Today, the Republic of Korea (ROK) is a global economic and industrial powerhouse and is identified as a world leader in ship-building, motor manufacturing and information technology. South Korea has also developed into a vibrant democracy. Despite all its successes the country remains locked in a deadly stand-off with its northern neighbour. Almost 60 years after the end of the Korean War, issues concerning defence and security remain of primary societal and political importance in South Korea. This report attempts to summarise the ROK's defence and security sectors. In four chapters the report addresses security policy and politics, defence reform, defence industry and R&D.

Main findings in the report are that South Korea's defence and security sector is in a period of general transition and change. Threat perceptions and the fragility of security on the Korean Peninsula have intensified over the past few years. Political reconsiderations of South Korea's security and defence policies have raised contentions over the direction of its defence reform process, and how it will be implemented. South Korea's defence industrial and R&D sector is actively seeking increased independence and profitability. It is however limited in how it can pursue these structural changes.

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The Republic of Korea: A Defence and Security Primer

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Cover photo: A ROK Navy King Sejong the Great Class guided missile destroyer engages in a naval exercise off the waters of South Korea. The grey coloured Aegis radar panel can be seen right below the ship's command bridge. (Scanpix/Yonhap)

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Any remaining errors are the sole responsibility of the authors.

Stockholm, April 2012
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Swedish Defence Research Agency, FOI

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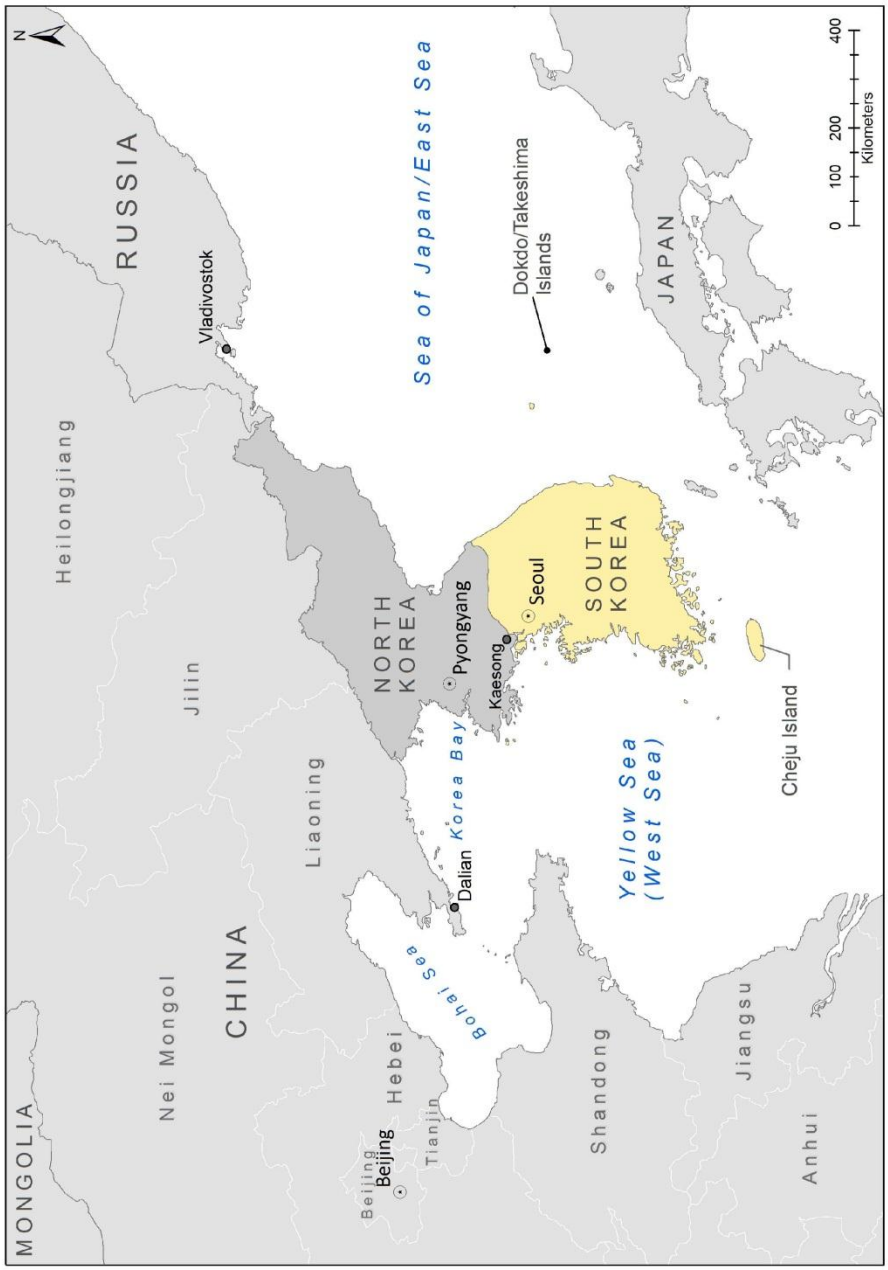
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Abbreviations

ABM	Anti-Ballistic Missile (Treaty)
ADD	Agency for Defense Development
AWAC	airborne warning and control
C2	command and control
C4I	command, control, communications, computers and intelligence
C4ISR	command, control, communication, computer, intelligence, surveillance and reconnaissance
CPV	Chinese People's Volunteers
DAPA	Defense Acquisition Programme Administration
DMZ	Demilitarised Zone
DPRK	Democratic People's Republic of Korea
DRP	Defense Reform Plan
DTaQ	Defense Technology and Quality agency
DTIC	Defense Technology InnoCenter
FFX	Next Generation Frigate (project code name)
FIP	Force Improvement Programme
FX	Fighter Experimental (project code name)
GDP	gross domestic product
IFV	infantry fighting vehicle
IMF	International Monetary Fund

ISR	intelligence, surveillance and reconnaissance
JCS	Joint Chiefs of Staff
KDX	Korean Destroyer Experimental (project code name)
KEDO	Korea Energy Development Organisation
KFX	Korean Fighter Experimental (project code name)
KIDA	Korea Institute for Defense Analyses
KPA	Korean People's Army (North Korean Army)
KSS	Korean Attack Submarine (project code name)
MBT	main battle tank
MDL	Military Demarcation Line
ME	military expenditure
MND	Ministry of National Defense
NLL	Northern Limit Line
NNSC	Neutral Nations Supervisory Commission
NPT	[Nuclear] Non-Proliferation Treaty
OPCON	operational control
POW	prisoner of war
R&D	research and development
ROCs	required operational capabilities
ROK	Republic of Korea
SIPRI	Stockholm International Peace Research Institute

TIV	trend indicator value
UAV	unmanned aerial vehicle
UN	United Nations
UNC	United Nations Command
UNCMAC	United Nations Command Military Armistice Commission
US	United States
USD	US dollar

Executive Summary

This primer attempts to summarise some of the more important issues related to South Korea's security and defence sectors. Threats, politics, policy, industry and the armed forces are described and the interaction between them is explored. Particular attention is given to a few selected areas – defence reform and defence industrial matters.

The intended reader is anyone dealing with South Korea from a focused technical, industrial or political perspective but needing a broader general understanding of security and defence matters in the Republic of Korea (ROK).

Challenges and Threats

The relatively young South Korean democracy faces a wide range of serious security threats and challenges as it continues on its journey towards democratic maturity and economic prosperity. The most pressing threat is also the best known – the conflict with North Korea. Despite economic decline and self-imposed international isolation, North Korea has found ways to remain a potent military player on the Korean Peninsula and in the region. Yet more than 50 years of experience in managing hostilities does bring some kind of stability to the situation and, although it has expanded slightly during the last decade following the introduction of its nuclear deterrent, North Korea's room for manoeuvre remains limited. It is militarily inferior and any large-scale aggression leading to war would mean certain defeat for North Korea. Such scenarios are not realistic options for North Korea.

As the logic of deterrence stipulates, however, they would also be a catastrophe for the South. South Korea can only remain vigilant and strengthen its resilience and defence capability while the regime in Pyongyang is left to muddle through as best it can. This results in a stable hostility that will most probably last for years, and a slow attrition of whatever identity and cultural commonality between the two Koreas is left.

Regionally South Korea faces both challenges and opportunities. Like all its neighbours, South Korea is watching closely how China's rise continues and it does so from the perspective both of its national economic interest and of the military-political alliance with the US. Looming questions are whether China's rise will in fact remain peaceful and whether the carefully balanced policy of economic partnership with China and alliance with the US can continue unchanged. Ties with Japan will become closer but there are several limiting factors that will complicate joint initiatives and development within areas of common interest. The policy of balance will continue to be a key necessity and the ROK cannot afford to alienate either China or Japan.

Finally the evolving South Korean democracy has managed to lift itself up to economic prosperity and status despite the multitude of serious security threats, concerns and challenges. But continued success is not guaranteed. The complex security environment makes coherent grand strategic designs, such as the Lee Myung-bak government's *Global Korea* national security strategy, difficult to implement. Such difficulties in implementing preferred strategic thrusts have to some extent been augmented by changing voter interests; the economy and welfare now have primacy in the public debate, complicating anything but *ad hoc* tactical adjustments in the arena of security policy.

Despite such difficulties, South Korea on the whole has shown considerable resilience and determination in the face of all difficulties. It has managed to reform itself quickly into a vibrant democracy and has achieved astonishing economic success. Beyond the catastrophic scenario of all-out inter-Korean war there is little reason to doubt the continued success and prosperity of South Korea.

Defence Reform

Since 2006 South Korea has been undergoing a fundamental defence reform process. The Defence Reform 2020 Plan (DRP) covers a period of 15 years and seeks to overhaul the ROK's armed forces by significantly reducing their size while at the same time acquiring state-of-the-art weapons systems. Substantial improvements are expected to be made to the qualitative capabilities of the armed forces, including but not limited to securing the capabilities needed for conducting network-centric and joint operations warfare. Amongst other hardware South Korea will acquire new destroyers, submarines, fighter aircraft and missile defence systems, preferably through domestic development and production. Yet, while South Korea's military is expected to employ more advanced combat capabilities, it is also expected to face some operational limitations resulting from a lack of manpower.

The DRP was to a great extent initiated out of political considerations. It was introduced in a context where North Korea was in relative terms no longer regarded as the single security threat. Rather, South Korea's security policy had expanded its attention to include consideration of the changing regional security environment, largely prompted by a rising China. Furthermore, reducing the dependence on the United States as a provider of security was a key objective, as the transfer of wartime operational control, due in 2015, has necessitated an independent yet strong defence posture.

Since it was announced the defence reform plan has been revised. The revision made in 2009 did not fundamentally alter the direction of the reform process but

it did reduce the plan's required budget, reflecting both pre-existing public criticism and financial constraints.

Two factors have characterised the revision. The first is the change in South Korea's political climate: the liberal Roh Moo-hyun government was replaced by the conservative Lee Myung-bak administration in 2008. Second, the revision was preceded by military-political crises on the Korean Peninsula, more specifically in the form of North Korean military aggression. Similar crises later helped trigger the announcement of a new reform plan in 2011. Although it has not yet been passed in the National Assembly, the new 307 (also known as the 11-30) Plan is expected to complement and partly override the ongoing DRP, and extend the reform process to 2030.

Both the current defence reform and the new proposed plan have been highly contentious and politicised, implying that there are significant challenges to the successful implementation of South Korea's defence reform. Budget restrictions, lack of political will in the light of the upcoming general and presidential elections in 2012, public discontent with economic policies and bureaucratic infighting both within the armed forces and in the political sphere are some of the challenges facing the implementation process.

The Defence Industry and R&D

An early driver of South Korea's defence industrialisation, prompted 40 years ago by a government-induced effort, was the ambition to reduce the country's dependence on military equipment provided by the United States. The defence industry's early activities primarily revolved around producing small arms and ammunition for domestic use. Moreover, most of the defence materiel developed and produced throughout the 1970s and the 1980s was developed and produced mainly through licensed production agreements with the United States. Being an alliance partner with the US made it difficult if not impossible for the ROK to detach itself significantly from the associated defence industrial cooperation.

South Korea is today a relatively sophisticated producer of defence materiel. The defence industrial sector is largely capable of satisfying most of the country's domestic demand relating to weapons systems. The success of the defence industry can essentially be attributed to the long-lasting and substantial government support which the sector has been given. The ROK government has from the outset designated certain industries as defence contractors, subsequently providing them with significant financial and economic benefits.

Most major defence contractors are subsidiaries of large family-owned business conglomerates, *chaebols*, whose primary industrial engagements lie in the civilian sector. Notably, the largest defence contractors have specialised their

production, implying that their respective activities revolve around certain types of weapons systems such as fixed-wing aircraft, armoured vehicles, naval surface combatants and precision-guided munitions.

Yet despite marked improvements the defence industries are facing substantial challenges, particularly in the defence research and development (R&D) sector. South Korea remains relatively dependent on foreign suppliers of core technologies. Many of its advanced weapons systems are based on technologies developed outside South Korea, and predominantly in the United States. Consequently, measures are being taken to mitigate that dependence and facilitate the technological development of the defence sector. Many of the R&D activities carried out by the state are, for example, increasingly being outsourced to the defence industries. This not only reflects the ongoing structural changes in South Korea's defence acquisition process but also relates to an ambition to promote the industrial R&D sector.

South Korea has a growing desire to engage in joint cooperation with foreign governments and defence contractors, largely in order to gain access to and develop more advanced defence technologies. It is mainly for this reason that the Defence Acquisition Programme Administration (DAPA), South Korea's newly established procurement agency, favours joint cooperation as a means to develop and produce weapons systems rather than directly procuring equivalent materiel from foreign contractors. South Korea resembles Brazil, India and Singapore in this regard; they wish to strengthen the domestic defence technology industrial base by actively accessing attractive foreign defence technology and introducing it into their domestic defence industry, not least through direct military offset arrangements and bilateral defence technology collaboration. All four nations have high ambitions for developing their national defence industries.

South Korea's defence industrial policy is largely directed by the determination to transform the defence industry into an export-oriented supplier of defence materiel. The defence industrial sector is no longer viewed merely as support function to national security, but rather as an economic asset which could increase its profitability and thus contribute to the overall growth of South Korea's economy. Indeed in 2011 Seoul noted a record in its defence materiel exports, and expectations for the coming years are high.

Defence Cooperation with the ROK: Conclusions and Recommendations

South Korea, owing to its security and strategic environment, is increasing its defence budget and investments in the defence industry at a time when major powers throughout the world are reducing theirs. South Korea's threat perceptions have remained relatively unchanged since the armistice agreement

was signed in 1953 and there is no indication that there will be significant shifts in the foreseeable future. Consequently, the South Korean defence market is expected to remain vibrant and Seoul's demand for defence materiel and technologies will be maintained.

Based on the analysis made in this report there are seven primary factors that need to be addressed in any defence industrial cooperation with South Korea. Naturally these must be related to each proposed contract on a case-by-case basis.

- The ROK will demand technology transfers in the event of acquisitions from or cooperation with foreign defence industries.
- The ROK has a long-term need for foreign input, especially in the R&D and high-tech sectors, and particularly in the areas of aerospace, marine, submarine and underwater systems R&D.
- South Korea is seeking to diversify its foreign supplier base. There is a greater emphasis on cooperation with technologically advanced Western countries other than the United States. Foreign government participation in defence industry to defence industry cooperation will often be demanded by the ROK government.
- South Korean defence firms currently have limited domestic cooperation amongst themselves, thus increasing foreign opportunities.
- The defence industry is specialised with little or no dual-use or civilian production.
- The links between the South Korean state and the defence industry remain strong. Foreign defence contractors and governments should therefore expect the South Korean government to participate and provide strong support for its arms exports.
- Given the ROK's overall strategic alignment, its alliance relationships with the United States and continued strong state involvement in the defence industry, the risk of unregulated technology transfer from Korea to third parties is assessed to be low.

