

CHAPTER 9

CONVENTIONAL ARMS CONTROL IN KOREA: A LEVER FOR PEACE?¹

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Many experts on Korea scoff at the concept of conventional arms control between North Korea and the Republic of Korea (ROK). From the beginning, it should be recognized that arms control in Korea is a difficult problem in part because neither side has much trust in the other. North Korea worries that the ROK and U.S. war plan for the peninsula includes a counteroffensive that would destroy the North Korean regime,² and might actually be launched as a ROK/U.S.-initiated attack on North Korea. The ROK side observes the pattern of North Korean belligerence toward the ROK, North Korea's stated objective of conquest of the ROK, and North Korea's military preparations, and worries about a North Korean invasion.

Nevertheless, conventional arms control is a critical part of the Korean unification process. Arguably, the combined forces of North Korea and the ROK are so large that they would be a major impediment to unification, making some form of conflict more likely, exercising significant influence potentially counter to unification, and consuming too much of the Korean Gross Domestic Product (GDP).

If the Koreans are to unify peacefully, conventional arms control must become feasible somewhere along that peaceful path. If unification is not peaceful, conventional arms control performed before the conflict would reduce the damage suffered by both sides. Nevertheless, arms control has its risks, such as providing the other side critical information on defense capabilities and plans. In the end, if unification by either war or peace could occur within the

next decade or two, conventional arms control is needed now; but if unification must wait for the distant future (say, 50 or more years), then conventional arms control can wait for a part of that time.

This chapter discusses objectives for conventional arms control and the means for achieving these objectives. It assesses the military forces on both sides and proposes how the dangerous aspects of these forces could be addressed. In the end, arms control of the form proposed herein might not be possible in Korea; if it is possible, it will undoubtedly take many years. Thus, arms control should not be viewed as a quick fix to the conventional military problems in Korea, but rather as a part of the long-term reconciliation process. Indeed, given the power of the North Korean military, conventional arms control in Korea will be an indicator of the progress toward peaceful unification. Still, any progress may occur in very small steps that frustrate those seeking rapid resolution of the Korean separation.

OBJECTIVES FOR AND CONSTRAINTS ON CONVENTIONAL ARMS CONTROL

Before examining Korean military forces and specific options for arms control, it is important to identify objectives for and constraints on arms control. This section describes both the general objectives for arms control and some specific objectives that are important for Korea both now and in the future. It also looks at some of the constraints that might limit arms control efforts in Korea, and suggests some principles for addressing these constraints.

General Objectives.

Arms control has traditionally been associated with three general objectives: (1) to reduce the costs of military forces in peacetime, (2) to reduce the chances of future war, and (3) to decrease the damage that war would cause. Each of these has potentially important roles in Korea.

With regard to the first goal, both North Korea and the ROK spend a considerable amount of money on their military forces. In 1997, North Korea had a defense budget of nearly \$5 billion, or about 27 percent of its GNP.³ In 1999, the ROK had a defense budget of nearly 14 trillion won, or about 2.9 percent of its GDP.⁴ Arms control reductions in force structure by both sides would decrease these costs, particularly assisting North Korea in fulfilling the needs of its population and its economy. Even a reduction in the ROK military budget could be usefully moved to other services in the ROK.

The threat of large, capable forces launching an offensive across the Demilitarized Zone (DMZ) has been a consistent concern by both sides in Korea. Reductions in these forces should lower concerns about offensives, decreasing the chances of war. Arms control can also involve confidence-building activities and increase contacts between the two sides that foster understanding and trust, all of which would reduce the chances of war.

The large military forces on each side in Korea could cause substantial damage to the other side in any conflict, including large amounts of damage to the civilian populations and society. Decreasing the force structure on both sides should reduce the damage that each side would suffer.

Specific Short-term Problems to Address.

As noted above, the large North Korean and ROK military forces facing each other across the DMZ may increase both the chance of war and the potential damage that war would cause. In addition, the military in North Korea has become a major power base. North Korean active duty military forces represent about 5 percent of the total population (compared to 1.5 percent in the ROK and about 0.5 percent in the United States). Given the failures of the North Korean economy and political system, it is often argued that the military holds a preeminent position.

The power of the North Korean military complicates the political decisionmaking in North Korea today, and would likely complicate any North Korean political collapse. The North Korean military poses a unique threat to the survival of the Kim regime, as it is one of the few organizations with sufficient power to overthrow the regime. Consistently, the North Korean military is given priority on food and other resources, which otherwise could be used to rejuvenate the North Korean economy and sustain the North Korean civilian population. A North Korean military of more modest size would pose less of a threat, consume fewer resources, and exert less influence on political decisionmaking.

If the North Korean regime were to collapse or be overthrown, there would be serious problems caused by large, very powerful factions within the military/party that could seek different outcomes in the resulting struggle for control. Moreover, there would not likely be sufficient resources to meet the needs of all of these factions, increasing the likelihood of a violent, multi-sided civil war. While a smaller North Korean military would not necessarily prevent such difficulties from developing, the potential number of conflicts would be reduced, as would the likely level of violence.

For years, North Korea has supported a large military hoping that its size would deter ROK and U.S. attacks on the North, and give North Korea some chance of conquering the ROK in an actual conflict. For a decade or more, the North Korean leadership has apparently recognized that ROK and U.S. qualitative military superiority jeopardizes both of these objectives, despite the size of the North Korean military. North Korea has therefore chosen to develop a number of asymmetric threats (such as chemical and biological weapons) to make up for its qualitative deficiencies. Like the ROK and U.S. militaries, the North Korean military would likely be stronger for such wartime uses if it reduced manpower and outdated equipment, using the monies saved to modernize selective elements of its

forces. The resulting smaller forces would then be less of a threat internally.

North Korea would be best served by reducing units with outdated equipment and its large infantry forces. For example, tank units with T-55 tanks would be appropriate for elimination: These units would be highly vulnerable targets for ROK and U.S. forces and would give the North Korean military little strength in dealing with external forces. The ROK Ministry of National Defense is contemplating similar force changes, trading force structure for force modernization.⁵ Both sides should be encouraged to make these changes, which would reduce the overall size of the military forces though not significantly reduce defense budgets (the money saved on force structure being used for modernization).

North Korea also deploys massive amounts of artillery very close to the DMZ. While the ROK places much of its artillery back 7 to 10 kilometers or more for defensive purposes, most of the North Korean artillery is located within a few kilometers of the DMZ, apparently postured primarily for offensive purposes. Artillery deployments so far forward are destabilizing: North Korea would fear these sites being overrun by a ROK/U.S. offensive, and might therefore seek to launch a preemptive attack in response to any ROK/U.S. mobilization (even a defensive mobilization) because of their artillery's vulnerability. Thousands of North Korean artillery pieces near the DMZ could cause massive damage to the northern 20 or so kilometers of the ROK if war began, and longer-range artillery could reach and seriously damage the heart of Seoul. This threat would force the ROK and the United States to rapidly target the North Korean artillery, and could precipitate preemptive action if North Korea mobilizes. In addition, some ROK artillery has been moved to relatively forward locations to fire against North Korean artillery under such circumstances. From an arms control perspective, both the North Korean and ROK artillery need to be reduced in

numbers and moved back to more defensive locations (especially the North Korean artillery).

