapons>. This analysis describes significant North Korean progress in the ability to develop and deploy genetically engineered biological weapons. South Korea and the United States cannot ignore the possibility that North Korea could covertly substitute one type of weapon of mass destruction for another.

Precision-Guided Missiles and Weapons of Mass Effectiveness

North Korea's final option is to develop a mix of precision guided ballistic and cruise missiles, and conventionally armed unmanned aerial combat vehicles (UCAVs) that would allow it to carry out highly effective precision strikes on South Korea's key military facilities and critical infrastructure. As the U.S. demonstrated in using similar systems to attack Iraq's force and infrastructure in 1991 and 2003, such systems are far more lethal than using missiles to attack area targets like cities or major military bases. They can become "weapons of mass effectiveness."

As long as North Korea has such systems in development and deployment, South Korea (and Japan) will need theater missile and air defenses that can counter them. Missile defenses cannot be casually traded away for North Korean concession on nuclear weapons. Similarly, the progress that North Korea is making in developing and deploying its own ballistic and cruise missiles must continue. It must be clear to North Korea that South Korea can cripple its military forces and a far smaller and more vulnerable critical infrastructure if it should attempt such attacks, or try to use the possession of such systems as a threat to South Korea and a counter to its air superiority.

Figure One: Northeast Asia Balance in 2018

	North Korea	South Korea	Japan	China
Strategic Forces - Total^d				
Personnel	20,000	0	0	
Nuclear Weapons	8-24	0	0	270+
Deployed	-	0	0	270?
Stockpiled	8-24?	0	0	?
Retired	-	0	0	NA
ICBMs	6+	0	0	70
IRBM	12	0	0	16
MRBM	20+	0	0	146
SRBM	30+	0	0	189
Bombers	?	0	0	26?
SLBMs	0	0	0	12-48
SSBNs	0	0	0	4
GLCM	0	0	0	54
Directly Comparable				
Military Spending (2017)				
\$US Billions	ND	35.7	46.0	\$150.5 ^a
% of GDP	ND			1.26%
Total Active				
Military Personnel	1,280,000	625,000	247,150	2,035,000
Paramilitary Personnel	189,000	9,000	13,740	100,000+
Land Forces				
Active Military Personnel	1,100,000	490,000	154,850	975,000-1,150,000
Special Forces Command	88,000	-	-	-
Reserves	600,000	3,100,000 ^b	46,000	510,000?
Main Battle Tanks	3,500+	2,514	690	6,740
Heavy Other Armored	3,092	3,330	974	9,870+
SP/Towed Tube Artillery	8,500	4,853	570	8,460
MRLs	5,100	214+	99	1,872
Mortars	7,500	6,000	1,105	2,586
SSM	24+	30+	0	?
Active Attack Helicopters	0?	96	104	240
Naval Forces, Marine Corps, and Coast Guard				
Total Active Military Personnel	60,000	70,000	66,990 ^c	281,000 ^e
Carriers	0	0	4(CVH)	1
Other Major Surface Ships	2	25	43	82
Patrol and Corvettes	383	104	6	206
Missile	55+	33	6	128
Tactical SSN	0	0	0	0
Other Missile Submarines	1	0	0	1
Attack/SSK	20	0	19	48
Other Submarines	32	0	0	?
Mine Warfare	24	10	26	42
Landing/Amphibious Ships/LSTs	10	7	3	83
Landing Craft	257	22	8	87
Fixed Wing, Combat-Capable				
Naval & Marine Aviation	NA	16	74	374
Active Marine Personnel	NA	29,000	0	15,000

Marine Main Battle Tanks	NA	100	0	0
Marine Other Armor	NA	166	0	163
Marine Artillery	NA	?	0	40+
Air and Air Defense Forces				
Active Military Personnel (1,000s)	110,000	65,000	46,950	395,000
Total Combat				
Aircraft	545	587	542	2,397
Bombers	80	0	0	162
Fighters	401+	174	189	819
Fighter/Attack	30	333	143	566
Anti-Tank	34	0	0	240
Recce/IS&R/SIGINT	0	34	55	83
ABM Launchers	0	?	0	0
Surface to Air Missile Launchers^f				
Heavy	38	48	0	192
Medium	179+	158	283	414
Short-range	133	?	5	338+

^a Does not include substantial expenses. Real figure may exceed \$200 billion.

^b Total pool subject to call up, not deployable forces.

^c Includes Naval Aviation and Coast Guard

^d Nuclear and conventional

^e Does not include coast guard

^f Includes army systems

Source: Estimate by Anthony H. Cordesman based upon open source material in Hans M. Kristensen and Robert S. Norris, "Status of World Nuclear Forces," Federation of American Scientists (FAS), 26 May 2016, available at: <http://fas.org/issues/nuclear-weapons/status-world-nuclear-forces/>; U.S. Nuclear *Posture Review*, February 2018, and the IISS *Military Balance 2018*.