1 Introduction

High-tech electronics, world-class shipbuilding, a thriving motor industry, its hosting of the 2010 G20 summit and its winning the 2018 Winter Olympics are but some of the achievements that have made South Korea such a success story. In a short time the country has risen to become a significant economic and technological power, both regionally and globally, and the democratic reforms initiated in the 1980s have quickly made the Republic of Korea (from now on also referred to as the ROK) a vibrant democracy. Welfare has boomed and living standards have risen dramatically in the last 20 years. Increasingly South Korea is seen as a model for development by people around the world.

Yet for all its successes the ROK still remains locked in a deadly stand-off with one of the most backward and authoritarian regimes of today. Since 1950 the two Koreas have been at war. The North Korean communist regime, ruled by the Kim dynasty, and the ROK never signed a peace treaty at the termination of large-scale hostilities in 1953. The only legal instrument preventing renewed fighting is an armistice agreement: a demarcation line surrounded by a demilitarised zone along the 38th Parallel, effectively cutting the Korean Peninsula in two. Hundreds of thousands of soldiers still face each other along a border that is seen as the most tense and militarised in the world.

For the ROK, this has meant that defence issues have been of primary societal and political focus for most of the post-war period. As in so many other highly securitised states, it has also meant that the army-dominated military forces have become players strong enough to meddle in politics. The first 40 years of independence, beginning in 1948, saw the majority of cabinets formed by either military juntas or military-backed civilian leaders (often of military background). The different constitutional periods, also known as the six republics, of modern Korea clearly show the volatility in Korean politics. Only since the last constitutional reform in 1988 has the multiparty democratic system been left to evolve and mature. This serves as a reminder of how young the Korean liberal democracy is, and also of the speed with which state and society have moved to transform politics and consolidate a vibrant and inclusive system.

Lingering hostilities after 1953 also made the ROK highly dependent on the US for its security. After the 1950–53 United Nations (UN)-mandated but US-led war effort, US forces stayed in South Korea, amongst other responsibilities continuing to exercise combined wartime command over Korean and US forces. This structural relationship in the military domain is still in place today, although it is soon to be changed. Dependence was not only evident in the number of troops or the US-led command structure. Korea also nurtured close ties with the

US in terms of arms and equipment procurement. Even though its current ambitions mean that South Korea is striving to become a more self-reliant arms producer, and will attempt to diversify industry cooperation, the legacy persists. South Korea and the United States will continue to have close and extensive arms industry contacts.

The legacies of war, the alliance with the US and the East–West divide of the Cold War also defined South Korea's regional role. It was a staunch Western ally during most of the Cold War period. Relations with China and the Soviet Union remained minimal. Formal diplomatic relations with the Soviet Union (now Russia) were established first in 1990 and with China only in 1992. Relations with Japan remained tense for nearly two decades. Only in 1965 were formal diplomatic relations established, despite both countries being key US allies. Anti-Japanese sentiment is still strong in South Korea and historical issues are supplemented by territorial disputes, making close relations between the two countries difficult.

Developments over recent decades have reinforced the need for a regional approach in security matters as well. The threat from the North remains and, while some say it has intensified, it is no longer the sole concern and challenge. The rise of China and the response this has triggered in the US, Japan and other US allies throughout the western Pacific are now an intrinsic part of the Korean calculus. Dependence on China economically and geographical proximity make maintaining good relations with Beijing a key objective of any government in Seoul. But Korea, like other neighbours, also has to take the more assertive Chinese behaviour into account. A shifting Chinese policy became apparent in the wake of the *Cheonan* and Yeonpyeong-do incidents in 2010, when China – according to the ROK government – clearly sided with North Korea. The ambition of the US to strengthen its presence in the western Pacific coupled with the need for more military burden-sharing amongst the allies will affect the ROK's security. The discussion of burden-sharing and the rise of China coupled to the situation on the Korean peninsula means that the ROK will face a more complicated set of issues related to its future defence capabilities, strategic posture and foreign policy priorities.

Objective, Questions and Demarcations

This report attempts to summarise some of the more important issues related to South Korea's security and defence sectors. Threats, politics, policy, industry and the armed forces are described and the interaction between them explored. Particular attention is given to a few selected areas, in particular defence reform and defence industrial matters.

Being a primer, the focus of this report is to provide a broad general understanding of areas pertaining to security and defence in South Korea and how they interlink. As the approach is broad, by necessity not all issues are dealt with in detail. This reflects the perceived needs of the intended reader – anyone dealing with South Korea from a more narrow perspective, e.g. technical or industrial. Amongst specialists, the framing of detailed issues in the wider contexts of defence policy, politics and foreign policy not only helps to broaden understanding, but also to deal with issues in a more informed way.

A Note on Method and References

The authors have mainly used two kinds of sources for reference: other research and interviews. Books, reports and articles are referred to in standard academic fashion using footnotes. When referring to interviews, the authors detail dates and the institutional affiliation of the interviewees, but do not provide names. Many of the interviews were conducted on condition that there would be no direct quotations and no names would be disclosed. Most were careful to state that their comments were made in a personal capacity and that they did not reflect official policy of any state institution or firm. We have treated them as such.

Guidance for the Reader

As the report deals with a very broad range of issues, each chapter of the report is written so as to be able to be read autonomously. Anyone choosing to read the report piecemeal may, however, miss occasional cross-references needed in order to understand some of the broader observations and conclusions.

This report is divided into five parts, including this introductory chapter. Chapter 2 gives a general overview of the threats and challenges pertaining to South Korea's security. Chapter 3 provides a detailed description of South Korea's defence reform, including its revisions and defence acquisition plans. Chapter 4 gives a detailed yet broad description of South Korea's defence industrial and R&D sector. Finally, the authors provide their own conclusions and analysis in chapter 5.

Embedded in the text there are also four fact sheets. These deal with specific issues that deserve special highlighting and, while they relate to the main text, they can be read independently from it.

2 South Korea and Its Security Dilemmas

Still technically at war with North Korea and situated in a part of the world that is characterised by historical disputes, military tension and a lack of multilateral security architectures, South Korea faces several security dilemmas. In this chapter the fundamental threats and threat perceptions driving and informing South Korean defence policy and military posture will be addressed.

This chapter presents background information on the political history and current security problems facing South Korea. It is divided into three main parts. The first provides an overview of the most important legacies of the Korean War and how relations between the two Koreas developed throughout the Cold War. The second part roughly addresses the period between 1990 and 2008 when the current government of Lee Myung-bak came to power. The final part addresses the current security situation and a number of the major concerns and threats driving South Korean security and defence policy are discussed thematically.

2.1 The Korean War and Its Legacies

2.1.1 Cause of War

Formed as a result of the 1945 liberation and independence from Japanese colonial rule after the Second World War, South Korea (below the 38th Parallel) came under American trusteeship while the northern part came under Soviet trusteeship. The division was in a sense an absolute anomaly. Korea, the legendary "Hermit Kingdom", had for centuries – even millennia – remained in splendid isolation as a single country, at times paying tribute to China and waging war against invading Japanese forces. However only once in historical times, during the great Mongol invasion of the 13th century, it was overrun and occupied. The cultural and societal cohesion of the peninsula was left to develop in its own unique way.

By the late 19th century Korea was finally forced to yield and it had to open up to the outside world as one of the last countries to do so. This came as a result of one of the first foreign ventures of Meiji-reformed and modernising Japan. In 1876, a Japanese flotilla sailed to Korea and forced a treaty that meant opening

diplomatic relations.[1] By 1882 the Americans had followed suit by sending an expedition that arrived in Korea.[2] Until 1905 US–Korean relations flourished, bringing modernity and Christianity.

In the meantime Japan was expanding its influence in concord with its imperial aspirations. The 1894 Sino-Japanese War in which imperial troops secured an easy victory gave Japan important war indemnities, formalised in the 1895 Treaty of Shimonoseki.[3] Japanese dominance in the western Pacific was strengthened with its formal control over Formosa (Taiwan) and the Pescadores, Port Arthur, and, importantly for developments in Korea, the Liaoning Peninsula. This peninsula protruded from northeast China into the Yellow Sea and bordered Korea to the east. The annexation meant that Japanese influence in Korea increased. A weak and increasingly unstable China moving towards turmoil and the Japanese defeat of Russia in the 1904–05 war (essentially fought over Korea but taking place primarily in Manchuria and at sea) paved the way for the early annexing of Korea. By 1910 Korea had been absorbed into the growing Japanese Empire as a key colony and bridgehead on the Asian mainland.

Japan brought industrialisation to Korea during the colonial period, primarily developing the northern parts while letting the south remain agrarian. But it also brought a harsh and repressive rule which the Korean population despised and hated. Decades of repression entrenched bitterness and hate towards Japan. Even today the legacies of colonisation generate ill feeling and hatred towards the Japanese, as well as nurturing a narrative that stressed the victimisation of the Korean people. But, despite all the hardship it endured during the colonial period, the country continued to be one united entity.

The division of Korea in the final stages of World War II was to have a particularly great effect. It has sometimes been likened to the division of Germany, but the German people, although culturally cohesive, had only been united under one ruler in the 18th and 19th centuries while Korea had been one country for millennia. Prompted by the late Soviet declaration of war against Japan in April 1945, the US armed forces were ordered to prepare for the end of the war by dividing the peninsula in two parts, one in which Soviet forces would receive the Japanese surrender and one where US troops would do the same. The division, made at random by two army colonels roughly along the 38th Parallel, not only split a united people but also served to create an economic and industrial

[1] The Treaty of Kanghwa of 1876.
[2] The Treaty of Chemulpo of 1882.
[3] Willmott, H.P. (1982) *Empires in the Balance, Japanese and Allied Pacific Strategies to April 1942* (Annapolis, Naval Institute Press), p. 20. The treaty was signed on 17 April 1895.

imbalance, the north being industrialised to a much greater degree than the agrarian south.[4]

At the end of the war the US–Soviet rivalry was already ratcheting up and the two-Korea solution resembled what was happening in Europe. By 1947 both superpowers were entangled in a Cold War that was effectively making permanent a division of the world into spheres of influence. In 1948 the Republic of Korea (ROK) was founded in the south and the Democratic People's Republic of Korea (DPRK) in the northern parts of Korea, effectively creating two diametrically different political entities.[5] In 1949 tension on the peninsula was on the rise. Finally, in the communist regime, under its revolutionary leader Kim Il Sung, North Korea had secured ample support from the Soviet Union and China to take a chance on forced national unification. In June 1950 war broke out.

2.1.2 The Korean War and the Armistice

It was to be a long and bloody war. While the numbers are only estimates, combined military and civilian deaths in South Korean in the course of the three-year war lasting from June 1950 to the armistice in July 1953 numbered several hundred thousand. The US lost approximately 36,000 troops in battle and China over 100,000.[6] The number of deaths resulting from unimaginable and uncounted civilian bloodshed in both the North and the South is sometimes put at over a million. The magnitude of the tragedy would naturally have great impact on the Korean people. The slaughter and atrocities inflicted by Korean on Korean left huge scars in both South and North Korean societies, fuelling hatred. The hope for Korean unification has since then stood side by side with a great bitterness and people-to-people hatred.

After a year of war, exhaustion was beginning to set in. North Korean troops had surprised and all but overrun South Korea, after which a South Korean- and US-dominated United Nations (UN) coalition had counterattacked and pushed back the communist forces towards the Chinese border. By the summer of 1951, both sides began to realise that a complete victory would come at a very high price. The ceasefire negotiations started on 10 July 1951. When the talks moved to the truce village at Panmunjom in October of the same year, the United Nations accepted the proposal from the communist side of a 4-kilometre wide Demilitarised Zone (DMZ). Despite this initial success, it would take more than

[4] Sandler, Stanley (1999) *The Korean War: No Victors, No Vanquished* (London: UCL Press), p. 22.
[5] "Background Note: South Korea", *State Department of the United States of America*.
[6] Leland, Anne and Oboroceanu, Mari-Jana (2010) *American War and Military Operations Casualties: List and Statistics*, Congressional Research Service, 26 February.

two years before the armistice was signed. Apart from the actual evolving war situation, one of the greatest obstacles to finalisation of the terms of the armistice was the issue of repatriation of prisoners of war (POWs).

The UN side favoured "voluntary repatriation". The United Nations Command prisoners included tens of thousands of ROK soldiers who had been conscripted into the North Korean Army (KPA). Additionally, the Chinese People's Volunteers (CPV) prisoners included thousands of former Chinese nationalists. The US president, Harry S. Truman, refused to force these people to return to the communist side and face severe repression. On the other side, China and North Korea claimed that the prisoners should be returned immediately according to the Geneva Convention.

The negotiations dragged on while fierce hostilities continued. Almost 50 per cent of the casualties occurred after the talks had started. After, among other things, large-scale attacks on North Korean infrastructure by the US Air Force, the communist side agreed to accept neutral nation supervision of voluntary repatriation.

Finally, in late July the commanders from both sides agreed on an armistice. For the south side the commanding general, United Nations Command, signed on behalf of the international community. The north side was represented by the commanders of the KPA and the CPV. After being signed at Panmunjom (see Image 1) at mid-day, the provisions of the armistice, including the ceasefire and neutral nations supervision, became effective 10 hours later, at 2200 hours on 27 July 1953. An uneasy peace settled along the 241-km DMZ.

The armistice was intended to be temporary. But the ensuing peace talks, held in Geneva in 1954, failed. During the more than half a century since the armistice, all hopes of restoring peace have been disappointed. Over time, both sides have used the armistice for political purposes, each accusing the other side of violating its provisions, and not seldom using such accusations to kill off a particular displeasing provision. According to the provisions of the armistice, several commissions meant to manage and uphold the agreement were established. Although North Korea at several points tried to kill them off, the United Nations Command Military Armistice Commission (UNCMAC), which holds talks and negotiates on behalf of the southern side, and the Neutral Nations Supervisory Commission (NNSC)[7] are still functioning today.

[7] See Fact sheet I.

***Image 1**: North Korean soldiers stand guard in front of the truce village of Panmunjom at the Demilitarised Zone (DMZ), which separates the two Koreas*.

While the North Korean elite may have seen the war as a national war to unite an "artificially divided country", outside powers were bound to view it within a broader Cold War framework.[8] To the anti-communist bloc it was seen as yet another instance of communist aggression to test whether the West would rise to the challenge. The Soviet–Chinese support for the North suggests that the communist bloc viewed it in similar Cold War terms.

Like Germany, Korea was to remain split throughout the Cold War. But the particular circumstances and politics of Korea were to see it remain divided even when thaw hit Europe, the Cold War melted away and Germany again became one country. In sum, during an odd 40 years, rivalry was acted out in a Cold War setting. Since then, rivalry, tension and hostility on the Korean peninsula has been perpetuated for more than 20 years in a post-Cold War world, remaining one of the last remnants of the great bipolar conflict.

[8] Yahuda, Michael (1996) *The International Politics of the Asia Pacific, 1945–1995* (London: Routledge), p. 26.

Fact sheet I: The Neutral Nations Supervisory Commission (NNSC)

Established under paragraph 36 of the armistice agreement of 1953, the Neutral Nations Supervisory Commission (NNSC) was to supervise, observe, inspect and investigate activities outside the DMZ. It was originally composed of personnel from four nations: two neutral nations, Sweden and Switzerland, nominated by the United Nations Command (UNC), and two neutral nations, Poland and Czechoslovakia, jointly nominated by the North Korean Army (KPA) and the Chinese People's Volunteers (CPV). A major-general or equivalent headed each delegation.