The ROK and the United States are also concerned about the quantity of North Korean special forces. The roughly 100,000 North Korean special forces personnel (about 10 percent of total North Korean ground forces) provide a force which is well beyond the relative numbers of special forces in most armies, and which could cause serious damage in the ROK. Reducing their numbers would reduce the damage that would be done to ROK society and ROK and U.S. military forces.

Paving the Way to Unification.

Except in very bizarre circumstances (e.g., a successful North Korean conquest of the ROK), Korean unification would certainly be performed with the ROK in the lead. The ROK military is unlikely to trust the North Korean military, and therefore cannot be expected to accept a true unification of the militaries. Instead, much as in the case of Germany, the eventual, unified Korean military will involve largely ROK military personnel, though potentially with some significant retention of North Korean military equipment.

In any scenario, the lack of trust between the key personnel of North Korea and the ROK is a serious concern. In contrast to the German unification case, the senior and mid-level leaders of the two Koreas, both civilian and military, have had almost no contact with each other. Given this lack of contact and the North Korean dogma about the illegitimacy of the ROK leadership, these leaders cannot be expected to believe or trust each other, making unification extremely difficult. Therefore, far more than in the case of Germany, the Koreas need confidence-building measures for the military forces to help establish communications and engender basic conditions for unification. This process must be a very slow and evolutionary one, requiring considerable time and effort; it should not be expected to yield broad trust or to develop rapidly.

The power of the North Korean military would likely complicate a ROK-led unification. North Korean military personnel would have little to gain and *a great deal to lose* from such a unification. Naturally, this kind of result could be imposed on North Korea in the aftermath of an unsuccessful North Korean attack on the ROK. But in the case of a North Korean collapse or a negotiated unification, the opposition of the North Korean military could impair or fatally doom the unification effort.

While reducing the size of the North Korean military would lessen these difficulties, other actions are required to address them in a fundamental way. Specifically, the ROK needs a plan for jobs and economic security for North Korean military personnel. At very least, this means leaving many of the North Korean military organized in their current units for some time into a unification transition period. Some of these units could help the ROK forces maintain stability among the North Korean civilian population, while others could work on developing the critical North Korean infrastructure (roads, rail lines, ports, utilities, and communications). Disarming these units would be an essential, yet very sensitive activity.

Provision would also have to be made for the retirement and care (income, protection, and life style) of most of the senior North Korean military leaders (probably colonels and above in rank), since they would be too powerful and insufficiently reliable to depend upon if left with their units. The ROK needs a plan for these actions that is well established and funded, thereby providing a guarantee of physical and financial security for the North Korean military that will greatly reduce the likelihood of rebellion against ROK control.⁶ Clearly, the smaller the North Korean military is at the beginning of this transition, the easier such a plan will be to fund and execute, and the lower the potential for a major rebellion in the North Korean military that would impede unification.

Interestingly, North Korean willingness to seriously consider conventional arms control may be an important indicator of their real interest in unification efforts. Some experts worry that North Korea may make offers that appear to be moving toward unification, while in reality they are simply seeking to gain more aid so as to help North Korea survive as a separate country. If North Korea is really serious about unification, the North Korean political leadership must convince the North Korean military to accept actions that move toward unification. That same North Korean political leadership ought to be prepared to reduce their military forces toward the goal of unification. If the North Korean political leadership is unwilling to consider conventional arms control, their commitment to unification would have to be considered questionable.

Dealing with the Costs of Unification.

The unification of Korea will be extraordinarily expensive. Goldman-Sachs estimates that if unification were to occur today, the cost could be \$0.77 to \$1.2 trillion dollars over 10 years; if unification occurs in 2010, the cost projections rise to \$3.4 to \$3.6 trillion dollars over 10 years.⁷ Expenditures in these ranges would amount to 16 to 25 percent of the ROK GDP each year over 10 years (compared to German expenditures of 10 percent of GDP per year). While the ROK would seek funds to help pay these costs from other countries and international organizations, the reality is that the people of the ROK will have to bear a substantial fraction of this financial burden. Given that total ROK government expenditures are in the range of \$80 billion annually or about 18 percent of GDP, this suggests that ROK government expenditures and therefore taxes would have to nearly double to meet these needs. Of course, these estimates assume that the ROK economy is not damaged in the unification process (as would happen if North Korea attacks the ROK), and also that the ROK and North Korean economies grow smoothly after unification

starts, without disruption, recession, or other seriously disabling difficulties.

The bottom line is that after Korean unification begins, the military expenses (and therefore forces) of the combined Korea will have to decline below those of the existing ROK forces. Recent news reports in the ROK have indicated that the Ministry of National Defense has set a manpower target of 400,000 to 500,000 total military personnel by 2015,⁸ down from 690,000 today (see Table 1); this appears to be an appropriate goal for a unified Korea. Arms control would thus be useful if it can help reduce the force sizes towards this objective. Reductions in the combined ROK and North Korean forces toward reasonable post-unification force levels would reduce the financial burdens of these forces in peacetime both pre- and post-unification.

Transformation of Korean Military Forces.

Current military forces in Korea are primarily “continental” in character, with ground forces vastly outnumbering air and naval forces in both North Korea and the ROK. Since both countries fear invasion from the other, and North Korea plans conquest of the ROK, this character of the forces is to be expected. However, while Korea will face some concern about its land borders after unification, it will be more concerned about securing its air and sea lines of communication. This implies that the Korean military forces must transform in the direction of greater air and naval force capabilities. Since air and naval forces tend to involve very expensive equipment, maintaining a modernized Korean military will require a general reduction in manpower levels to help pay for modernization.

Increasingly, the modernization argument can be made with regard to current North Korean and ROK forces. As argued above, both sides have large numbers of outdated weapon systems. To pay for their modernization within reasonable budget constraints, manpower and thus force levels need to be reduced. These reductions need to come

primarily in the ground forces of both Koreas. Fortunately, because the ROK Air Force modernization allows it to increasingly provide superb support for ROK ground forces, reducing ground force manpower to pay for fighter modernization can actually strengthen the ROK military.

Reducing the military manpower in the ROK offers another important opportunity. With lower manpower requirements, the ROK military draft would become less necessary. And with modernized military equipment, the ROK military would need a more professional force in all of its services (personnel serving longer and being more experienced). This change would imply that far more of the ROK military would be career soldiers, with more stability and higher levels of training. This would be a considerable change for the ROK military forces, and most likely a very welcome one.⁹

Addressing Some Constraints on Conventional Arms Control.

Opponents of arms control on either side could defeat any effort to achieve conventional arms control in Korea. Particular problems exist in terms of (1) the lack of trust between the two Koreas, (2) the likely opposition to arms control from the North Korean military, (3) concerns about the adequacy of defenses when forces are reduced, and (4) concerns about nuclear, biological, and chemical (NBC) weapons that would not be covered by conventional arms control. Successful arms control must address each of these issues.

Lack of Trust. One of the major concerns in pursuing arms control in Korea is the lack of trust between North Korea and the ROK, with both sides likely expecting that the other side would use arms control to establish some military advantage. Each side would also likely fear that the other would lie to conceal aspects of its military strengths and weaknesses. In a security environment like that in Korea, trust is difficult to foster; confidence-building

measures (as described below) need to be pursued early in the arms control process to help generate trust.