Initially, the NNSC employed ten inspection teams to ensure that neither side violated the armistice agreement by reinforcing military personnel, weapons or ammunition. Due to among other things anti-communist demonstrations in South Korea and lack of access to the North Korean ports of entry, this mission was cancelled in 1956. Accordingly, since then, the size of the NNSC delegations has been reduced from over 400 persons to five officers each today.

In May 1991, following the appointment of an ROK general as a senior member of the UN Military Armistice Commission (UNCMAC), the KPA stopped providing reports and insisted that UNCMAC and the NNSC were defunct and no longer had a mission. Also as a result of the collapse of the Soviet Union, the KPA first refused the Czech appointed to replace the Czechoslovakian delegation to the NNSC and in 1995 forced the Polish delegation to leave its camp in Panmunjom and leave North Korea. Later that year the KPA put restrictions on the free movement of the remaining NNSC members in the northern part of the neutral Joint Security Area (JSA).

The Swiss and the Swedish members of the NNSC continue to hold meetings in the JSA to review and evaluate reports provided by the UNC. Poland sends representatives to the JSA annually, via South Korea, to conduct NNSC business. Since 2005, the NNSC has an agreement with UNCMAC to allow it to perform additional tasks, with the purpose of supporting confidence-building measures. The new mission allows NNSC to verify military activities as being in compliance with the armistice, such as helicopter transports, ROK–US exercises and UNCMAC inspections inside the DMZ. Although the NNSC's activities have been curtailed over the years, the presence of neutral representatives in Panmunjom has provided a stabilising influence on the Korean Peninsula.

2.1.3 The Legacy of War

The staunchly anti-communist government of Rhee Syngman in South Korea found several reasons not to accept an armistice, the primary reasons centring on dissatisfaction with the achievements and the final state of the war effort. But by spring 1953, as the war front had stabilised around the 38th Parallel, US and UN forces were ready to make a deal with the northern side.[9] Negotiations were initiated and by June 1953 both sides were in agreement. On 27 July North Korean General Nam Il, representing the Chinese and the North Koreans, and US General Harrison, representing the joint UN forces, signed the armistice. The South Koreans were not signatories to the armistice.

After the war South Korea was to develop in an authoritarian direction and through the years military juntas and military-backed regimes would be in power. Since the war had a strong ideological element to it, South Korean politics was to develop in a conservative, capitalist direction. To date South Korea has had six formal republics, each of them representing a substantial constitutional change.[10] Out of these four were authoritarian and every president in office between 1961 and 1992 had a military background.[11]

President Rhee Syngman, who remained in power until 1960, pursued coercive political power in the post-war period. Parliamentarians were threatened into conceding votes, opposition groups were terrorised and elections were rigged to keep the ruling party in an absolute majority in the National Assembly. The student revolt of 1960 which toppled Rhee and opened up for democratic reform – the short-lived second republic – was soon to be quenched. In May 1961 General Park Chung-hee led a military coup and restored authoritarian rule to South Korea.

Through the Rhee era the immediate post-war threats from a possibly resurgent North Korea dominated security thinking in the South. The South Korean military was busy reconstructing and arranging itself within the broader framework of the US military presence in Korea. Relations with the US were of the utmost importance, as testified in the Mutual Defense Treaty between the US and ROK which entered into force in 1954,[12] first and foremost because of the

[9] Sandler (1999) *The Korean War*, pp. 260-261.
[10] The total number of constitutional changes to date is nine. Kil, Soong Hoom (2001) "Development of Korean Politics – A Historical Profile", in Kil and Moon (eds) (2001) *Understanding Korean Politics* (Albany: State University of New York Press), pp. 36-37.
[11] Kil (2001) "Development of Korean Politics", p. 33.
[12] "Military Alliance", *Embassy of the Republic of Korea in The United States*.

military protection and deterrence provided by US troops in Korea. But the government also relied on broader US support. Because of Cold War tensions and the importance of Korea for its overall containment policy, the US found it expedient to support the Rhee regime despite its brutality and corruption.

It was also during the Rhee regime, as early as 1948, that the *National Security Law* was first enacted.[13] Although revised, the law is still in force today and is seen by its proponents as a vital instrument of security. Originally envisioned as an anti-communist law to hamper subversive infiltration by North Korean communist groups, it soon became a convenient instrument to justify regimes clamping down on opposition groups. In its revised versions the law today has several effects. One is that media availability from the North is blocked. Another is that any South Korean citizen wishing to travel to North Korea must have government approval.

The 1963 elections marked the beginning of the third republic and the election of the former coup general, Park Chung-hee, as civilian president. Through further constitutional amendments he was enabled to stay in power until October 1979, when he was murdered. During the Park era the economic development of South Korea accelerated thanks in part to the commitment to capitalism but also because agrarian reforms introduced after World War II came into force, bringing a reduction of the influence of landlords and commercialisation of the farming sector.[14]

Because of the length of his hold on power, President Park oversaw many key security developments. During the 1960s the US–Russian rivalry dominated global politics while North Korea saw coherent support from its two main allies erode as Sino-Soviet relations turned for the worse. The armed forces of South Korea entered a phase known as *Defense System Arrangement*, building up the institutions and structure of the armed forces.[15] The Status of Forces agreement of 1966 finally clarified the legal status under which the US troops in Korea operated.

In the late 1960s tension on the peninsula grew again, possibly due to internal North Korean politics and the changing security architecture of the region. In 1968 North Korea conducted an unsuccessful Special Operations raid into Seoul.

[13] Kraft, Diane (2006) "South Korea's National Security Law: A Tool of Oppression in an Insecure World", *Wisconsin International Law Journal*, Vol. 24, No. 2, p. 1.
[14] Kihl, Young Whan (2005) *Transforming Korean Politics: Democracy, Reform and Culture* (New York: M.E. Sharpe).
[15] "History of MND", *Ministry of National Defense of the Republic of Korea*.

The objective was to penetrate the presidential palace and kill Park Chung-hee. A few days later North Korea seized a US surveillance vessel, the *USS Pueblo*.[16]

The Sino-Soviet confrontation of 1969 and the later rapprochement between China and the US had significant effects on inter-Korean relations. North Korea saw the foundations of it security policy – war with the US and partnership with China – shaken. South Korea on the other hand saw an eroding US commitment to its own cause as a possible outcome of the new US–China relationship. To the Park government this highlighted its military dependence on the US.

Seoul took several steps to strengthen the South Korean position and counter the perceived increased threat from North Korea. First and foremost Park used the situation to change the constitution in his favour. The change was substantial, granting the president indefinite terms in office and far-reaching powers such as the right to dissolve parliament. As Park's grip on power tightened his options vis-à-vis the North also increased. Second, after a period of high tension and military incursions from the North, relations took a turn for the better, allowing for official contact between North and South. These occurred from 1971, first via the Red Cross but soon between officials. This resulted in a 1972 joint communiqué. The document stressed three principles that would guide unification efforts:

- Reunification should be achieved independently, without reliance upon outside force or their interference.
- Reunification should be achieved by peaceful means, without recourse to arms.
- Great national unity should be promoted first of all as one nation, transcending the differences of ideology, ideal and system.[17]

Third, the Park government embarked on a path towards military self-reliance. In 1972, National Defense Objectives were published for the first time, outlining South Korea's security goals. The command and control structures were reformed. Although the armed forces remained under overall US command, a combined ROK–US headquarters was established. A more developed arms industry was envisioned and the procurement system was to be reformed.

Park's murder in 1979 was followed by a coup and a period of martial law and military rule. Unlike during the 1961 military takeover, the coup of spring 1980

[16] Yoon, Taeyoun (2003) "Between Peace and War: South Korea's Crisis Management Strategies Towards North Korea", *East Asia Review*, Vol. 15, No. 3, Autumn, p. 15.
[17] *North-South Joint Communiqué*, Pyongyang, 4 July 1972.

faced massive protests which in turn were harshly suppressed.[18] The new civilian president, former leader of the military coup General Chun Doo-hwan, was elected into office in October 1980. Further amendments of the constitution followed. Importantly, these did not allow indefinite terms for the president but only one single term of seven years.

Defence policy during the 1980s focused on continued implementation of Park's vision of military self-reliance. Improvements in and modernisation of the defence industry and acquisition process moved forward. By 1987 defence research was systematically expanded into the social sciences field by the establishment of the Korea Institute for Defense Analyses (KIDA).

By the mid-1980s the "dark age" of South Korean politics was coming to a close. Despite the persisting security threats, challenges in the alliance with the US and continued authoritarian rule, South Korea had made astonishing economic progress. At the end of the war the ROK had been considerably less industrialised than North Korea, and it lagged behind well into the 1960s. By 1980 it was well ahead in both economic and industrial terms. Defence and foreign policy had not brought about ultimate success, the unification of Korea. But large-scale war had been prevented and the 1972 talks with North Korea showed that détente was possible under the right circumstances.

2.2 The Democratic Era

Events in 1987 meant a significant shift in South Korean politics, heralding an era of democratic transformation. At the end of his legal seven-year term President Chun tried to prolong his tenure but once this was understood massive student protests broke out. Public protests soon escalated and spread while opposition parties formed a coalition. The tipping point was the revelation that severe brutality had been used against protesters, some of whom died in custody. Popular protest now spread to the middle class, prompting constitutional reform and free direct presidential elections. Although they were won by a former general, Roh Tae-woo, South Korea had started down the path of democratic development, underscored by the election in 1992 of Kim Young-sam, the first civilian president in decades.

The end of the Cold War and the breaking up of the old superpower rivalry were to change security architectures around the world. In Northeast Asia tensions had not been as high as in Europe and the change therefore was less dramatic and not as profound. Tensions between North and South Korea persisted. For South

[18] Kil (2001) "Development of Korean Politics", pp. 49-50.

Korea some developments were troublesome. In 1988 the US Congress had passed the Nunn–Warner Amendment mandating a three-phased reduction of US forces in Korea. No longer part of the overall Cold War setting, South Korea risked becoming a less important partner for the US and the situation on the Korean Peninsula might be perceived as less of a security threat to the US.

At the same time, North Korea's pursuit of nuclear technology and the associated proliferation risk was becoming a serious policy issue. This had long been an issue of discussion, but it now received accelerated policy attention. A declassified 1991 cable from US Secretary of State James Baker to Secretary of Defense Richard Cheney illuminates the evolving US policy, which now seemed to focus on North Korean denuclearisation as the primary objective. This focus was founded on "strong regional and global concerns" and implicitly regarded denuclearisation as a prerequisite for reconciliation on the peninsula.[19] The US decision in 1991 to withdraw tactical nuclear weapons from the peninsula and to slow down the pace of withdrawal of US forces in Korea was supportive of this policy.

By this time the two Koreas were engaged in secret negotiations aimed at agreements on reconciliation and the denuclearisation of the Korean Peninsula. The new American approach which the Baker cable hints at might have been seen as a problem as it was important for the two Koreas to be primary discussion partners. If the US signalled that it was ready to have high-level meetings with North Korea, Kim Il-sung might abandon inter-Korean negotiations. Direct relations and peace with the United States was always the primary objective of the North. As it turned out, South–North negotiations went ahead and a joint reconciliation agreement was signed. It put on paper both sides' adherence to the armistice and emphasised mutual respect of each other's systems and integrity as a key prerequisite for peace and future unification.[20] There was however no mention of the nuclear issues, making it clear that US and South Korean priorities at this time were not entirely aligned.

By 1993 Kim Young-sam was president in the South and the peninsula was again in crisis. The nuclear issue had moved up the agenda and North Korea, ever looking for advantageous brinkmanship policies, had escalated the nuclear controversy. In the end North Korea and the US signed the Agreed Framework, under which the DPRK agreed to freeze and ultimately dismantle its nuclear

[19] Department of State of the United States of America, Cable, Secretary of State James Baker to Secretary of Defense Richard Cheney, 18 November 1991. Subject: *Dealing with the North Korean Nuclear Problem; Impressions from My Asia Trip*. [FOIA-Declassified 1998].
[20] North/South Reconciliation Agreement, New York, 13 December 1991.

programme and in return receive support. The crisis de-escalated and a consortium, the Korean Peninsula Energy Development Organisation (KEDO), was formed.[21] This multi-nation organisation would supply North Korea with energy support in exchange for its denuclearisation efforts.[22] Despite KEDO help, however, the late 1990s saw widespread famine in North Korea in the wake of bad weather and mismanagement of the agricultural sector, and recession as a result of mismanagement and the inability to modernise the stagnated industrial sector.

The internal North Korean crisis and the perception in Pyongyang that KEDO was not fulfilling its promise with respect to building the promised light-water nuclear reactors triggered new forms of brinkmanship and crisis diplomacy on the part of North Korea. In 1998 a long-range ballistic missile (the North, with some right, claimed it to be a space launch vehicle) was launched and flew over Japan. This triggered a set of diplomatic initiatives, the most important being the long-term focus it put on the ballistic missile threat, the Japanese decision to co-develop missile defence with the US, and the US decision to abandon the Anti-Ballistic Missile (ABM) Treaty which restricted missile defence development. In 1999 there were serious naval clashes in the West Sea close to the Northern Limit Line (NLL), the first such in many years.

The by now familiar behaviour of crisis escalation by North Korea followed by détente repeated itself. This time, however, it had as much to do with developments in South Korea. In the 1997 presidential elections the opposition candidate, Kim Dae-jung, was elected – the first time an opposition leader had come into office. Kim was bent on promoting a policy of engagement towards North Korea. The so-called Sunshine Policy was nominally to change the inter-Korean relationship although in the end it achieved neither denuclearisation nor an end to the conflict and the provocations.

Their 2000 June summit meeting was the first ever between the leaders of South and North Korea, and for a time moved both countries into a phase of reconciliation. The summit allowed for a change in South Korean political perceptions and opened space for new policies towards the North. The security dynamics seemed to have changed and the threat posed by North Korea seemed less imminent. The North Korean regime could more easily be depicted as a partner who could be negotiated with rather than an enemy.

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[21] See the KEDO web page.

[22] KEDO was to supply North Korea with 500,000 metric tons of oil each year and construct two light-water nuclear reactors. The KEDO members were South Korea, Japan, the US, the European Union, Canada, Australia, New Zeeland, the Czech Republic, Chile, Argentina, Uzbekistan, Indonesia and Poland.

This policy of engagement and economic support was upheld even in the face of consecutive clashes and crises. In retrospect the dilemma seems to have been that, while the South Korean government viewed the post-summit era as one of genuine détente, North Korea did not. Several indications point to this. The naval clashes of June 2002 initiated by the North across the NLL close to Yeonpyeong Island in the disputed West Sea, which left six South Koreans and dozens of North Koreans dead, is one. The revelation in autumn 2002 that Pyongyang was conducting uranium enrichment activities – and thus had not frozen its pursuit of nuclear weapons as promised in several agreements – was another.

The heir to Kim Dae-jung's Sunshine Policy, President Roh Moo-hyun, outlined a *Policy of Peace and Prosperity* in his inaugural address of February 2003. It built on and expanded on the Sunshine Policy. It aimed to build peace and prosperity in Northeast Asia on the basis of an inter-Korean economic community and the peaceful resolution of the nuclear dilemma. In pursuing parallel progress not only in the economic sector but also in the military and security field, the Roh government aimed at a balanced approach to peace and prosperity.[23]

President Roh's ambitions, outlined in the 2003 Defense White Paper, also meant making the ROK a balancer in regional and global affairs.[24] Apart from continued economic development, this ambition led the ROK to be one of the first contributors to Operation Iraqi Freedom, ultimately sending 3,400 troops to the country, making it the third-largest peacekeeper in Iraq.

Aspirations for a greater and more independent role for South Korea also meant its doing more for its own defence. This gave rise to several debates in South Korea. One was about how to manage the ROK–US alliance while moving towards greater self-reliance. The concept launched built on and modified basic ROK tenants of the alliance – security through partnership with a far-away superpower, ensuring a greater degree of domestic freedom. What Roh pushed for was to step even further away from the patron–client relationship towards more "cooperative self-reliance" and more "equality" in alliance affairs.[25]

Another intense defence debate centred on the future of the armed forces. The government position was that there was a need to rebalance the force structure

[23] Ministry of National Defense, Republic of Korea (2003) *Participatory Government Defense Policy*.
[24] Kim, Choong Nam (2005) *The Roh Moo-hyun Government's Policy Towards North Korea*, East-West Center Working Papers, Politics Governance and Security Series, No. 11, August.
[25] Snyder, Scott (2009) "Lee Myung-bak's Foreign Policy: A 250-Day Assessment", *The Korean Journal of Defense Analysis*, Vol. 21, Issue 1, March.

towards greater regional capability in parallel to the continued focus on defence against the threat from the North. The procurements initiated under the Kim and Roh governments – the F-15K fighter, the T/FA-50 trainer/light combat aircraft, the P3 anti-submarine warfare aircraft, the Korean Helicopter Project (KHP), the next-generation submarine (SSX), and the KDX-II/III (Aegis-equipped) destroyers – as well as steadily rising defence budgets over the last decade are testaments to Kim's and Roh's regionalised defence policies.

2.3 Some Current Security Challenges of the ROK

Since the conservative government of Lee Myung-bak came to power in 2008, ambitious changes to the overall foreign and defence policy have been announced. Under the banner of Global Korea, the Lee administration has worked towards its vision of Korean security and prosperity. Important elements have been a reinvigoration of the US–ROK alliance and further globalisation of the economy, one premise being establishing free trade agreements (FTAs). The "Vision 3000", which promises large-scale economic assistance to North Korea if the country abandons its nuclear programme and opens up its society, is also a core policy of the Lee government, making a hard-line approach inevitable as the nuclear dilemma was not about to be solved.

Despite the Lee Myung-bak government's attempt to differentiate itself from the previous two administrations by taking a hard line towards the North, remarkably few overall changes with regard to the long-term defence procurement policy and force structure have actually been made since 2008. There are, however, some larger issues and a multitude of more detailed ones which are addressed in the chapter on defence reform, chapter 3.

The lack of actual change may be a consequence of the overall assessment of the Lee administration. In the second decade of the 21st century the world is in a period of substantial change that is affecting the economic order and the global balance of power. As a globalised economy on the rise, a Northeast Asian power in close proximity to China and Russia, and still caught in the peninsular conflict, South Korea faces a complicated web of security challenges. This nexus of old and new security dilemmas means that the security issues the country needs to address are highly complex and fraught with uncertainty.

The introduction to the 2009 national security strategy summarises the position of the Lee government:

> The international landscape is fast changing. Threats to the security of the Korean Peninsula, East Asia, and the world are assuming

> increasingly multifarious forms. Terrorism, the proliferation of weapons of mass destruction (WMD), the global financial crisis, climate change and other challenges have global impact, and should accordingly be dealt with on the basis of international consensus and cooperation. National security cannot be served by defense alone. It needs to be treated as a comprehensive task for enlarging our safety and our interests.[26]

As the linkage between old and new, traditional and non-traditional security challenges is all but impossible to address in a comprehensive manner, some of the more pressing issues currently facing South Korea are singled out below. The objective is not to describe each of the topics in a comprehensive way or purport to give definitive descriptions. Rather each heading is meant to briefly introduce and outline the major security dilemmas facing the ROK today as well as the discussions concerning them – realities, perceptions and policy debates.

2.3.1 North Korea

The division of the peninsula and the threat from North Korea is still the most pressing and dangerous security threat facing the ROK. In a sense a petrified reminder of an older Cold War world order, the South–North relationship is nonetheless also changing, albeit slowly. The Inter-Korean summit of 2000 was no remedy and was not a success but it was something new and brought hope. Developments since 2002, however, have proved disappointing. North Korea upped the ante of its brinkmanship policy with the introduction of nuclear weapons and the offensive attacks on South Korea with the sinking of the *Cheonan* corvette in 2010 and the shelling of the West Sea island of Yeonpyeong the same year. The military threat from North Korea therefore remains the primary national security problem for South Korea.

The Dilemmas of Unification

South Korea continues to uphold a formal policy of unification. The large Ministry of Unification works to assess developments in North Korea and how these link to the possibility of promoting and ultimately achieving national unification. But beyond this basic tenet, which no politician or official is willing to abandon, opinions as to how North Korea should be dealt with in order to promote unification diverge. The first political fault line in South Korea centres on how accommodating South Korea should be on an economic level. The severe

[26] *Global Korea: The National Security Strategy of the Republic of Korea*, President's Remarks (2009).

North Korean famines of the 1990s in a sense brought about or strengthened arguments for substantive economic aid.

The basic argument behind this policy was that South Korean goodwill and increased interaction with people (not only officials) in the North would alleviate the mutual distrust and contentions the Korean people had developed during the war and the long division of the peninsula. If Korea in future is to be united once again, the argument goes, people-to-people relations must not deteriorate further and people in the South have to accept solidarity not only in principle but also in practice. Such economic solidarity would further and in the long run help create pressure for political change from below. The role and power of the people of North Korea, although suppressed, should be counted on. The introduction of a non-state-controlled food market system created as a result of the state's shortcomings during the famines in the North is taken as one such example.[27]

However, the continued problematic behaviour of North Korea, even after the historic 2000 inter-Korean summit, was soon taken as evidence that accommodation and help to North Korea would not help achieve the desired objective, that is, to prepare for and increase the chance of national unification in a way that is acceptable to the South Korean people and politicians. First and foremost, economic aid and help did not seem to affect society outside the ruling elite other than on the margins. The Northern regime, well knowing that any "awakening" or empowerment of the masses would risk undermining its exclusive hold on power, continued to keep its people in a state of vulnerability and poverty. This meant that the prospects that ROK help would lead to people in the North demanding change were dim. Rather, many argued, South Korean help was empowering the regime, reducing the prospects for unification and actually increasing South Korean insecurity.

One way of expressing the fault line is that more ideological, moral and social arguments for interaction with and aid to North Korea stand against the realpolitik considerations of the threat from North Korea and its threatening behaviour. There is therefore a wide array of political preferences, policy options and hopes on how to best promote, or at least not put back even further, the prospects for unification – which still remains a mainstay of ROK policy.

The debate about unification on a non-official level is different and arguably it is in fairly rapid flux. Public opinion surveys during recent years have shown that interest in North–South relations is dwindling. Opinion polls conducted in January 2012 on the "most salient issues" for the nation from the Asan Institute

[27] Lintner, Bertil (2005) *Great Leader, Dear Leader: Demystifying North Korea under the Kim Clan* (Chang Mai: Silkworm Books).

give a clear indication. Job creation (40% of respondents) and redistribution of wealth (27% of respondents) are far more important than North–South relations (12% of respondents).[28] Although the proportion of those who thought the latter were a priority surged (to 32% in January 2011) after the November 2010 Yeonpyeong shelling, it did not do the same in the wake of Kim Jong-il's death a year later. One explanation often put forward is the generational divide. A substantial part of South Korean society is made up of people born after the war and perhaps separated from it by two or even three generations. Divided families and strong family links across the armistice line are being thinned out. The increasing lack of personal experience and indeed of grievances from the war have also had an effect, albeit not necessarily one-sided, in the direction of less interest in unification.

What arguably is having a great effect is economic development in South Korea. People generally, and young people especially, have become used to a very high standard of living. This is something few are inclined to compromise on, at least not on a level that will be needed if North Korea is to be successfully integrated with the South. Economists debate what the exact cost to South Korea would be: one general figure heard is ten times the cost of German reunification. Whatever the actual number, and whatever economic models were used, people in the South would have to accept a substantial decline in their living standards for an extended period. More and more people are less and less inclined to accept such a cost and in the long run such opinions are bound to affect the politics of unification in the South.

Realistically, unification of the peninsula is decades away. Scenarios of how it will come about are many and divergent. One scenario that is hotly debated is that of a North Korean collapse. The theory is that, as with the Soviet Union, communist regimes that do not reform cannot continue and will eventually collapse. Such a collapse might trigger large flows of refugees across the borders into the ROK and China – something China has also been worried about. Even though this scenario invokes as much hope as fear, it may not be very likely, if for no other reason because the Northern regime has proved exceptionally resilient to any change or loss of control even in the face of significant catastrophes and weakness. It has been willing to starve its people and has accepted many thousands of deaths in order to stay in power. In fact its hold on power has hinged on keeping people and possible opposition weak. This says something about the nature of the regime – it is not a communist, Marxist or even Stalinist one. Instead it has been portrayed as a national socialist (in the meaning

[28] Kim, Jiyoon and Friedhoff, Karl (2012) *The Asan Monthly Opinion Survey January 2012*, Asan Institute for Policy Studies, January.

of ultra-nationalist, not fascist) regime using Confucian and historico-cultural references.[29] In the words of Grace Lee, when "Kim Il-sung came to power in North Korea in 1945 he arguably reverted to the highly isolationist policies of pre-modern Korea".[30] This isolationist, ultra-nationalist and traditionally hierarchical society is something quite different from and arguably more resilient than Soviet communism.

The Nuclear and Missile Conundrum

The threat posed by the North Korean nuclear weapons programme is a key regional and global concern. After having tested nuclear devices in 2006 and again in 2009, North Korea is considered to be nuclear-capable and well on the way to developing a capability to deliver nuclear devices with short-, medium- and even long-range missiles.

North Korea's ballistic missile programme had been going on since the decision in the 1960s to pursue an independent arms industry.[31] The missile programme made worldwide headlines in 1998 when North Korea announced a satellite launch, interpreted by several countries, including the US, as a long-range ballistic missile test.[32] The missile flew over Japan before landing in the Pacific. Surprise at the advanced stage of North Korea's missile capability was mixed with Japanese anger at the overflight. The launch came just months after the *Commission to Assess the Ballistic Missile Threat to the United States* had presented its findings and strengthened the conclusion that the US was very vulnerable to surprise attack by ballistic missiles.[33] The launch was a key event in the US process of abandoning the ABM Treaty and going ahead with the development of an advanced missile defence. Today North Korea has a diverse arsenal of short-, medium- and possibly long-range ballistic missiles which, in conjunction with its nuclear weapons development, pose a great threat to Pyongyang's opponents. Not only does North Korea have a potent weapon of deterrence; it is also a proliferation concern as it has sold missiles and related technology to other countries such as Syria and Iran.[34]

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[29] Lintner (2005) *Great Leader, Dear Leader*.
[30] Lee, Grace (2003) "The Political Philosophy of Juche", *Stanford Journal of East Asian Affairs*, Vol. 3, No. 1, Spring, p. 108, quoted in Lintner (2005) *Great Leader, Dear Leader.*
[31] Pinkston, Daniel (2008) *The North Korean Ballistic Missile Program*, Strategic Studies Institute, U.S. Army War College, February.
[32] Wright, David (2009) "Examining North Korea's Satellite Launch Vehicle", *Bulletin of the Atomic Scientists*, March.
[33] *Commission to Assess the Ballistic Missile Threat to the United States*.
[34] Pollack, Joshua (2011) "Ballistic Trajectory: The Evolution of North Korea's Ballistic Missile Market", *Nonproliferation Review*, Vol. 18, No. 2, July.

The nuclear controversy with North Korea became a hot topic after the end of the Cold War when the US administration of George W. Bush made it a priority in its Korea policy on the suspicion that the DPRK was in breach of its obligations under the Non-Proliferation Treaty (NPT) and was possibly trying to acquire nuclear weapons.[35] There were tense stand-offs in 1994 and again in 2002. Both centred on Western suspicion that North Korea was in violation of its obligations as a signatory to the NPT. After years of negotiations and the formation of the Six-Party Talks between South Korea, China, Russia, Japan, the United States and North Korea, these suspicions were proved right. North Korea withdrew from the NPT and tested nuclear devices. Nuclear talks within the framework of the Six-Party Talks collapsed in 2007 and as of spring 2012 have not been resumed.

North Korea's possession of ballistic missiles and nuclear devices, and possibly even nuclear weapons, is a very great concern for South Korea as well as other countries in the region and globally. Resolving the issue is of the utmost importance if the threat is to be eliminated. The chance of North Korea giving up its nuclear devices and returning to the NPT as a non-nuclear weapons state seems remote. From the Pyongyang perspective the nuclear deterrent is a key asset preventing foreign intervention and any attack on the country.

The UN Security Council has unanimously condemned North Korea's nuclear tests. Resolutions 1718 (2006) and 1874 (2009) put sanctions and embargoes on North Korea in response to its nuclear tests and programmes. China and Russia voted in favour of both resolutions.[36]

[35] Wampler, Robert A. (ed.) (2003) "North Korea and Nuclear Weapons: The Declassified U.S. Record", *National Security Archives*, 25 April.
[36] UN Security Council Resolution 1718; and UN Security Council Resolution 1874.

Unpredictability, Aggression and Brinkmanship

In its pursuit of its national security, survival, economic needs and ambitions of unification under North Korean primacy, the government in Pyongyang has developed a policy of brinkmanship "by mixing aggressive and provocative tactics, including issuing unconditional demands, blustering, bluffing, threatening, stalling, manufacturing deadlines, and even walking out of negotiations".[37] The military instrument is a key factor in this brinkmanship policy, used to underline negotiating positions and threaten opponents. While clearly this is a policy of the weak and reckless, it is effective because it exploits the difficulties that erratic behaviour and uncertainty present to policy planners and politicians in South Korea and elsewhere. More prominent as a policy prerogative during the Kim Jong-il era than during his father's reign, brinkmanship was developed in consort with the "military-first" policy introduced during the course of the 1990s.

There are numerous examples of such brinkmanship policy. The use of the nuclear programme as an instrument of brinkmanship is well documented, although time has proved that it was not solely an instrument of brinkmanship – North Korea did go ahead and build nuclear devices.[38] Key aspects of the nuclear brinkmanship have been:

1. First to make provocative statements about contentious issues. Example: the November 2002 rejection of the UN Security Council resolution which demanded clarification of North Korea's alleged uranium enrichment activities.
2. Second, to add threatening behaviour as a complement to rhetoric in order to escalate the situation. Examples: (a) the December 2002 unfreezing of nuclear programmes and the expulsion of all International Atomic Energy Agency (IAEA) inspectors, and (b) the reactivation of nuclear power facilities in February 2003.
3. Further escalation. Example: the missile tests in March 2003.
4. Negotiations. Example: Chinese Vice-Premier Qian Qichen visits Pyongyang and kicks of a first round of negotiations.
5. Further escalation while in the initial negotiation phase. Example: the anti-ship missile test soon after Chinese vice-premier's visit.

[37] Snyder, Scott (1999) *Negotiating on the Edge: North Korean Negotiating Behaviour* (Washington, DC: US Institute of Peace Press), p. 76.
[38] Yong, Chool-ha and Chun, Chaesung (2010) "North Korea's Brinkmanship and the Task to Solve the 'Nuclear Dilemma'", *Asian Perspectives*, Vol. 34, No. 1.

6. Negotiations again. Example: the April 2003 first round of the Six-Party Talks.

As the nuclear issue has moved into a new phase, with North Korea a *de facto* nuclear weapons state, provocations rather than brinkmanship behaviour have again come to the fore. The most pressing and widely discussed are the March 2010 sinking of the *Cheonan*, a corvette-type warship, and the November 2010 shelling of Yeonpyeong Island in the West Sea. Incidents in the contested West Sea are not unknown, having been a constant problem since the war, but the *Cheonan* and Yeonpyeong incidents arguably represented a new and more aggressive behaviour by North Korea, with far-reaching effects on political debate and politico-military planning and preparedness in South Korea and beyond.[39] One out of many such debated issues is the future behaviour of and risk of further provocations by the North and what such may lead to.