In addition, the basis for negotiations needs to be fair to both sides. As a basic principle, both Koreas should have their forces reduced to equal numbers of personnel and equipment, much as was done with the Conventional Forces Europe agreement.¹⁰ North Korea would insist upon the removal of all U.S. forces as part of the negotiations, much as it has for decades. As a bargaining counter, the United States should be prepared to make modest reductions in the size of its forces in the ROK, and then have its remaining forces counted with ROK forces as a coalition total to be limited by the agreement. To this, North Korea would likely object that over time in a crisis or conflict, other U.S. forces could be deployed to Korea, with these forces upsetting the North Korean and ROK balance. The United States would therefore need to agree to some limits on the deployments of U.S. forces to Korea, as discussed below.

North Korean Military Opposition. It can be anticipated that the North Korean military will be the greatest impediment to arms control. The North Korean military has grown in size consistently since the early 1960s, including substantial growth from the mid-1970s through the 1980s.¹¹ Militaries that experience such growth provide great upward mobility for their officers, and a general culture of expansion. The more limited North Korean military personnel growth of the 1990s was likely resented by the North Korean military. If this limited growth were replaced by significant reductions, many personnel would be retired or otherwise cut from active duty, and likely left with few job prospects in a North Korea where manpower is already underemployed. For those who remain in the military, opportunities for promotion would be significantly reduced, and a fear of job loss might propel personnel into risk-averse behaviors.

While it is not possible to fully eliminate these fears by the North Korean military, at least some of them need to be

addressed to reduce the North Korean military opposition. There are a number of options for reducing the impact of military force reductions in North Korea. For example, many ROK firms plan to develop industrial enterprises in North Korea in the coming years. A significant number of the jobs in these enterprises could be reserved for North Korean military personnel required to leave the military by arms control provisions. Considerable thinking needs to go into planning actions like these to reduce the impact of arms control and thereby make it more agreeable to the North Korean military.

The Adequacies of the Defenses. Some military experts argue that while the relative numbers of military forces in North Korea and the ROK are important, the density of ground forces at the DMZ is critical to preventing breakthroughs by the opposition. Therefore, they would argue that force reductions would leave the defending forces too thin to prevent breakthroughs. The counter to this argument is that, with adequate reductions, neither side would have sufficient force to both achieve breakthroughs in the forward area and then rapidly exploit those breakthroughs in depth. With regards to the defense of the ROK, modernized equipment in both the ground and air forces would also tend to overcome the threat of breakthroughs by providing forces with sufficient mobility and firepower to cover sectors where the defense becomes weak. From the North Korean perspective, the chemical and biological weapons not covered by conventional arms control actually have far more utility for defensive as opposed to offensive operations, and could stall an attempted ROK/U.S. breakthrough. However, North Korea must recognize that the use of such weapons could lead to a serious ROK/U.S. escalation.

Concerns About NBC Weapons. NBC weapons are already the subjects of other arms control agreements, including the Nuclear Nonproliferation Treaty (NPT), the Biological and Toxin Weapons Convention (BWC), and the Chemical Weapons Convention (CWC). North Korea has

joined the first two of these agreements, but not the third. Nevertheless, there is still great concern that North Korea is not fully abiding by the NPT and BWC, and possesses significant quantities of NBC weapons that could overcome any balance in conventional weapons.

North Korea must be encouraged to abide by its responsibilities in the NPT and in the BWC. It should also be encouraged to join the CWC. Until the ROK and the United States are certain that North Korea has significantly reduced NBC threats, they must prepare to defend their forces and civilians from the use of NBC weapons. Such defenses include both protection from the effects of NBC weapons and offensive capabilities to destroy NBC weapons and to retaliate for their use. The U.S. Defense Department is more thoroughly analyzing these force requirements.¹²

ARMS CONTROL POTENTIALS: ASSESSING THE EXISTING FORCES

Arms control of any form in Korea must begin with the existing forces. There is, however, no source of information on existing military forces that is accepted by both the ROK and North Korea. To the contrary, for logical military reasons, North Korea carries out an active deception and denial program to prevent the ROK and the United States from gaining information on its forces. Therefore, this section first examines available information on ROK and North Korean military forces from a ROK perspective, in both quantitative and qualitative terms. While the focus of this chapter is on conventional arms control, the range of military forces is examined, recognizing that forces beyond the conventional forces affect the overall military capabilities, and that conventional arms control must therefore be undertaken in the context of these overall military capabilities.

Quantitative Comparisons.

Table 1 provides a quantitative comparison of many of the kinds of North Korean and ROK conventional forces, as contained in the ROK *Defense White Paper, 1999*. It highlights the major differences, including the much larger North Korean Army and Air Force manpower;¹³ more North Korean tanks, artillery, surface combatants, submarines, and fighter aircraft; and more numerous North Korean reserve troops (despite the North Korean total population being half that of the ROK). This table does not capture the qualitative differences between North Korean and ROK forces, to be addressed below.

Table 1 does not include U.S. forces deployed in the ROK. ROK and U.S. forces plan to defend the ROK together under their Combined Forces Command (CFC). Table 2 provides a rough summary of the U.S. forces. Two of the three maneuver brigades of the 2nd Infantry Division are in the ROK, along with a large number of supporting personnel, and the ground force equipment associated with that division. The U.S. Air Force deploys several squadrons of fighters in Korea. These U.S. forces would need to be combined with ROK forces in developing a conventional arms control agreement with North Korea.

Table 1 also does not include WMD or ballistic and other missiles. Missiles and other delivery systems for WMD tend to be dual-capable (i.e., they carry both conventional and WMD munitions), and thus potentially fit within the scope of conventional arms control. These capabilities are summarized in Table 3. Note that North Korea has large numbers of missiles that pose a considerable threat against the ROK, whereas the ROK generally lacks comparable forces. Moreover, North Korea has been and is working on weapons of mass destruction (chemical, biological, and nuclear weapons), and will continue to do so, whereas the ROK has tempered its efforts on WMD in part at the urging of the United States. Arguably, North Korea feels that it has offset its conventional qualitative disadvantages with its

Classification				ROK	North Korea	
Troops				Army 560,000	1,000,000 ²	
				Navy ¹ 67,000	60,000	
				Air Force 63,000	110,000	
				Total 690,000	1,170,000	
Principal forces	Army	Unit	Corps	11	20	
			Divisions	50 ³	63 ⁴	
			Brigades ⁵	18	113	
		Equip-ment ¹²	Tanks	2,250	3,800	
			Armored Vehicles	2,300	2,300	
			Field Artillery ⁶	5,200	12,000	
	Navy ¹²	Heli-copters		580	-	
		Surface combatants		170	430	
		Support vessels		20	470 ⁷	
		Submarines/ Submersibles		10	90 ⁸	
	Air Force ¹²	Aircraft		60	-	
		Fighters		520	850	
		Special aircraft		40		
	Support aircraft		220	840 ⁹		
	Reserve troops ¹²				3,040,000 ¹⁰	7,450,000 ¹¹