[39] It is beyond the scope of this report to expand on the events in 2010 and their effects. Some, like the defence reform and rules of engagement debates, are directly linked to these incidents, while others like the debate on North Korea and China are influenced by them.

Fact sheet II: The Military Demarcation Line (MDL), the Demilitarised Zone (DMZ) and the Northern Limit Line (NLL) in the West Sea

Armistice talks held in Kaesong and later at Panmunjom led to the signing of the 27 July 1953 armistice agreement, formally ending open hostilities on the Korean Peninsula. The signatories of the armistice were the chief military commanders from the Chinese People's Volunteers (CPV) and Korean People's Army (KPA), and the commanding general of the United Nations Command (US General Mark W. Clark) signing for the South side. The South Korean government declined to participate and did not become a signatory. It would take nearly 40 years for the two Koreas formally to agree to abide by the armistice. This was done in the 1991 Reconciliation Agreement.[40]

The signing parties constructed the armistice to "insure a complete cessation of hostilities and of all acts of armed force in Korea until a final peaceful settlement

[40] See North/South Reconciliation Agreement, New York, 13 December 1991.

is achieved".[41] It was therefore a temporary agreement and never meant to be a lasting one. However, the 1954 Geneva peace talks collapsed and the temporary agreement, not signed by one of today's principal parties, South Korea, is the only formally binding document preventing hostile action.

Among the general provisions of the armistice are:

- the suspension of armed hostilities
- a military demarcation line (MDL) roughly running along the 38th Parallel
- a 4 kilometre-wide demilitarisation zone (DMZ) surrounding the MDL
- the establishment of a Military Armistice Commission (MAC) with members from both sides to ensure that the truce held.

The armistice also stipulates that both sides will refrain from "any hostile act within, from, or against the demilitarised zone" or entering areas under control of the other.

The armistice agreement only delineates the line of control on land. The West Sea remained a problem because of geography and because access to certain islands was controlled by the South. This prompted the UN Command to unilaterally declare a Northern Limit Line (NLL) extending the MDL into the West Sea. The main reason at the time was to restrict South Korean naval movement northwards as North Korea had no navy to project power with.[42] The line was not agreed upon by the North and is still disputed today. In principle North Korea claims a more southerly line. There are currently complicated legal, political and military details involved in the NLL dispute. Although North Korea has mostly adhered to the original line, there are exceptions. The continued dispute and lack of will to resolve the issue outside of a formal peace treaty mean that the waters in the West Sea are particularly incident-prone, as was seen for example in 1999, 2002 and 2010.

[41] Korean War Armistice Agreement (Formally: Agreement between the Commander-in-Chief, United Nations Command, on the one hand, and the Supreme Commander of the Korean People's Army and the Commander of the Chinese People's Volunteers, on the other hand, concerning a military armistice in Korea), signed at Panmunjom 27 July 1953, Preamble.

[42] Kotch, John Berry and Abbey, Michael (2003) "Ending Naval Clashes on the Northern Limit Line and the Quest for a West Sea Peace Regime", *Asian Perspective*, Vol. 27, No. 2.

The Course of the New Leadership in the North under Kim Jong-un

The demise of North Korea's Kim Jong-il in December 2011 had become an increased probability since 2008 when the "dear leader" allegedly suffered a stroke. Yet his death stirred anxiety in South Korea and around the world. This was prompted less by surprise at his death than by uncertainties about the transfer of power in Pyongyang. While Kim Jong-il had been groomed as heir apparent to Kim Il-sung for two decades, the heir to Kim Jong-il only had some three or so years of preparation. South Korean intelligence leaks in 2009 had speculated about the choice of Kim Jong-il's third son.[43] At a rare Korea Workers' Party congress in September 2010 (the first in 44 years) Kim Jong-un was publicly endorsed.[44]

Directly following Kim Jong-il's death media and expert comments centred on how secure the new Kim's power base was and whether he would be able to stay in power at all. Signs of power struggles within the ruling clique were carefully watched. There was also concern that internal disagreement about policy and power relations could transfer into aggression against the ROK. However, as of March 2012 South Korea's relations with the North have been surprisingly calm and there are few signs of increasing North Korean volatility or aggressive lashing out in excess of what has been the case for the past decade or longer. Whether this stable situation will continue is anyone's guess. The main issue is that few people – if anyone – know the inner dynamics of the ruling elite in Pyongyang, and the resulting uncertainties will keep analysts and policymakers intensely watching every move by North Korea to avoid being taken by surprise.

2.3.2 China

China, long-time neighbour, once an imperial dominant power and now a rising regional and global power, presents South Korea with both opportunities and challenges. It was a *de facto* part of the Korean War on the northern side, and South Korea and China did not establish formal diplomatic relations until 1992. Much as with other regional powers, South Korea's trade and overall economy have become China-centred to a degree which some see as problematic. China is South Korea's largest trading partner with about 21 per cent of its overall trade in

[43] Harden, Blaine (2009) "Son Named Heir to North Korea's Kim Studied in Switzerland, Reportedly Loves NBA", *Washington Post*, 3 June.
[44] Kim, Christine (2010) "North Appoints Kim Jong-un as General", *Korea JoongAng Daily*, 29 September.

2011.[45] Lively trade relations are in stark contrast to the disappointment Chinese political and economic support for North Korea generates in South Korea. Such public opinion is mirrored in the political debate writ large about China's rise and the future of regional relations.

Chinese Help to North Korea

Since the Korean War China and North Korea have had friendly relations. Two consistent interests have been key drivers for China's Korea policy – the stability of the Korean Peninsula and the risk of a unified Korea which continues to have an alliance relationship with the United States. For these reasons China has been a key supporter of the Pyongyang regime. There are several concerns related to stability. First and foremost, a collapse of North Korea would probably generate a flood of refugees into China, a situation the government in Beijing would want to avoid at any price. Second, a conflict on the peninsula would present a serious risk of escalation involving US as well as South Korean forces. Third, a unified Korea under any government would probably suffer major economic turbulence and possibly austerity due to the cost of unification. Fourth, a unified Korea allied with the US would present serious military concerns. For the first time in the modern history of the People's Republic of China, a country formally allied with the US would have a direct land border with China.

After the failure to prevent North Korea from developing nuclear weapons and increased tension between North and South in the wake of the conservative Lee Myung-bak's election victory in 2007, China altered its policy, strengthening support for North Korea. This reflected two main realisations. First, the failure to prevent North Korea from acquiring nuclear weapons had an impact on the balance of power in the region. Second, policy under Lee Myung-bak frustrated hopes raised during the Kim Dae-jung and Roh Moo-hyun decade of a South Korea leaning more towards China than towards the US.

The reactions to both the Yeonpyeong-do shelling and the sinking of the *Cheonan* in 2010 were deeply disappointing from the South Korean government's point of view because the positions taken by China were clearly in favour of the North. This served to alienate both South Korea and Japan, and to some extent the US, and brought increased tension as China protested against US–South Korean naval exercises including aircraft carriers in the West Sea (Yellow Sea).[46] The hope in Beijing seems to be that a more North-friendly

[45] Song, Su-hyun (2012) "Trade Minister Touts Need for FTA with China", *Korea Joongang Daily*, 30 January.
[46] Bumiller, Elisabeth and Wong, Edward (2010) "China Warily Eyes U.S.-Korea Drills", *The New York Times*, 20 July.

approach will have several benefits and further current ambitions on the peninsula writ large. Closer cooperation will improve understanding of North Korean decision making and help to develop the economy, thus achieving stability.[47] The extension of the policy is to strengthen North Korea to allow the status quo to persist as any unification process today would increase the risk of damaging fallout.

China and Regional Security

This renewed and intensified support for North Korea has fed into the more general China debate in South Korea. A poll conducted after the Yeonpyeong shelling had 92 per cent of respondents dissatisfied with Chinese support for the DPRK and 58 per cent feeling that action should be taken "to send a strong signal of protest to China even if it risked damaging the strong economic relations" with South Korea.[48] Such a public outcry has been recurrent in South Korea. Although people are highly perceptive about the economic potential of relations with China, South Korean pride and nationalism drive anti-Chinese sentiment as soon as there is friction in the relationship.

Official policy of South Korea will always have to manage the duality of politics and the economy in relations with China. The tension between the military-political alliance with the US and the economic partnership with China is also a constant issue. The tilt towards the US under the Lee government came at a time of increased tension between the US and China. Incidents in the South China Sea during 2010 have prompted a wide debate on Chinese assertiveness.[49] Important elements of this debate are the civil–military relationship inside China and the question whether China's rise will remain peaceful, as Beijing insists it will. South Korea will have to take evolving relations between China and the US into detailed account as it manages its own independent China policy. The ambitions announced by President Barack Obama to renew attention to the Pacific and rebalance the US presence and partnership in the Pacific will be a factor in South Korea's future calculus. While Chinese reactions to these ambitions have been muted it remains to be seen how the US will act on its stated ambitions. A China that perceives itself as encircled and more pressed by a US-led coalition of anti-

[47] Gill, Bates (2011) *China's North Korea Policy, Assessing Interest and Influences*, United States Institute of Peace, Special Report 283, July.
[48] Kim, Jiyoon and Friedhoff, Karl (2011) *South Korean Public Opinion on North Korea and the Nations of the Six Party Talks*, Asan Institute for Policy Studies, October.
[49] Swaine, Michael D. (2011) "China's Assertive Behaviour – Part One: On 'Core Interest'", *China Leadership Monitor*, No. 34, Winter.

Chinese partners may well react in a way that further alters and complicates relations in the region.

South Korea, pressed between its military-political alliance with the US and its economic dependence on China, will have to execute a carefully balanced policy. If Sino-US relations remain more or less as they have been, balancing mutual economic interest and security-related contentions, Sino-South Korean relations will display strong elements of continuity. Alienating China would present the risk of severe blows being inflicted on the South Korean economy, but if China–US relations turn more confrontational, however unlikely this is, South Korea will be hard pressed in deciding how to act. The future of China's relations with Kim Jong-un's North is the other factor shaping future relations with Beijing.

2.3.3 Japan

Further complicating the regional calculus of the ROK is the contentious relationship with Japan. As the traditional antagonist and colonial power which brutally subdued Korea, Japan is widely unpopular in Korea. At the same time Japan and South Korea share substantial economic relationships and both feel threatened by North Korea. While concerns about Chinese assertiveness and economic ties have pushed the two countries closer during the serious conflicts of the last few years, tensions and grievances remain, limiting the ability of the two to work closely with one another.

The Dokdo/Takeshima Controversy, Textbooks and Historical Issues

The territorial dispute over the Dokdo islands (known as Takeshima in Japan) is highly controversial and periodically inflames relations between South Korea and Japan. The islands, located in the waters between Korea and Japan, are in effect controlled by the ROK, but Japan makes historic claims to them. The conflict is highly complex and involves legal issues, political and security issues, and nationalistic sentiments, making it particularly difficult to resolve.

Historical controversies about interpretations of the colonial era and framing of national responsibility in Japanese school textbooks are also sources of South Korean grievances. The failure of Japan as a society to deal comprehensively with its past aggression and the war crimes committed during the Pacific War (World War II) continues to be a source of irritation and provocation for the peoples affected. In Korea the brutal submission and colonial administration are not easily forgotten or forgiven. As long as Japan is perceived not to distance itself fully from its troubled past and show comprehensive repentance by rewriting national history as well as changing its rhetoric, relations between the

two countries are at risk of deteriorating in the face of public outcry and official protests against Japan.

Looking ahead, several indications point to a more constructive and closer relationship evolving between South Korea and Japan. Reinvigoration and shifts in alliance relationships with the US away from the "hub and spoke" template and towards trilaterals have brought the ROK and Japan closer. Increased attention to and concern about the future of China is part of this dynamic but will also serve to move bilateral relations closer. Elites in the two countries also view improved relations as beneficial to overall national interests.[50] The limits to a closer political as well as military relationship are, however, clear. Even if the territorial dispute were to be resolved, the feelings of enmity and emotional grievances will continue to have impact for the foreseeable future.

2.4 Summary

The relatively young South Korean democracy faces a wide range of very serious security threats and challenges as it continues on its journey towards democratic maturity and economic prosperity. The most pressing threat is the best known – the conflict with North Korea. Despite economic decline and self-imposed international isolation, North Korea has found ways to remain a potent military player on the peninsula and in the region. A policy of brinkmanship, exploiting the West's aversion to and partial inability to deal with erratic opponents, has effectively allowed North Korea to have greater impact on regional security than its national strength would suggest. Combined with the introduction of a nuclear deterrent in 2006, Pyongyang has empowered itself from a security perspective. South Korea, regional powers and the North Korean people have been forced to pay dearly for this policy.

The 50-plus years' experience in managing hostilities does bring some kind of stability to the situation and, although slightly expanded during the last decade, North Korea's room for manoeuvre remains limited. It is militarily inferior and any large-scale aggression leading to war would mean certain defeat for North Korea, as would any use of nuclear weapons. Such scenarios are not realistic options for North Korea. However, they would also be a catastrophe for the South; this is the essentials of deterrence. South Korea can only remain vigilant and strengthen its resilience and defence capability while the regime in Pyongyang is left to muddle through as best it can. This results in a stable

[50] Snyder, Scott (2009) "Lee Myung-bak's Foreign Policy: A 250-Day Assessment", *The Korean Journal of Defense Analysis*, Vol. 21, Issue 1, March, pp. 10-11.

hostility that will most probably last for years and a slow attrition of whatever identity and cultural commonality between the two Koreas that is left.

Regionally, South Korea faces challenges and opportunities. Like all its neighbours, South Korea is closely watching China's continued rise and it does so from the perspective both of national economic interest and of the military-political alliance with the US. Looming questions are whether China's rise will in fact remain peaceful and whether the carefully balanced policy of economic partnership with China and alliance with the US can continue unchanged. Ties with Japan will become closer but there are several limiting factors that will complicate joint initiatives and development within areas of common interest. The policy of balance will continue to be a key necessity and the ROK cannot afford to alienate either China or Japan. This points to a continuation of current overall regional policy.

Finally the evolving South Korean democracy has managed to lift itself up to economic prosperity and status despite the multitude of serious security threats, concerns and challenges. But continued success is not guaranteed. The complex security environment makes coherent grand strategic designs, such as the Lee Myung-bak government's *Global Korea* national security strategy, difficult to implement. Later developments have forced a number of *ad hoc* and piecemeal adjustments to tactical situations. Such difficulties in implementing preferred strategic thrusts have to some extent been augmented by changing voter interests and the primacy of the economy and welfare in the public debate. Specifically the upswing in public concern after North Korean provocations influences policy formulation and forces South Korean governments in part to adjust tactically, not act strategically.

Despite such difficulties, South Korea on the whole has shown considerable resilience and determination in the face of all difficulties. It has managed to reform itself quickly into a vibrant democracy and has achieved astonishing economic success. Aside from the catastrophe of all out inter-Korean war there is little reason to doubt the continued success and prosperity of South Korea.

Fact sheet III: The Defence Politics of and the Defence Policy Process in the ROK[51]

The ROK is formally a democratic republic with the president wielding considerable executive power. He is elected in general elections for a five-year term with no re-election possible. The president has the right to appoint the rest of the cabinet. The next presidential elections take place in December 2012.

The legislative branch, the National Assembly, is a 299-delegate body elected in general elections. The next election to the National Assembly takes place in April 2012.

General defence and security policy is to a great degree driven by the presidential office, or Blue House. The Blue House formulates policy, drafts bills and is responsible for passing them to the National Assembly for approval. In the Blue House the presidential secretary for national security is a key figure in defence policymaking. When substantial bills are drafted, such as defence reforms (see chapter 3 for details), the president often appoints a commission of well-known and trusted experts who provide advice and general guidance.

At their disposal the president and his staff have the full government apparatus with ministries and agencies.

The most important of these support bodies for policy formulation is the Ministry of National Defense (MND), where the drafting work on bills and other regulations concerning defence policy is done. The ministry also manages government contacts with the armed forces. The National Intelligence Service is the most important provider of information to the Blue House.

As bills are finalised they are put before the National Assembly for approval. Within the National Assembly the Committee on Defense is the most important body for preparing bills to be put before parliament. As in any many systems, parliament does not wield any considerable power apart from being able to reject proposals.

There are several informal bodies that are capable of lobbying effectively and influencing policymaking. Veteran groups that organise retired higher-echelon

[51] This fact sheet is based on several interviews as well as official documents.

officers are one example. Societies and research bodies coupled to various political factions are another.

Overall defence and security policy in South Korea is centralised and sensitive in nature. Although there is a constituency and political interest in the broader issues of how to handle North Korea, and sometimes about the US forces in Korea, some other specific issues are left out of the limelight to a significant degree.

3 South Korea's Defence Reforms

The Defense Reform 2020 Plan (DRP), initiated and encouraged by the Roh Moo-hyun administration, was formally announced by the ROK Ministry of National Defense on 12 September 2005. It has subsequently been revised. The revision, released in 2009, has altered and further highlighted the key goals and ambitions of the reform plan. Furthermore, there is a new reform plan, officially called the 11-30 Plan, which was proposed recently and, if passed into law, would complement and partially override the DRP. The contents, goals and implications of the DRP, its revision and the newly proposed reform plan will be treated in this chapter.

South Korea has been pursuing defence reform in various forms since the mid-1970s, starting with the *Yulgok* project. Most South Korean administrations have initiated their own defence reform processes. The current defence reform is arguably, however, the most important to date, both in vision and in substance. It should be recognised that there are important political factors, such as ROK–US alliance relations, which are affected in their own context by the defence reform. The defence reform discussions have also drawn attention to the nature of inter-service rivalry in the ROK armed forces. Essentially, the Army has traditionally been the dominating service and continues to be so from a politico-bureaucratic perspective. But the last ten years have seen acquisition programmes focusing on the Navy and Air Force. Inherent in the current reform plan is how dominant the Army will be in acquisition as well as in the higher command structure. However, this chapter will focus primarily on describing and analysing the main contents and implications of the current defence reform plan and its subsequent amendments.

The first section of this chapter provides a short background and discusses the driving factors which have prompted South Korea to pursue defence reform. The second section presents the main contents of the Defense Reform 2020 Plan. This section also pays particular attention to the budget for the DRP and the anticipated implementation process. The third section presents the revised defence reform plans, their drivers and contents. Section 4 provides a more in-depth presentation of the DRP's Force Improvement Programme (FIP) and the major weapons systems which the ROK is seeking to acquire.

3.1 The Drivers of Defence Reform

South Korea's decision to pursue defence reform has been prompted by a number of factors. Defence reform is taking place in a context where both the domestic and the regional security considerations of the ROK government and defence

establishment play an important part. Developing its military capabilities to deter the immediate threat posed by North Korea, both symmetric and asymmetric, is an important aspect of why defence reform has been deemed to be a necessity. Furthermore, South Korea has identified a need to enhance its military capabilities in order to meet the challenges posed by a changing regional security environment.[52] Given the growing military power of China and a subsequent, potentially intensifying, regional security dilemma, uncertainties exist in regard to what security challenges South Korea will be facing over the coming decades. In essence, the Roh administration refocused South Korea's military-strategic policy by giving it a more distinct regional orientation.[53] This realignment occurred in a context in which the Sunshine Policy was the dominant political framework guiding South Korea's engagement with its northern antagonist. Consequently, one driver of defence reform is the perceived necessity not only to improve the ROK's military capabilities, but also to provide its armed forces and government with increased strategic flexibility and corresponding freedom of action in relation to other nations in the region.

Another purpose declared by the Roh administration in regard to pursuing defence reform was to establish a self-reliant security and defence posture.[54] Achieving self-reliance is to an extent intended to mitigate South Korea's dependence on US extended deterrence and military support in the event of an armed conflict, an integral part of the Roh administration's national security policy. Furthermore, a self-sufficient national defence posture coupled with an institutionalised military command and control (C2) structure is seen to be a prerequisite if South Korea intends to take over wartime operational control (OPCON) from the United States. As the following sections will show, part of the current defence reform in South Korea includes establishing a more efficient C2 structure by strengthening the Joint Chiefs of Staff (JCS) system.

3.2 The Defense Reform 2020 Plan

The DRP 2020 calls for a major overhaul of South Korea's armed forces and the modernisation of its overall defence posture. Officially, as stated in the ROK Defense White Paper of 2008, the DRP intends to redesign the armed forces and create an "elite and advanced military" with capabilities commensurate with the

[52] Ministry of National Defense of the Republic of Korea (2007) *2006 Defense White Paper*, pp. 34, 38.
[53] Interview, Yonsei University, Seoul, December 2011.
[54] Ministry of National Defense of the Republic of Korea (2007) *2006 Defense White Paper*, p. 34.

changing strategic environment and the requirements of modern warfare.[55] More specifically, the reform process, which started in 2006, ultimately seeks to reduce South Korea's military manpower while simultaneously improving the qualitative capabilities of its armed forces by 2020.[56] A number of significant changes to the ROK's armed forces and defence posture will be made during the 15-year reform process, in accordance with the Defense Reform Plan.

The DRP intended to reduce the size of the armed forces to 500,000 troops by 2020, down from a force of 681,000 in 2005.[57] Indeed, there have already been significant reductions of manpower, by 33,000 from 681,000 to 648,000 between 2006 and 2010.[58] It should be noted that most of the personnel cuts will be made within the armed forces' largest service branch, the ROK Army. It accounted for roughly 80 per cent of the total military manpower in 2005, about 560,000 men and women. The size of the Army will be reduced to about 371,000 by 2020, with the rest of the military personnel belonging to the other service branches, 64,000 in the Navy, including the Marine Corps, and 65,000 in the Air Force respectively.[59] Four Army corps and 23 Army divisions are to be disbanded.[60] Furthermore, the size of South Korea's reserve forces is projected to be reduced from 3 million in 2005 to approximately 1.5 million by 2020.

Coupled with this reduction of troop size is the ambition to abolish the draft system and change to a volunteer-based professional military. Shifting from draft to volunteer recruitment is seen as a necessity if the ROK is to sustain a credible force posture in the medium and long term. The current demographic trajectory in the country does not meet the armed forces' requirement of drafting 400,000 20-year-old men each year to sustain its original size. Moreover, the number of young men reaching 20 each year is expected to fall substantially over the coming decades, with the projected number for 2025 being only 233,000, implying that even the targeted force posture would be unsustainable with a draft system.[61] Professionalisation of the armed forces is not unproblematic, as it would require an increasing number of recruits, higher salaries and longer

[55] Ministry of National Defense of the Republic of Korea (2009) *2008 Defense White Paper*, p. 98.
[56] Bennett, Bruce W. (2006) "A Brief Analysis of the Republic of Korea's Defense Reform Plan", *National Defense Research Institute, RAND*, p. 1.
[57] Ministry of National Defense of the Republic of Korea (2011) *2010 Defense White Paper*, p. 140.
[58] Ibid.
[59] Han, Yong-sup (2006) "Analysing South Korea's Defence Reform 2020", *The Korean Journal of Defense Analysis*, Vol. 18, No. 1, Spring, p. 116.
[60] Klingner, Bruce (2011) "South Korea: Taking the Right Steps Toward Defense Reform", *Backgrounder, The Heritage Foundation*, No. 2619, 19 October, p. 2.
[61] Bennett (2006) "A Brief Analysis of the Republic of Korea's Defense Reform Plan", p. 3.

contracts for servicemen, but it is seen as a way to supplant the decreasing numbers of military units and personnel.

Major investments will be made to acquire high-end technological capabilities in order to further mitigate the implications of and capability gaps introduced by troop reductions. In accordance with the DRP's FIP, most outdated weapons systems and platforms will be phased out, upgraded or replaced by more advanced capabilities. The FIP, although presented only briefly here, will be examined more thoroughly in the last section of this chapter.

Force modernisation affects all service branches and indeed the entire military structure of South Korea's armed forces. Improvements range from intensifying command, control, communication, computer, intelligence, surveillance and reconnaissance (C4ISR) capabilities within the various levels of military command, to acquiring specific capabilities such as advanced K2 main battle tanks (MBTs), Aegis Class destroyers and unmanned aerial vehicles (UAVs). Substantial investments are also being made in defence-related research and development (R&D) programmes aimed at facilitating the domestic production of new weapons systems and platforms. The ROK military expects to deploy its first units of next-generation MBTs, fighter aircraft, multiple-rocket launchers, surface-to-air missile systems, submarines and naval surface combatants within the set time frame of the Defense Reform Plan.[62]

The Defense Reform 2020 Plan has also identified the need to improve the military's command and control system. Primarily, this has implied strengthening the JCS structure and providing it with increased authority of operational command. The ability to execute coordinated joint warfare operations including all service branches is seen as a vital aspect of improving the qualitative capabilities of the armed forces. A first step will be to supplant the traditional dominance of the Army within the command structures by reducing its personnel and establish a 2 : 1 : 1 personnel ratio within the command structure between the Army, Navy and Air Force respectively.[63] The purpose of this, it is argued, is to promote a better balance among the different service branches and increase the influence of the Navy and Air Force over the military's internal decision making. Each service branch will in addition delegate its command and control authority over its own forces to the chairman of the JCS.[64] Yet this has become a highly contentious issue within South Korea's political and military establishments. The proposed reduction of Army influence in the

[62] Ibid., p. 27.
[63] That is a 50%-25%-25% ratio.
[64] Han (2006) "Analysing South Korea's Defence Reform 2020", p. 124.

military's command structure has been perceived to significantly undercut the dominance which the Army has traditionally held.[65]

Some of the changes proposed by the DRP are not military or strategic but political. One of the most profound political aspects of the DRP is its call for a rapid increase of civilian employees in the MND. The MND's civilian personnel amounted to roughly 52 per cent of the total number of employees when the DRP was first announced in 2005. In addition, many of the high-level bureaucrats in the ministry are either former or currently serving military officers, and most of the former ministers of national defence were serving in the armed forces as chairmen of the JCS. Considering these factors, increasing the share of civilian personnel in the MND, from 52 per cent to 71 per cent, is considered a necessity in order to establish greater civilian oversight and influence over the ROK's defence policies.[66]

3.2.1 Budget and Implementation

Implementing the Defense Reform 2020 Plan was projected to cost a total of 621.3 trillion won, around 650 billion US dollars (USD),[67] over the 15-year reform period. The budget of the DRP has been divided into three categories. A significant portion of the original budget, some 227.1 trillion won or 238 billion USD, was to be spent on the FIP, in other words weapons procurements, acquisitions and defence R&D. The two remaining categories, Personnel Operation (personnel expenses such as salaries, meals and clothing) and Force Operation and Maintenance (education and logistics), were to receive 253 billion and 159 billion USD respectively.[68]

Successful implementation of the entire DRP requires an annual defence budget increase of approximately 9.9 per cent between 2006 and 2010, followed by an annual budget growth of 7.8 per cent from 2011 up to 2015. The final period, from 2016 to 2020, requires budget growth of 1 per cent per year.[69] The Defense Reform Plan is to be implemented in three consecutive phases, known as mid-term defence plans. The DRP is currently in its second phase of implementation. This current mid-term defence plan, ranging from 2011 to 2015 and only recently

[65] Interview, KIDA, Seoul, December 2011; and Interview, Moon Chung-in, Seoul, December 2011.
[66] Han (2006) "Analysing South Korea's Defence Reform 2020", p. 117.
[67] The conversion is made manually by the authors. The amount in US dollars is based on the 2006 market exchange rates between the South Korean won and the US dollars. Data provided by the FOI Database and International Monetary Fund (IMF) *World Economic Outlook* database.
[68] Park, Ju-hyun (2009) "The ROK Defense Budget and Defense Reform", *ROK Angle, Korea Institute for Defense Analyses*, 16 October, p. 4.
[69] Ministry of National Defense of the Republic of Korea (2007) *2006 Defense White Paper*, p. 44.

drafted by the MND, now projects an annual defence budget increase of 6 per cent throughout this period.[70] As is obvious, this is well below the targeted 7.8 per cent of the original DRP. Furthermore, as it is only the estimated budget and therefore not yet realised, the actual budget increases in the coming years may be less than the projected 6 per cent.

Although these budget increases are necessary for reaching the set goals of the DRP, the size of their actual increase is highly dependent on South Korea's overall economic growth. The DRP budget plan is based on the assumption that the gross domestic product (GDP) of South Korea will grow at an annual rate of 7.1 per cent between 2006 and 2020.[71] This level of GDP growth has not been met. South Korea's economic growth reached on average around 4.1 per cent annually between 2000 and 2008, decreasing to 0.2 per cent in 2009 following the global financial crisis of the previous year.[72] Furthermore, its GDP is expected to increase by just an annual average of 4 per cent between 2010 and 2016, according to estimates made by the International Monetary Fund.[73] This level of economic growth, which is far below requirements, will inevitably have negative implications for the Defense Reform Plan's envisioned implementation process.

The consequences of budgetary constraints include extending the reform process beyond the 2020 time frame and the cancellation of some planned weapons procurement and R&D programmes.

3.3 The Revised DRP and New Reform Plan

The DRP is evaluated and revised every three years in order to maintain its feasibility given South Korea's changing and volatile security environment.[74] This is an important point, as changes in South Korean threat perceptions and to the country's strategic and security environment have illuminated the limits of the country's military capabilities. There have thus far been two major additions to the Defense Reform 2020 Plan. The first revision was announced in 2009. Subsequently, the Lee Myung-bak government announced a new defence reform plan in 2011 which partly complements and in many respects overrides the DRP.

[70] Ministry of National Defense of the Republic of Korea (2011) *2010 Defense White Paper*, p. 227.
[71] Ministry of National Defense of the Republic of Korea (2007) *2006 Defense White Paper*, p. 44; and Bennett (2006) "A Brief Analysis of the Republic of Korea's Defense Reform Plan", p. 21.
[72] Central Intelligence Agency, "The World Factbook: South Korea", *The World Fact Book*.
[73] International Monetary Fund, *World Economic Outlook Database*, September 2011. See Appendix IV, "Macroeconomic and Military Expenditure (ME) Trends".
[74] Ministry of National Defense of the Republic of Korea (2009) *2008 Defense White Paper*, p. 98.

The 2009 revision of the DRP was produced as an amendment to the original plan. More importantly, the revised reform plan of 2009 came as a response to certain events which changed South Korea's security environment and by extension the strategic and operational requirements of its armed forces. A number of factors prompted the first revision of the DRP. The upcoming transfer of wartime operational control from Washington to Seoul in 2012 was one such factor. Although the transfer has now been postponed until 2015, the then imminent transfer of OPCON implied a need for the ROK to strengthen its military capabilities in general and its integrated command and control capabilities in particular. The perceived necessity to establish a more self-reliant defence posture thus became more acute. The North Korean nuclear and missile threat, along with a requirement to prepare for other North Korean contingencies such as a possible regime collapse, further added to the need to re-evaluate the DRP.[75] Indeed, North Korea had conducted missile and nuclear tests just prior to the DRP being amended.