- 1) Marine Corps included
- 2) Navy sniper brigades now under the Navy Command and Air Force Command
- 3) Marine Corps divisions included
- 4) One missile division included
- 5) Mobile and combat brigades such as infantry, mechanized infantry, tank, special warfare, patrol, marine, and assault brigades included; combat support brigades excluded
- 6) Field artillery includes rockets, guided weapons, and MRLs
- 7) Approximately 170 surface patrol boats of the Surface Patrol Boat Forces included
- 8) Some 40 *Sang-0*-class submersibles included
- 9) North Korean aircraft (helicopters) operated by the air force
- 10) Eighth-year reservists included
- 11) The Reserve Military Training Unit, Worker/Peasant Red Guards, Red Youth Guards, and social security agents included
- 12) Figures approximate

Table 1. Comparison of North Korean and ROK Military Forces.¹⁴

WMD deployments. Therefore, if WMD reductions will not be negotiated, the ROK and the United States should seek quantitative conventional force comparability.¹⁵

Type of Forces	U.S. Today
Manpower	36,130
Army, Marines	27,084
Navy	327
Air Force	8,719
Equipment	
Tanks	116
Other Armor	237
Artillery & MRLs	72
Fighter Aircraft	90

Sources: The Ministry of National Defense, The Republic of Korea, *Defense White Paper, 1999*, p. 33; Defense Department Directorate for Information Operations and Reports, website: <http://web1.whs.osd.mil/mmid/m05/hst1299.pdf>.

Table 2. U.S. Military Forces in the ROK.

Qualitative Comparisons.

Qualitative military factors include the age and technical performance of the military equipment, the training and capabilities of the military personnel, and the strength of the command/control system and its military planning. These factors can temper or totally change the quantitative comparisons presented above. For example, one current generation fighter like the ROK KF-16 may be able to engage and defeat several older fighters like the North Korean MIG-21s, though quantity can still prevail in some cases, especially early in a conflict.

Most North Korean military equipment was designed and manufactured decades ago (many items were designed in the 1950s). This equipment undoubtedly has maintenance and support problems. Indeed, given the decline of the North Korean economy, many wonder how well North Korea is able to support its military equipment.

Most (but not all) ROK military equipment is newer and more advanced, giving it clear qualitative advantages (as shown in the Yellow Sea battle in June 1999).¹⁶ Some exceptions to these comparisons include North Korean long-range artillery, which has at least been manufactured in recent years, as have some smaller North Korea submarines (like the *Sang-O*), the North Korean version of the SA-16, and North Korean ballistic missiles.

Type of Forces	ROK Today	DPRK Threat Today	DPRK Threat 2010
Ballistic Missiles ^a			
0-199 km	12	200 - 600	100s?
200-999 km	0	400 - 1,200	700 - 1,650
1,000-2,999 km	0	100+	300 - 600
3,000+ km	0	0	75 - 125
Special weapons ^b			
Nuclear	0	A few?	2-20?
Biological	—	?	Tons?
Chemical	100s tons	2,500-5,000 tons	2,500-5,000 tons

^aSources: For ROK, International Institute of Strategic Studies, *The Military Balance 1999-2000*, London, 1999, pp. 194-196, 311. For North Korea, Bruce Wm. Bennett, "The Emerging Ballistic Missile Threat: Global and Regional Ramifications." Note that this table does not include multiple rocket launchers, which are included in artillery in Table 1. The range of the ROK ballistic missiles (NKH-1/2s) is actually 250 kilometers.

^bSources: For ROK, "Seoul Admits to Chemical Weapons Stockpile," *South China Morning Post*, May 10, 2000. For North Korea, The Ministry of National Defense, The Republic of Korea, *Defense White Paper, 1999*, pp. 55-57, 84.

Table 3. Comparison of Other Korean Military Forces.

North Korea has had a checkered past with regard to military training. For larger units, most North Korean training is traditionally done during the winter training cycle, but little training went on in the winter of 1999. The winter of 1998 was a more robust training period (though less than historical patterns in some ways), and the training

in the winter of 2000 was also more robust. Before the winter 2000 training, it was often argued that the North Korean economic situation had caused North Korean training to decline considerably. Such a decline, in combination with maintenance and support difficulties, would have minimized the conventional threat posed by North Korean forces. However, the North Korean performance in the winter 2000 training was relatively impressive, suggesting that previous judgments have been premature.¹⁷ ROK and U.S. forces carry out many regular training exercises each year, and have a training program superior to that of North Korea (having better economic resources).

Only modest information is available on the North Korean command/control system and military planning. While North Korean forces are expected to be dedicated and committed to a preplanned offensive operation, they would likely be far less prepared than ROK and U.S. forces to respond to combat uncertainties that invariably cause the conflict to diverge from the original plan. When the plan diverges, the ROK and U.S. cultural strengths in initiative and lower-level decisionmaking ought to give ROK and U.S. forces a considerable advantage over their North Korean counterparts.

Overall Force Comparison.

The combination of force quantity and quality and the likely circumstances of a future Korean conflict suggest that some forces are more capable than others of affecting conflict outcomes. From the perspective of both sides, these forces are thus a logical focus for conventional arms control. Table 4 combines the quantitative and qualitative factors discussed above with the standard ROK and U.S. perception of a future conflict, which proceeds through several phases.

Force	For DPRK	For CFC	Timing; Type of Impact on Campaign
DPRK standard artillery	+		Early; create holes in the defense, cause damage
DPRK long-range artillery	+		Early; threaten heavy forces, C4I, Seoul
DPRK infantry	+		During offensive; overwhelm defenders
DPRK heavy forces	+		During offensive; penetrate the defenses
DPRK SOF	+		Early; disrupt/impair CFC operations
DPRK ballistic missiles	+		During offensive; disrupt airfields, ports, C4I
ROK/U.S. (CFC) aircraft		+	Throughout; stop ground forces, destroy artillery, disrupt rear operations
ROK/U.S. (CFC) heavy forces		+	Throughout; stop DPRK offensive, support a counteroffensive
ROK/U.S. (CFC) artillery		+	Throughout; destroy artillery, stop ground forces
ROK/U.S. (CFC) navy		+	Throughout; stop SOF insertions, control SLOCs

Code: "+" indicates that this force could make a major difference for the side indicated.

Table 4. Conventional Forces Capable of Making a Difference in a Korean Campaign.

- North Korean Offensive, Early-Phase. During the first several days of a North Korean offensive, North Korean forces at the front will be seeking to create holes in the ROK/U.S. defenses, and then to exploit these holes in operational breakthroughs. North Korean standard artillery will have the primary role of creating holes (likely employing chemical weapons), North Korean infantry will seek to establish these holes in tactical breakthroughs, and North Korean heavy forces will seek to convert these into operational breakthroughs. North Korean forward area SOF will support these efforts. Meanwhile, North Korean long-range artillery will seek to damage ROK and U.S. heavy forces (the theater reserves that could plug holes in the defense), disrupt forward area C4I, and damage major command and control targets in the Seoul area. North Korean rear area SOF and ballistic missiles will seek to disrupt or impair ROK and U.S. air forces on their bases, port operations, transportation, and other activities in the rear area.

Most ROK and U.S. experts believe that North Korea will fail to adequately suppress CFC air bases, allowing ROK and U.S. air forces to devastate the North Korean ground forces (especially artillery and heavy forces). ROK and U.S. artillery will significantly add to the damage of the North Korean ground forces, and ROK and U.S. heavy forces will counterattack and destroy large elements of the North Korean ground forces within the first few weeks. Thus, North Korea will ultimately fail in its efforts, and in the process its artillery, heavy forces, and ballistic missile systems will be significantly damaged, as will be its means for inserting North Korean SOF (at the hands of the CFC ground, naval, and air forces). Nevertheless, considerable damage will be done to CFC forces in the process of such an offensive.

- North Korean Offensive, Mid- to Late-Phase. North Korean infantry and heavy forces will continue the North Korean offensive. North Korean ballistic missiles will continue to disrupt operations in the CFC rear areas. ROK and U.S. air forces, artillery, and heavy forces will continue to seriously damage the North Korean ground forces, until the North Korean progress is stopped. ROK and U.S. air forces will also attack other targets throughout the depth of North Korea.

- CFC Buildup Phase. About the time that the North Korean offensive ends, U.S. forces will be freely flowing into the ROK, protected by CFC naval and air forces. During the buildup, the CFC air forces will attack ground forces and other resources in the North, preparing for a counteroffensive.

- CFC Counteroffensive Phase. Once the U.S. and ROK build-up is complete, CFC heavy forces and artillery will press the counteroffensive, with CFC air forces providing support and removing other threats.

Focuses for Arms Control Reductions.

Each of the forces identified in Table 4 is an appropriate focus for conventional arms control. Even if the ROK and U.S. expectation is that North Korean forces will be soundly defeated, there is some risk in any war, and considerable damage would be done to the ROK in the process, especially in the area of Seoul and further to the north. Thus reducing North Korean forces may help lower the chances of a war, reduce some risks, and decrease the damage the war could do.

SOME SPECIFIC ARMS CONTROL OPTIONS

Conventional arms control pertains to the kinds of forces listed in Tables 1 and 2 and the missile systems listed in Table 3. As we have seen, arms control in Korea should begin by implementing confidence-building measures, and then move on to force reductions. This section recommends specific arms control options in each of these areas, and then presents an approach to implementing the force reductions.

Confidence-building.

As argued above, the two Koreas need to begin by developing communication with and trust in each other at both a national and personal level. For military forces, confidence-building measures provide the opportunity to help generate such trust. Confidence-building can take a variety of forms. With regard to Korea, some specific options worth considering include the following.

Communication. The almost complete lack of communication between the two Korean militaries needs to end. While arms control discussions will allow some communication, these discussions will be inherently confrontational in nature. Therefore, a parallel, nonconfrontational set of activities needs to occur, even if sponsored only on a unilateral basis by the ROK (with U.S. support). For example, North Korean officers should be

invited to visit ROK military units as well as ROK and CFC military exercises. ROK military officers (especially senior officers) should be encouraged to establish communication with one or more counterparts in the North. The ROK should make available its literature on unclassified military issues to the North on a systematic basis (i.e., regular distribution). North Korean/ROK military conferences should be held to discuss military strategy and other issues. While these efforts could proceed unilaterally, there would need to be some North Korean/ROK agreements on these early in the process; otherwise, participating officers in North Korea might be accused of treason and removed from their positions.

Hot Line. A key form of communication needed between the North Korean and ROK militaries is a hot line. This line would connect the senior North Korean and ROK military leadership, and allow conversations in particular when crises develop. Hopefully, such conversations would diffuse such crises. North Korea has previously proposed establishing such a hot line,¹⁸ suggesting that this may be relatively easy to implement. Indeed, in the June 2000 North Korean/ROK Summit, the two sides agreed to work on a hot line.¹⁹

Exercise Monitoring. The monitoring of exercises was set up between NATO and the Warsaw Pact in the 1980s, and proved to be a helpful confidence-building measure. It also provided for communication between the two sides, in itself desirable. Monitoring of any exercise above ground force regiment level seems appropriate, which would mean any exercise involving more than about 2,500 personnel (alternatively, a division-level threshold could be considered of 10,000 or so personnel).²⁰ This would clearly include the North Korean winter training cycle, and a number of annual ROK and U.S. exercises. Exercise monitors would be responsible for observing and reporting on exercises, and would seek to assure that any transition from an exercise to combat preparation was rapidly

reported. Several aspects of this proposal are being discussed in the aftermath of the June 2000 Summit.²¹

Artillery Pull-Back. As noted above, most of the North Korean artillery around the DMZ is located in offensive positions within a few kilometers of the DMZ. Some of the ROK artillery is also located closer than 10 kilometers from the DMZ. It would be best to pull these artillery units out of range from the opposing artillery into truly defensive positions, making it more difficult for either side to begin offensive operations. A 10-kilometer artillery-free zone should be established on each side of the DMZ, placing the opposing artillery no closer than 24 kilometers from each other (the four kilometers of the DMZ plus ten kilometers without artillery on either side of the DMZ).

DMZ "Cold Zone." As an extension of the artillery pull-back, it would be ideal to create a DMZ "Cold Zone," an area of 10 to 20 kilometers on each side of the DMZ where forces are generally not allowed out of barracks, except for a few, disconnected small-unit exercises each year.²² The units in this area would be paired at the division level, North and South, and a council setup for each division pair. Both sides would be expected to do what they can to improve life on the other side and provide mutual support. For example, each side could end its propaganda broadcasts,²³ and, where needed, provide the other side (the ROK to North Korea) with power, food, medicines, and other needed commodities. The division commanders of each paired division would meet in a council at least monthly to review the needs and determine how to fill them. Such an approach recognizes that even the North Korean military is suffering from humanitarian limitations; by providing North Korean forces with humanitarian needs, ROK forces will have the opportunity to establish communication and begin creating an environment of reconciliation between the North Korean and ROK militaries.

Accepting the Risks. During the conference at which this chapter was first presented as a conference paper, several

discussants commented that there are risks associated with some of these confidence-building measures. For example, allowing North Korean observers at ROK and U.S. exercises might help the North Korean military better understand ROK and U.S. vulnerabilities, and learn how to copy ROK and U.S. strengths. Alternatively, there will also be opportunities to display ROK and U.S. strengths which the North Korean leadership likely does not appreciate, hopefully enhancing deterrence.²⁴ Decisions about how far to proceed with confidence-building measures, and eventually on force reductions, must be a function of the ROK and U.S. assumptions on when major changes could occur in the North. If a North Korean collapse or negotiated unification is quite possible within the next decade or so, ROK and North Korean forces need to prepare for these changes by pursuing conventional arms control. But if some form of unification is unlikely for many decades to come, ROK and U.S. forces should be conservative and maximize defensive capabilities over the coming years.

Force Reductions.

It may take many years of confidence-building efforts before the North Korean and ROK militaries are prepared to discuss military force reductions on a reasonable basis. Whenever that time comes, each side will need to be prepared to discuss alternative means for achieving reductions. Given the principles discussed above, the military requirements for combined Korean forces post-unification become a useful target toward which arms control efforts ought to be directed. As with the Conventional Forces Europe (CFE) agreement, the two sides should seek to reduce their forces to equal ceilings. Both sides would have to determine the precise forces that they require and the ceilings they are willing to employ; this section suggests some *sample numbers* that might be considered. Adjustments around these numbers are certainly possible, and need to be evaluated.