Although the main principles of the original Defense Reform Plan remained the same, the 2009 revision presented two major, general amendments. First, the magnitude of the decrease in military manpower was scaled down. Instead of targeting a total size of 500,000 men by 2020, the revised version asks for a new target of 517,000.[76] Arguably, the Ministry of National Defense amended the targeted troop size in order to maintain a credible level of manpower in the event of a North Korean regime collapse as such a scenario would demand boots on the ground for stabilisation efforts rather than high-tech weaponry.

Second, the overall budget for the Defence Reform Plan was reduced from 650 billion to 627 billion USD.[77] This reflects not only the impact of the 2008 financial crisis on South Korea's economy but also the somewhat unrealistic demand on financial capital to actually implement the reform by 2020. As shown above, the ROK's fiscal capacity has not been able to meet the budgetary requirements of the DRP. Consequently, the budget for the FIP was cut from 238 billion USD in the original version to 219 billion USD in the revised version. Personnel Operation and Force Operation and Maintenance will in the 2009 version of the reform plan receive 241 billion and 167 billion USD respectively. The annual defence budget increases for the three phases of implementation were also revised. The rate of increase in the defence budget for the first phase, from 2006 to 2010, was reduced from 9.9 per cent to 7.8 per cent annually. In the second phase, 2011–2015, the necessary annual budget increase was reduced to

[75] Park (2009) "The ROK Defense Budget and Defense Reform", p. 4.
[76] Ibid., p. 2.
[77] Ibid.; In 2006 South Korean won/US dollar market exchange rates.

7.6 per cent from the previously targeted 7.8 per cent. The third and final phase, from 2016 to 2020, will see an annual budget increase of 7.2 per cent instead of the originally projected 1 per cent.[78] It remains unclear, mainly due to the lack of public information, what these budget decreases imply in terms of cancelled modernisation programmes pertaining to weapons acquisitions and defence R&D.

The revision also calls for a reinforcement of the armed forces' command structures. Preparations for the transfer of OPCON have required the armed forces to oversee their theatre operational command capabilities, as well as their capabilities to conduct joint operations. The revision called for a reinforcement of the command structure outlined in the original DRP. However, it is argued that these efforts have been seriously inadequate.[79] This became apparent twice in 2010, when North Korea sunk the ROK Navy's *Cheonan* in March and bombarded Yeonpyeong Island in November. The armed forces did not respond to the provocations, officially because they were crippled by the inefficiency of their own command structure and thus failed to carry out swift punitive action. There are, however, contending views regarding this explanation, as observers argue that there were political limitations which prevented a military response. More specifically, there seem to have been disagreements between the JCS, the minister of national defence and President Lee Myung-bak in regard to whether retaliatory military action beyond the initial response should be taken.[80]

Nevertheless, these events and the consequent awareness of the limitations of the armed forces' capabilities led to what has been understood as a second revision of the DRP, announced in 2011.[81] Yet the Defense Reform 307 Plan, also known as the 11-30 Plan, is in essence a new plan for defence reform which has been encouraged and announced by the current politically conservative administration led by President Lee Myung-bak. If the new reform bill passes in the National Assembly, it would complement and partly override the DRP and extend the defence reform process to 2030.[82] The 307 Defense Reform bill has however been stuck in parliament due to fierce opposition, arguably because of the fast-approaching general elections in April 2012 coupled with a boycott of parliamentary proceedings imposed by opposition parties.[83] The proposed reform plan is, furthermore, rejected by the general public as well as by non-

[78] Ibid., p. 4.
[79] Interview, KIDA, Seoul, December 2011.
[80] Interview, Yonsei University, Seoul, December 2011.
[81] Bennett, Bruce W. (2011) "The Korean Defense Reform 307 Plan", *The Asan Institute for Policy Studies*, Issue Brief, No. 8, p. 6.
[82] Interview, MND, Seoul, December 2011.
[83] The Dong-A Ilbo (2011) "National Defense Reform", 7 December.

governmental organisations.[84] A common assessment is that the new defence reform bill will be dropped if it fails to pass into law in the National Assembly before the 2012 general elections, thus implying that the implementation of the DRP will proceed as planned.[85]

The most politicised, debated and contentious proposal of the 307 Plan calls for a single-track command structure, where the chairman of the JCS would hold definitive command authority over theatre operations. Theatre operations will, according to the 307 Plan, be directed by the chairman of the JCS. The previous structure provided command authority to both the chairman and each service's own chief of staff, thus, as has been argued, complicating the military's ability to respond adequately and coherently to North Korean aggression.[86] The critique has primarily been directed by veteran officers of the ROK Navy and Air Force, arguing that the proposed command structure would place those two service branches directly under the operational command of the Army and therefore severely limit their own combat efficiency.[87] Indeed, 36 out of 37 chairmen of the JCS, including the current one, have been Army generals, reflecting the traditional dominance of the Army within the armed forces' highest command structures. The debate surrounding the 307 Plan has made public the internal divisions within the armed forces regarding which direction the reform process should take, ultimately reflecting each service's struggle for influence and relative operational independence.[88]

The 307 Plan is predominantly concerned with deterring future North Korean provocations, in contrast to the DRP which was more comprehensive, equally concerned with the changing regional security environment and supported by a policy of engagement with the North. The 307 Plan thus reflects a political realignment of South Korea's security policy, driven by the Lee Myung-bak administration, whereby North Korea is again perceived as the principal immediate and long-term threat to national security.[89] Further analyses argue that a significant purpose of the 307 Plan is to prepare the ROK more adequately for the transfer of OPCON in 2015.[90]

The ROK is seeking, through the 307 Plan, to guarantee the North that assured punitive action will be taken in the event of aggression. Overall, the plan seems

[84] Interview, National Defense University (NDU), Seoul, December 2011.
[85] Interview, Asan Institute, Seoul, December 2011; and Interview, NDU, Seoul, December 2011.
[86] Bennett (2011) "The Korean Defense Reform 307 Plan", p. 6.
[87] Interview, KIDA, Seoul, December 2011.
[88] Interview, KIDA, Seoul, December 2011; and Interview, NDU, Seoul, December 2011.
[89] Interview, Yonsei University, Seoul, December 2011.
[90] Klingner (2011) "South Korea: Taking the Right Steps Toward Defense Reform", p. 5.

to seek a strategy of proactive deterrence. This implies that the ROK will need adequate military capabilities which can both prevent any provocative action and, if necessary, retaliate.[91] Consequently, several efforts have been taken in the short term to improve the ROK's military capability to a level commensurate with these ambitions. For example, South Korea is deploying K9 self-propelled artillery units, multiple-rocket launchers, and precision-guided anti-tank Spike missiles to the Northwest Islands, including Yeonpyeong. The 307 Plan also calls for an increase of manpower among the ROK marines deployed on these islands from 5,000 to 12,000.[92]

The 307 Plan directs substantial attention towards improving South Korea's medium- and long-term military capabilities, again focusing primarily on those capabilities which would add to the ROK's deterrence against North Korea. This includes obtaining early-warning systems, an improved precision-strike capability and more sweeping, general improvements to the country's C4ISR systems.

It should be noted that the contents of the 307 Plan are not entirely public, nor are they available in English. There are no specifications available to the public in regard to what budget changes the plan proposes. Thus it is difficult to analyse whether the new plan will, if it passes into law, be able to overcome the financial challenges which the DRP currently faces.

[91] Bennett (2011) "The Korean Defense Reform 307 Plan", p. 5.
[92] Ibid.

Fact sheet IV: The Armed Forces' Higher Command Structure

The Republic of Korea (ROK)'s defence posture and military command structure today are to a great extent shaped by the premises of the ROK–US military alliance. This alliance was formed after the Korean War of 1950–1953 with the purpose of deterring a new North Korean attack. Wartime operational control (OPCON) is carried out by the ROK–US Combined Forces Command, which is headed by a four-star US general. The ROK national command structure begins with the president as commander-in-chief of the armed forces. Next to him is the minister of defence, who is commonly a retired four-star general or admiral. Under the minister of defence, and as an organisational part of the Ministry of National Defense, is the chairman of the Joint Chiefs of Staff (JCS), usually a four-star Army general.

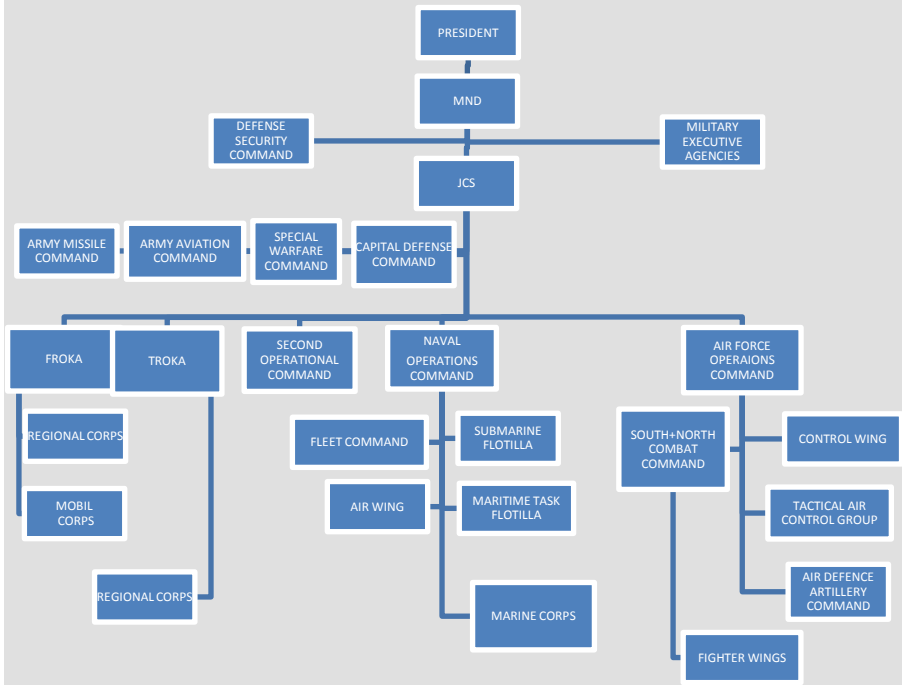
The ongoing defence reform regarding the military command structure has the purpose of creating a capability that allows the ROK armed forces to fully take over the responsibilities and the initiative in war planning and preparing for theatre operations after the transfer of wartime OPCON in 2015. This also means that it will be necessary to establish a new combined defence system by setting up a new military cooperation structure for ROK–US combined operations.

So far the first phase of the defence reform, from 2006 to 2010, has reduced the number of Army corps. Another major change has been to increase the JCS's responsibilities and capabilities. The JCS today maintains control of military operations and will continue to do so as long as a state of war on the peninsula is not declared. In the event of war, responsibility and control over military operations would fall to the Combined Forces Command according to the ROK-US combined defence system. After 2015, the JCS will have the full responsibility for OPCON on the Korean Peninsula even during a declared state of war.

From the chairman of JCS, the chain of command runs straight to the commanders, usually service chiefs of staff, of the different operational commands. This is illustrated in the flow chart below.[93]

[93] Ministry of National Defense of the Republic of Korea (2011) *2010 Defense White Paper*.

Figure 3.1 ROK Military Operations Executive System



The First ROK Army (FROKA) and Third ROK Army (TROKA) will be merged into a Ground Operations Command in 2015.

3.4 The Procurement and Acquisition Programme

Given that the Defense Reform Plan ultimately seeks to transform the armed forces from a manpower-intensive to a technology-intensive military organisation, the DRP's FIP is of particular importance. This section will therefore provide a brief presentation of the major weapons systems and capabilities which are to be procured, acquired or developed by South Korea.

Substantial amounts of the total projected reform plan budget have been allocated to the FIP. The FIP budget stands at 219 billion USD out of the total 627 billion USD reform plan budget. The MND has further estimated that 63.5 billion USD of that FIP budget will be invested within the time frame of the current mid-term defence plan, in other words between 2011 and 2015. As a reference, the FIP budget for fiscal year 2010 stood at 9.1 trillion won, or about 7.8 billion USD.[94]

The MND will pursue a total of 293 force improvement projects during the ongoing mid-term defence plan.[95] These include not only acquisitions of new weapons systems produced abroad, but also domestic production, domestic defence R&D projects and upgrades of existing capabilities. Although it is difficult to assess the characteristics of every single project since public information is scarce, there are several major acquisitions and related defence programmes which are indicative for the general direction of the FIP. The military modernisation promoted through the FIP can be divided in three categories: improving (1) intelligence, surveillance and reconnaissance (ISR) capabilities, (2) command, control, communications, computers and intelligence (C4I) capabilities within the various levels of military command, and (3) various forms of combat capabilities.[96]

C4ISR

The importance of having viable ISR and C4I capabilities was highlighted after the military-political crises experienced in 2010. The MND is thus pursuing the acquisition of airborne warning and control systems (AWACs) as well as medium-altitude UAVs to improve surveillance and reconnaissance capabilities. Four AWACs will be procured, the first of which has already been delivered by Boeing. In an effort to improve maritime surveillance, the ROK has also

[94] Ministry of National Defense of the Republic of Korea (2011) *2010 Defense White Paper*, pp. 225-227.
[95] Ibid., p. 146.
[96] Ibid.

procured eight additional P-3CK Orion maritime patrol aircraft with anti-submarine warfare capabilities from Lockheed Martin, with deliveries starting in 2010.[97]

Securing additional C4ISR capabilities is considered to be an especially important aspect of the ROK's military modernisation, as its ability to respond to military aggression perceivably depends on the armed forces' capacity to conduct effective joint operations and network-centric warfare. However, in 2008, tactical C4I systems were established only within the JCS and among ROK Army divisions.[98] Consequently the ROK is seeking to incorporate additional C4I capabilities, including theatre-level joint fire operation systems (JFOS-K), ground tactical C4I systems and tactical intelligence communication networks (TICNs). Moreover since 2010 South Korea has started new projects within the scope of the FIP to improve overall C4ISR capabilities, including the development of harbour surveillance and mobile underwater surveillance and sonar systems.[99]

Air Assets

South Korea is in the initial phases of developing its own next-generation multi-role fighter aircraft, a project code-named KFX (Korean Fighter Experimental). According to the US Commercial Service, the 2011 FIP budget appropriation for the KFX programme stood at 13 million USD.[100] The KFX, which might include stealth capabilities, is expected to enter service in 2020.[101] The ROK is also seeking to acquire a new multi-purpose fighter aircraft from foreign suppliers. The project, designated FX-III, seeks to acquire up to 60 fifth-generation fighters worth approximately 7.8 billion USD.[102] Four different aircraft have been considered, including the F-35 Lightning II Joint Strike Fighter, the Eurofighter Typhoon, the F-15 Silent Eagle and the T-50 PAK FA which is produced by Sukhoi. However Sukhoi's bid was recently dropped and speculation has since flourished regarding whether Saab's JAS 39 Gripen could be a potential

[97] Jung, Sung-ki ((2010) "S. Korean Navy to Receive New Patrol Aircraft", *The Korea Times*, 22 February.
[98] Jung, Sung-ki (2008) "S. Korean Army Seeks To Build Net-Centric, Mechanized Force", *Defense News*, 16 June.
[99] Ministry of National Defense of the Republic of Korea (2011) *2010 Defense White Paper*, p. 145.
[100] Myoung, Soo Lah (2010) "Korea: Defense Budget and Procurement Procedure of DAPA", *United States of America Department of Commerce, U.S. Commercial Service*, December, p. 3.
[101] Yonhap News Agency (2010) "S. Korea Considers Building its Own Stealth Fighter Jets", 27 December.
[102] The Korea Herald, "Four Candidates Short-listed in Korea's Stealth Jet Project", *The Korea Herald*, 20 June.

candidate alongside the remaining three.[103] The ROK is expected to make an official decision on which aircraft to acquire in October 2012.[104]

Other programmes for improving the Air Force's combat capabilities include additional acquisitions of Boeing's F-15K fighter aircraft and upgrade kits for the fleet of KF-16s. The last batch of the F-15Ks, which compose the FX-II fighter programme, will be delivered to the ROK in 2012, bringing the total number of its F-15K aircraft to 61.[105] Furthermore, different versions of the indigenously produced T-50 jet trainer, such as its light multi-role fighter derivative, the FA-50, are currently in mass production.[106]

Naval Assets

The MND is seeking to improve its naval warfare capabilities. The current mid-term defence plan includes the development of South Korea's next-generation frigate, code-named the FFX, which will replace the outdated Pohang Class corvette and Ulsan Class frigate. The new 2,300 tonne Incheon Class frigate saw its first launch in April 2011; 20 are expected to be acquired by 2020.[107] Although it is largely developed and produced domestically, many of the components of the Incheon Class have been procured from overseas, including Raytheon's Phalanx Close-In Weapons System. Ongoing surface combatant programmes also include the next-generation patrol boat and the Dokdo Class amphibious landing ship.