On the ROK side, most of the force reductions would have to come in the ROK ground forces (Army and Marines). Looking at these forces in somewhat more detail, Table 5 summarizes this author’s approximation of a possible Korean ground force structure after unification, very much reduced from existing forces to facilitate modernization and to reduce overall defense expenditures. This force structure would create five corps of relatively heavy forces, plus another corps of cadre divisions to cover the Chinese border. Many of the divisions would be heavy divisions with high mobility to cover the much expanded territory of Korea, giving Korea more tanks and other armor vehicles than the ROK currently has.

Type of Ground Force	Number	Active Duty Personnel	Tanks	Other Armor	Artillery & MRLs
Active divisions	17	185,000	1,600	3,500	2,000
Reserve divisions	13	45,000	500	—	1,200
Regular corps	6	90,000	400	300	800
Other	—	80,000	—	—	—
Total		400,000	2,500	3,800	4,000

Table 5. Sample Korean Ground Force Structure, Post-Unification.

Table 6 uses this possible future Korean force structure as the basis for recommending force reductions. The unification goal for ROK forces has been added to a modestly reduced U.S. force size to reach proposed force ceilings under arms control. For example, we add 25,000 U.S. ground forces (a modest reduction in current U.S. forces) to the 400,000 Korean ground forces (Army and Marines) proposed for unification to arrive at a proposed arms control ceiling of 425,000. This approach is based on the previously noted anticipation that only a modest number of North Korean military forces would be retained in the long term after unification.²⁵ Total U.S. manpower might be limited to 34,000 or so within these ceilings. In contrast, the post-unification Korean military might retain a significant

number of North Korean weapon systems, especially tanks and other armor. Therefore, the proposed arms control ceiling for tanks is a little more than half of the unification force requirements (a ceiling of 1,600 allowing for 3,100 total ROK and North Korean systems to be retained besides the 100 U.S. tanks). Artillery, MRLs, and fighter aircraft are handled more like personnel because many of the North Korean weapon systems appear to be qualitatively inferior, and thus unlikely for retention after unification.

Type of Ground Force	Unification Goal	U.S. Today	ROK Today	DPRK (NK) Today	Proposed Ceiling
Manpower Ground	400,000	27,084	585,000	1,000,000	425,000
Air Force	60,000	8,719	63,000	110,000	68,000
Navy	40,000	327	42,000	60,000	40,000
Tanks	2,500	116	2,250	3,800	1,600
Other Armor	3,800	237	2,300	2,300	2,100
Artillery & MRLs	4,000	72	5,200	12,000	4,100
Fighter Aircraft	500	90	560	850	500
Ballistic missiles	200	—	12	700-1,900	200

Table 6. A Basis for Negotiated Force Reductions.

In addition to the ceilings shown in Table 6, some other force limitations may need to be part of the force reductions. Because special forces are of particular concern, they should be limited in numbers to no more than 8 to 10 percent of the ground force structure on each side. Thus, North Korean special forces are reported to constitute 100,000 of their current 1,000,000 ground force personnel (10 percent);²⁶ with a ceiling of 425,000 North Korean ground force personnel, the special forces would need to be reduced to no more than 42,500 (34,000 if 8 percent is used).

North Korea will be concerned about U.S. force deployments to Korea or the area around it. North Korea would be particularly opposed to U.S. deployments to support an offensive against the North. Since the United States is not interested in carrying out such an offensive in

peacetime, the United States would likely accept peacetime deployment limitations, but then would want these limits removed if North Korea commits an act of war against the ROK. For North Korea to accept such limitations, a major threshold would have to exist between peacetime and wartime deployment rules. Two alternatives are possibilities. First, U.S. deployments to Korea could be limited until the United States Congress declares a state of war against North Korea. Congress is very unlikely to declare war against North Korea for offensive purposes, thus meeting the North Korean objective. In response to a true North Korean attack on the ROK, such a resolution hopefully could be obtained promptly although the process would slow deployments somewhat. Second, the alternative threshold could depend upon some international organization determining when U.S. deployments would be authorized, though such an approach would further delay U.S. deployments in defense of the ROK, and thus be unacceptable to the ROK and United States.

North Korea would likely want constraints on two kinds of U.S. military deployments into or around Korea. The first would be deployments of U.S. ground, air, and support forces onto the peninsula. Within reason, these deployments could be limited to the levels that typically occur in major CFC exercises; for example, the United States could not have more than 44,000 military personnel in the ROK (the 34,000 day-to-day ceiling mentioned above plus a 10,000 training augmentation). The expansion from the 34,000 to 44,000 would be allowed for only 8 weeks or so each year. The second deployment limitation would involve U.S. naval forces around Korea. The United States could commit to keeping no more than one carrier battle group and one amphibious ready group within 1,000 kilometers of the North Korean coastline, which would extend to cover the Sea of Japan, the Yellow Sea, and the northern part of the East China Sea. This exclusion zone would not reach as far south as Okinawa. These deployment limitations would reassure North Korea that the force reductions it makes to

reach the ceilings proposed above will not leave it vulnerable to U.S. coercion in peacetime.

Note that all of the numbers in this section are examples of the reductions that could be used. To formulate actual arms control proposals, North Korea, the ROK, and the United States would need to decide whether these illustrative numbers are reasonable and if not, what alternatives would be appropriate.

The Mechanisms for Force Reductions.

For force reductions even to be considered by the two Koreas, a considerable degree of trust and communication needs to be generated on both sides. Confidence-building measures will help achieve this objective. Nevertheless, the procedures actually used to achieve force reductions will be critical. The following sequence of procedures is recommended.

First, both sides must agree to a list of existing forces from which reductions would be negotiated. This list needs to be specific, with a designation of the units at each location, with their manpower and combat equipment (for example, the 6th tank battalion at location X has 410 personnel and 31 tanks). An organizational hierarchy will also be needed so that divisions and corps can be clearly identified. Because of North Korean reluctance to discuss such issues, the ROK/U.S. will need to develop a proposed listing for both sides, with some DPRK units perhaps listed at unidentified locations, or the relationships between some units shown as “not known.”²⁷ This process may need to be undertaken by area, with the first effort devoted to the area around the DMZ to facilitate discussion of the DMZ “Cold Zone” notion and the artillery pull-back. This effort should begin as soon as possible, and should be a part of the confidence-building measures early in the arms control agreements.

As part of this process, some counting rules need to be developed. These include what personnel and equipment categories should be used for reductions (the ones shown in Table 6 being an initial proposal), and what personnel and equipment should be aggregated into each category. For example, does a T-34 count as a "tank" or an "other armor vehicle"? In addition, what equipment should be counted? For example, in many units, especially air force fighter squadrons, it is typical to talk of total aircraft inventory versus primary aircraft inventory (the difference usually being spare aircraft for maintenance purposes). To avoid confusion, the arms control discussions should deal with total aircraft inventory and total equipment in other categories, including the maintenance spares (even if the spare aircraft are not functional and are used entirely as a source of spare parts).²⁸ If this were not agreeable, the alternative counting rule would use primary aircraft inventory and allow a maximum addition of 10 or 15 percent for maintenance spares.

Second, both sides must agree to an inspection effort to verify the force lists that are developed. These verification inspections should begin immediately (not waiting for arms reductions), and should involve at least 2 percent of the forces each month (thus taking no more than about 4 years to achieve full verification). In addition to verifying the unit information, these inspections should involve a determination of humanitarian needs (as discussed in connection with the DMZ "Cold Zone"), with the ROK/U.S. making follow-up visits (not verification inspections) to deliver needed aid. For ground forces, this process should start in the DMZ "Cold Zone" and then spread back to forces beyond. Note that this process would also be an important confidence-building measure, with both sides encouraged to act in ways that generate trust (e.g., no movement of personnel or equipment before inspections).

Third, both sides need to agree to the principles for reduction. As argued above, the preferred alternative is that used in the CFE negotiations, i.e., reduction to equal

ceilings. The next best alternative would be a percentage reduction in the existing force. Either of these alternatives requires an accurate accounting of the North Korean forces in the first two steps. At the same time, the ROK/United States must determine how far they can reduce. From a ROK perspective, this means that the ceilings on forces cannot reduce forces to the point where the defense loses its coherence (serious analysis must be done on the requirements of a coherent defense, given the likely North Korean threat). Since one objective of arms control is to reduce in the direction of forces required after unification, forces should not be reduced below appropriate ceilings as suggested in Table 6 and confirmed by ROK and U.S. analysis. From a U.S. perspective, reductions should not be beyond the threshold that will continue to sustain deterrence in Korea, nor below the level and types of U.S. forces desired post-unification.

Fourth, both sides should consider limiting munitions. For example, artillery rounds could be limited to 1,000 or so per tube, adequate for a defensive operation but not for an offensive operation. This would reduce the fear of both sides relative to offensives. For munitions limitations to work, a comprehensive inventory of munitions and their locations would need to be created, although this would be difficult to verify if all locations have not been reported. Since these locations are unlikely to be fully known in the North, rules of thumb would need to be developed to assist in locating supplies. For example, how many rounds per tube need to be forward at the start of a campaign, and within what distance (or distances) from the batteries? If appropriate storage sites cannot be found for each battery, then a challenge would need to be lodged to determine the storage site location. Examination of storage sites would confirm quantities of the munitions stored there, but would also be useful in determining the status of the munitions stored there. If some munitions show qualitative deterioration, this would be useful information, and would also lead to a good basis for recommending future reductions.

Fifth, the reduction process should begin. Because some of the reductions recommended in Table 6 are massive, they should be done in phases as shown in Table 7 (the third phase is the proposed ceiling). For example, to go from one million to 425,000 ground forces, North Korea would reduce about 200,000 in each phase. Because it would take a substantial time to find jobs for the personnel reduced, these phases should occur at something like 1-year intervals. The ROK side will undoubtedly need to work with North Korea to help develop civilian jobs for those North Korean military personnel released from military service. Phases like these allow each side to verify the opposing side's reductions before going too far in the reduction process.

Type of Ground Force	Side	Number Today	First Phase	Second Phase	Proposed Ceiling
Ground force personnel	U.S.	27,084	26,500	25,500	25,000
	ROK	585,000	523,000	461,000	400,000
	DPRK	1,000,000	808,000	617,000	425,000
Air Force personnel	U.S.	8,719	8,500	8,200	8,000
	ROK	63,000	62,000	61,000	60,000
	DPRK	110,000	96,000	82,000	68,000
Navy personnel	U.S.	327	320	310	00
	ROK	42,000	41,200	40,400	39,700
	DPRK	60,000	53,000	47,000	40,000
Tanks	U.S.	116	110	105	100
	ROK	2,250	2,000	1,750	1,500
	DPRK	3,800	3,100	2,300	1,600
Other Armor	U.S.	237	225	210	200
	ROK	2,300	2,170	2,040	1,900
	DPRK	2,300	2,230	2,170	2,100
Artillery & MRLs	U.S.	72	72	72	72
	ROK	5,200	4,800	4,400	4,000
	DPRK	12,000	9,300	6,700	4,100
Fighter Aircraft	U.S.	90	90	90	90
	ROK	560	510	450	400
	DPRK	850	730	620	500
Ballistic missiles	U.S.	0	0	0	0
	ROK	12	200	200	200
	DPRK	1,000?	730	460	200

Table 7. Proposed Phasing of Force Reductions.

As force reductions are made, excess (and in particular, outdated) equipment needs to be destroyed. The process of destruction needs to be clearly defined for different classes

of equipment along with the means for verifying destruction. Some equipment that will be reduced will need to be replaced with alternative equipment of the same type. Thus, rather than reducing two battalions from 31 to 15 T-55 tanks each, it may be better to completely eliminate the T-55s of one battalion and replace them with 15 or so more modern (e.g., T-62) tanks. Thus, reductions need to be planned at the unit level, using basic principles accepted by both sides. Realignments also need to be planned and agreed to in advance by all.

For verification, observers should be placed in units on the opposing side both to facilitate communication and to confirm the reductions. Force and supply levels should be closely monitored and equipment destruction confirmed to make sure functionality is lost. The equipment should be followed from storage locations to destruction locations. Inspectors should examine the storage location after destruction to make sure the force has been appropriately reduced, or that any realignments (e.g., 15 T-62s replacing 31 T-55s) are done within the agreed parameters. For personnel reductions, reductions will be difficult to verify (many military forces could be moved to comparable police forces or quasi-military forces). To reduce the feasibility of such cheating, where possible the manpower in each unit should be reduced by some amount rather than whole units being cut.²⁹ This procedure might work best even if these units are made cadre forces into which reserves could be moved to bring them back to full strength. The reserves would be less ready than active forces, and they would have to be removed from existing reserve units to become part of the cadre units.

IMPLICATIONS OF THE PROPOSED REDUCTIONS

The DPRK and the ROK must yet negotiate the conventional arms control process proposed herein. The

numbers used here are approximations for illustrative purposes; the Koreans may choose their own ceilings.

The Korean Summit created considerable euphoria concerning the movement toward unification in Korea. Many would now argue that unification of some form could occur within the next decade or so. If that is the case, conventional arms control is needed in Korea *now*. The risks to unification of not reducing the military forces of North Korea and the ROK are far greater than the risks to current defenses implied by pursuing conventional arms control. The confidence-building part of the process should help to develop understanding and trust on the two sides, reducing the chances for war and helping prepare the conditions needed for unification. The force reductions proposed should also lower the likelihood of war, facilitate force modernization by both Koreas, reduce military costs, reduce the damage that could occur as a result of a war or conflict associated with North Korean collapse, and transition military personnel to economically productive roles where they would be less likely to threaten the unification process. All of these are important goals for a Korea seeking peaceful unification; indeed, peaceful unification may not be possible without such efforts.

ENDNOTES - CHAPTER 9

1. This chapter was presented to a conference on "Competitive Strategies: Planning for a Peaceful Korea," held June 12-14, 2000. The conference was sponsored by The Nonproliferation Policy Education Center, the U.S. Army War College's Department of National Security and Strategy, and the U.S. Air Force Institute for National Strategic Studies. It was modified after the conference to clarify some points and add some additional issues. It reflects the views of the author, and does not necessarily reflect the opinions or policies of RAND or its research sponsors.

2. "South Korean state television said yesterday that Seoul and Washington have a plan to topple the North Korean government if the Stalinist state attacks the South. The Korean Broadcasting System said that rather than simply driving back the North's troops, the plan provides for a counteroffensive to seize Pyongyang and try to topple the

government of Kim Il Sung." "KBS reports plan to topple Kim Il Sung," *Washington Times*, March 25, 1994, p. 16. In 1994, the South Korean president, Kim Young-sam, said: "Once a major military confrontation occurs, North Korea will definitely be annihilated." Ranan R. Lurie, "In a Confrontation, 'North Korea Will Definitely Be Annihilated,'" *Los Angeles Times* (Washington Edition), March 24, 1994, p. 11.

3. *Defense White Paper*, The Ministry of National Defense, The Republic of Korea, p. 244. This table lacks information on the North Korean GNP in more recent years, and thus 1997 data is used in the text.

4. Hee-Mook Chae, "Budget for 2000 set at W92.6 Trillion," *Korea Times*, September 21, 1999; "2000 Defense Budget Shows 5 Pct Increase," *Korea Times*, September 21, 1999.

5. "Defense Ministry to Reduce Military Force," *Korea Herald*, August 20, 1999; "Armed Forces to Be Trimmed to 400,000-500,000 by 2015," *Korea Times*, August 19, 1999.

6. These actions will likely fail if they are not preplanned. Ad hoc efforts to demilitarize the North Korean military could well result in rebellion in the initial areas selected, and lead to more extensive and prepared rebellion in the rest of the North Korean forces. At least some North Korean military leaders will feel that maintaining their weapons and control of forces will give them the best chance of survival.

7. "Korean Unification Will Cost Up to \$3.6 trillion, Report Says," *Korea Herald*, April 22, 2000; available at http://www.koreaherald.co.kr/news/2000/04/_05/20000422_0539.htm.

8. "Defense Ministry to Reduce Military Force," *Korea Herald*, August 20, 1999; "Armed Forces to Be Trimmed to 400,000-500,000 by 2015," *Korea Times*, August 19, 1999.

9. Some experts argue that a draft is essential to keep military forces "democratized," and that the transition to an all-volunteer force would narrow the parts of society represented in the military. However, some of the dire predictions have not come true within the U.S. military under an all-volunteer force. Nevertheless, the German discussions of reducing their military manpower to the level where a draft would be largely unneeded typify the kinds of concerns that might also occur in Korea. See, for example, Roger Boyes, "Germans Shocked By Plan To Replace Conscription With Professional Army," *London Times*, May 9, 2000.

10. North Korea will likely prefer proportional force reductions, where both sides reduce forces, for example, by 25 percent, allowing North Korea to maintain quantitative force size advantages. Such reductions would not achieve many of the objectives outlined above. As a variant of both options, the proposals below recommend force reductions to equal numbers, but doing so in phases, where a fraction of the total reduction is implemented in each phase. In this way, the North would retain at least some of its numerical advantages during the first phases of reduction.

11. The growth of North Korean military manpower is plotted in Figure 1 in Bruce W. Bennett, "Implications of Proliferation of New Weapons on Regional Security," *The Search for Peace and Security in Northeast Asia Toward the 21st Century*, conference paper, meeting of The Council on Korea-U.S. Security Studies on October 24-25, 1996.

12. Recent work on defense against CBW within the United States Defense Department has led to the concept of "joint, standardized templates." These templates define the requirements for CBW defense at each kind of military facility and for each kind of military force. They are also intended to provide overall guidance for both offensive requirements and concepts of operation in any given region. These templates are being developed.

13. A key difference not shown in this chart is the size of the North Korean special forces command, generally reported at around 100,000 personnel.

14. This table, including the footnotes, is copied from *Defense White Paper, 1999*, The Ministry of National Defense, The Republic of Korea, p. 245.

15. This is especially true since the ROK is destroying its chemical weapon inventory in accord with its obligations under the Chemical Weapons Convention. See "Seoul Admits to Chemical Weapons Stockpile," *South China Morning Post*, May 10, 2000.

16. See, for example, Won-Sop Yi, "After West Sea Conflict," *Seoul Hangyore* (translated into English by FBIS), June 22, 1999.

17. Jim Mann, "N. Korea's Ability to Sustain Military Surprises the U.S.," *Los Angeles Times*, March 17, 2000.

18. Democratic People's Republic of Korea, "On Easing the Tensions on the Korean Peninsula and Creating a Peaceful Climate for National

Reunification," Press Release of the Permanent Observer Mission to the United Nations, June 2, 1990.

19. "Military Hot Line May Link to NK," *Chosun Ilbo* (Electronic, English Version), June 22, 2000.

20. Historical exercises should be examined to determine the best personnel thresholds. In general, a lower threshold would allow for more monitoring, resulting in more communication and interactions, something that is needed.

21. Yong-Won Yoo, "Defense Ministry to Redefine North Korea's Military," *Chosun Ilbo* (Electronic, English Version), June 19, 2000.

MND is considering other post-summit meeting measures such as giving North Korea advanced notice of military exercises, including Ulchi Focus Lense. Also, the ministry is looking into conducting mutual exchange of military officials. . . . The ministry is to consider . . . inviting North Korean military observers to various annual military exercises held in South Korea.

22. Such provisions would reduce the potential for misinterpreting the training efforts of the other side, thus reducing the chances of war.

23. After writing this proposal, the author learned that both sides stopped their "provocative" broadcasts along the DMZ in preparation for the inter-Korean summit of June 12-14, 2000. They have done so to create a more conciliatory environment. See Soo-Jeong Lee, "NK Halts Anti-Seoul Broadcasts Ahead of Summit," *Korea Times*, May 30, 2000, p. 2. It is unclear whether this cessation is to be temporary or permanent; if only temporary, the issue needs to be raised again as part of arms control, and the precedent cited for creating a conciliatory environment.

24. For example, North Korea likely does not appreciate the lethality of air-delivered anti-armor weapons like sensor-fuzed weapons (SFW). A flight of 2 to 4 aircraft carrying these weapons could fly over a simulated armor battalion in an exercise and potentially devastate that battalion. Such a demonstration would likely chill any North Korean hope for a successful offensive against CFC.

25. As noted above, during a transition period for unification of perhaps a year or more, much of a reduced North Korean military would likely need to be retained in uniform to help stabilize the civilian population in the North, establish and sustain law and order, and

control the flow of refugees. To perform these functions, North Korean personnel would not require heavy weapons.

26. *Defense White Paper, 1999*, The Ministry of National Defense, The Republic of Korea, p. 51.

27. The completed force lists need to address total personnel, and thus need to include personnel on overseas assignments, headquarters personnel, personnel in training, and so forth.

28. Aircraft, including outdated aircraft in storage, would be excluded from total aircraft inventory only if the aircraft are totally disabled, or if both sides agree that some aircraft should not count.

29. If the number of divisions, wings, and so forth remains the same, many of the flag officer positions would not have to be eliminated, potentially reducing the objections of the North Korean military.