The KDX (Korean Destroyer Experimental) programmes are indicative of the general high-end ambitions of the Defense Reform Plan and South Korea's defence industrial sector. The KDX programme is a three-phase project which started with the 3,800-tonne KDX-I Gwanggaeto the Great Class destroyer first commissioned in 1998.[108] The second phase of the programme involved the development and production of six 4,500-tonne KDX-II Chungmugong Yi Sun-shin Class multi-purpose destroyers, all of which are now commissioned and in service. The KDX-II is based on a hull design licensed from Germany's IABG and includes more advanced weapons systems such as the SM-2 Block IIIB ship-to-air missile and the South Korean Red Shark anti-submarine missile.[109]

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[103] Lee, Tae-hoon (2012) "Russia Pulls Out of Korea Fighter Project", *The Korea Times*, 29 January.
[104] Ibid.
[105] Song, Sang-ho (2010) "Air Force Receives F-15K Fighters", *The Korea Herald*, 8 September.
[106] Myoung (2010) "Korea: Defense Budget and Procurement Procedure of DAPA", p. 3.
[107] Yonhap News Agency (2011) "Navy to Launch New Frigate This Week", *The Korea Times*, 27 April.
[108] Defense Industry Daily (2011) "Korea's KDX-III AEGIS Destroyers", 29 March.
[109] Global Security "KDX-II Chungmugong Yi Sunshin Destroyer", *Globalsecurity.org*.

Phase three of the KDX programme is focused on the development of South Korea's most advanced surface combatant, the 7,600-tonne KDX-III King Sejong the Great Class guided missile destroyer (see Image 2). Like the KDX-II, the KDX-III is being built by two main defence contractors, Hyundai Heavy Industries and Daewoo Shipbuilding & Marine Engineering. Three KDX-IIIs will be produced, two of which are already in service. Notably, the KDX-III is equipped with, and thus the Navy's sole employer of, the Aegis Combat System, indicative of both the advanced technological prowess of this vessel and the ROK's close relationship with the US defence sector.[110]

Image 2: *A ROK Navy King Sejong the Great Class guided missile destroyer engages in a naval exercise off the waters of South Korea. The grey coloured Aegis radar panel can be seen right below the ship's command bridge.*

Another naval project is the Korean Attack Submarine (KSS), also a three-phased programme. The programme began when South Korea procured the KSS-I, a 1,200-tonne Chang Bogo Class/Type 209 diesel-electric attack submarine, from Germany's HDW. In the second phase, South Korea ordered three KSS-II or Type 214 submarines from Germany. The KSS-II, or the 1,700-tonne Song Won-il Class, is manufactured in South Korea through a licensed production contract and has significant upgrades from the KSS-I, including a diesel-electric engine incorporating an air-independent propulsion system which allows it to

[110] Defense Industry Daily (2011) "Korea's KDX-III AEGIS Destroyers", 29 March.

remain submerged for a longer period of time. According to tentative development plans, a total of nine KSS-IIs will have entered service by 2018.[111]

The final phase involves the entirely domestic development and production of KSS-IIIs. However, the estimated launch of the 3,000-tonne attack submarine has been postponed to 2020, two years beyond the initial date set by the Defense Reform Plan.[112] Although the reason for its delay has not been specified, the decision to postpone its launch seems to have been made during the 2009 revision of the original DRP. Consequently, it is likely that the delay has been prompted by rising development costs coupled with pre-existing budgetary constraints.

Ground Assets

The Force Improvement Programme includes several projects aimed at improving South Korea's land warfare capabilities. The MND estimates that K2 tanks, also known as the next-generation MBT, will be fielded during the current mid-term defence plan.[113] The K2, which was developed and is produced entirely in South Korea, will replace outdated tanks and complement the existing K1A1 Abrams-type MBTs. Furthermore, it is quite likely that the K2 will become the primary MBT deployed by the ROK Army in the long term. Other assets which are expected to be deployed en masse include the K21 infantry fighting vehicle (IFV) and the K9 self-propelled howitzer (see Image 3).

[111] Defense Industry Daily (2010) "KSS-II: South Korea Orders 6 More U-214 AIP Submarines", 28 July.
[112] Jung, Sung-ki (2009) "Military Delays Heavy Submarine Program", *The Korea Times*, 10 May.
[113] Ministry of National Defense of the Republic of Korea (2011) *2010 Defense White Paper*, p. 147.

Image 3: *A South Korean K9 self-propelled howitzer manouvers during an exercise marking the first anniversary of North Korea's artillery attack on Yeonpyeong Island.*

3.5 Summary

The ongoing South Korean defence reform is a highly ambitious and extensive plan for military modernisation. Substantial investments will be made over a 15-year period, between 2006 and 2020, ultimately producing a military force posture which, in theory, is capable of conducting a wide range of combat operations. The Defense Reform Plan calls for a significant reduction in the size of South Korea's armed forces. The loss of manpower will be offset by new capabilities, particularly through acquisitions of new and more advanced weapons systems. The reform plan is to a great extent aimed at restructuring the ROK's armed forces with the ambition to establish joint operations and network-centric warfare capabilities. Furthermore, South Korea's military command structure is being reorganised. The power and authority of the Joint Chiefs of Staff are being strengthened, mainly through integrating and centralising the command and control structures among the different service branches.

Yet it is uncertain whether the Defence Reform Plan will be implemented successfully. Several factors may influence the success of the plan. First, future administrations in Seoul may not support the DRP or some parts of its content. Contentions regarding the substance of the DRP are already prevalent in the political sphere, as criticism is directed at both the DRP and the new 307 Reform Plan which was announced in 2011. Second, the content and direction of the reform process may be fundamentally altered if additional military-political

crises occur. Both the revision of the DRP and the 307 Plan came shortly after such crises and brought significant changes to the original plan, including reductions to the DRP budget and investments in weapons systems which previously had not been deemed necessary in the short term. Third, South Korea has been facing economic and budgetary constraints, which have been affecting the implementation of its defence reform. In addition, it is not unlikely that further challenges to the implementation of the reform will occur, especially if the development, production and procurement costs of ongoing and future weapons programmes increase.

If these currently existing uncertainties become reality, the consequences would include a partial implementation only of the reform plan, or extending the reform process beyond its 2020 time frame. Indeed, some weapon programmes, such as the KSS-III attack submarine, have already been delayed.

Successful implementation of the defence reform will arguably significantly increase South Korea's military capabilities and its capacity to deter North Korean provocations. However, some contingencies will be difficult for the ROK to manage with its post-reform force posture. This holds especially true in a scenario in which the North Korean regime collapses. Managing the political collapse of its northern neighbour will demand the large-scale commitment of South Korean troops for stabilisation efforts, as high-tech and heavy weaponry will be of limited use when the ambition will be to prevent civil war, insurgencies, and the proliferation of weapons of mass destruction and their delivery systems. The reduction of South Korea's military manpower, although necessary due to the country's demographic trends and the consequent lack of conscripts, may thus limit its capability to manage certain conflict scenarios.

South Korea's defence reform is presenting and will continue to present some implications for the country's strategic posture. Defence reform is identified as a vital process which the ROK must go through, particularly in order to avoid major capability gaps after taking over wartime operational control from the United States. Maintaining interoperability with its long-time ally is gradually being coupled with increasing military-political self-reliance. A key strategic driver of South Korea's defence reform is Seoul's reluctance either to be too dependent on American security commitments or to find itself abandoned militarily once conflict actually breaks out. Increasing its self-reliance, militarily and strategically, is therefore considered to be crucial. Furthermore, Seoul has identified little but the option to modernise its military, and not merely to counter North Korean threats. Indeed, the ROK has enjoyed conventional military superiority over its northern neighbour for some time. Rather, South Korea finds itself in the middle of a changing regional security environment and, by extension, there are growing uncertainties regarding the stability of the region.

South Korea's defence reform may thus be viewed in a regional context where several countries, most notably China but also Russia, Japan and Vietnam, are carrying out their own military modernisations while, at the same time, the United States is realigning its global strategic focus towards the Asia-Pacific.

Finally, South Korea's defence reform has triggered higher domestic demand for defence materiel and weapons systems. The ROK's defence industrial sector has as a consequence additional incentives to increase its productivity and advance its technological sophistication. The idea of military self-reliance driven by the defence reform process demands a reduced dependence on foreign military technologies. Although this dependence has been mitigated to a certain extent, the ROK's defence industrial base is still facing a number of challenges in its ability to support the country's military modernisation. The next chapter will look more closely at South Korea's defence industry.

4 The Defence Industry and R&D

Since the industrialisation of its defence sector South Korea has evolved from being a country which is entirely dependent on foreign military technology to being one of the most advanced producers of military equipment in the world. The defence industry continues to develop rapidly, not least as a result of the increase in domestic demand facilitated by the ongoing defence reform. Yet the Republic of Korea (ROK) is still far from being entirely self-sufficient. This is a historic ambition that has been growing in the light of the imminent transfer of wartime operational control. However, South Korea's defence industry has not been able to meet the country's demand for high-tech defence materiel. Correspondingly, there are still certain areas of defence production where the ROK remains highly reliant on foreign-supplied core technologies.

The general assessment of South Korea's defence sector is by necessity divergent. It is easy from an outside perspective to draw contradictory conclusions about the general trends and characteristics of the South Korean defence industrial sector, not least because it is undergoing significant structural change. This divergence is, by the authors' conscious choice, reflected in this chapter. The authors' own analysis and conclusions are presented in chapter 5 of this report.

This chapter provides a description of South Korea's defence industry. The first section will introduce the background to the country's defence industry and how it has evolved. Section 2 will discuss the current trends in South Korea's defence industrial and research and development (R&D) activities. Section 3 examines the ROK's main defence industrial policies. Section 4 provides a presentation of the major state actors in South Korea's defence industrial base, their interaction and the currently emerging trends within it. The fifth section examines and describes the corporate defence industrial sector. The sixth and final section briefly discusses South Korea's defence materiel exports.

4.1 The Evolution of South Korea's Defence Industry

The industrialisation of South Korea's defence sector began in the middle of the Cold War, more specifically in the early 1970s. South Korea had by that time identified a need to establish a domestic defence industry in order to alleviate its dependence on supplies from the United States. This perceived necessity came as a consequence of the US' reduction of its troop presence in the ROK in the late 1960s. The relative erosion of the US security commitment occurred during a

period in which North Korea was accelerating its military provocations towards the South, thus escalating tensions on the Korean Peninsula.[114] South Korea's push towards defence industrialisation was therefore taken in a context in which the security of the country was being exposed and increasingly uncertain. As noted by South Korean scholars, defence industrialisation was the primary factor which would underpin the government's pursuit of an independent and self-reliant national defence posture.[115]

Early defence industrialisation and the subsequent proliferation of defence contractors have been, and indeed continue to be, a government-induced effort. For example, the ROK government set up the Agency for Defense Development (ADD) in 1971 as a part of the industrialisation process, with the purpose of promoting domestic defence R&D. In practice, the state would conduct R&D and leave industrial activities limited to production. Additional government support to the defence industry was given in 1974, when the National Assembly enacted the Special Law on the Promotion of the Defense Industry. The law granted the defence industrial sector a number of legal privileges, including tax and tariff reductions and concessions of production sites.[116]

The wider industrialisation of the defence sector commenced soon after the first defence industries had been constituted. Their activities had focused mainly on producing small arms and ammunition. Heavy and chemical industries were established explicitly for defence purposes in 1974.[117] These two sectors were not only chosen in order to reduce South Korea's defence vulnerabilities; they were also identified as strategic industrial sectors whose development would contribute to the country's economic growth.[118] The machinery, electronics and shipbuilding industries were also selected to take part in defence industrial production.[119] The industries chosen were from the outset already established big business conglomerates, *chaebols*, engaged in civilian production. Having been selected by the government as strategic industries for the defence sector, they were required to engage in military production in parallel with their activities in

[114] Moon, Chung-in and Lee, Young-jin (2008) "The Revolution in Military Affairs and the Defence Industry in South Korea", *Security Challenges*, Vol. 4, No. 4, p. 117.
[115] Moon, Chung-in and Paek, Jae-ok (2010) "Defense Industrialization and Innovation in South Korea – Assessments, Institutional Arrangements and Comparative Implications", Conference Paper, *1st Annual Conference on China's Defence and Dual-Use Science Techno-Industrial Base*, IGCC, University of California, July, p. 1.
[116] Moon and Lee (2008) "The Revolution in Military Affairs and the Defence Industry in South Korea", p. 120.
[117] Ibid., pp. 117-120.
[118] Moon and Paek (2010) "Defense Industrialization and Innovation in South Korea", p. 2.
[119] Ibid.

the civilian sector. As an illustration, during the 1970s the *chaebols* were required by law to devote 70 per cent of their industrial capacity to the production of defence materiel.[120]

Early production of defence materiel was highly dependent on technological assistance provided by the United States. Licensed production agreements with the US were prevalent throughout the 1970s. Gradually, following the growth of its defence industrial sector, South Korea's defence contractors focused on reproducing reverse-engineered US equipment.[121] Joint production ventures between the US and the ROK were also established during this period. The Hughes MD500 helicopter was, for example, co-manufactured. Furthermore, the US also assisted in the establishment of the ADD through the recruitment and training of defence R&D researchers.[122] In essence, most of South Korea's military equipment throughout the 1970s and 1980s was based on US technology, acquired through reverse engineering, licensed production or direct imports. Consequently, the modernisation of the ROK's armed forces also remained dependent on US support, despite the political tradition of seeking a self-reliant defence posture.

Establishing a defence industrial base eventually allowed South Korea to satisfy its basic military equipment and conventional weapons needs within a decade. However, the defence industry's dependence on US technology and Washington's subsequent supplier control regulations – prohibiting a recipient country from exporting US military equipment to a third party – placed severe limitations on the industry's continued defence-technological development. By the end of the 1980s, South Korea's defence industrial export potential was hamstrung by US regulations coupled with an increasingly competitive international arms market. In addition, although a defence industrial base had been established, production remained limited to the assembly of pre-manufactured equipment, co-production and licensed production agreements until the end of the 1980s. Moreover, domestic defence technologies were to a great extent based on those which the country had managed to reverse-engineer.

[120] Ibid. p. 3.
[121] Moon and Lee (2008) "The Revolution in Military Affairs and the Defence Industry in South Korea", p. 120.
[122] Moon and Paek (2010) "Defense Industrialization and Innovation in South Korea", p. 3.

In order to overcome these obstacles to its defence industry South Korea focused increasingly, starting from the early 1990s, on indigenisation efforts through the acceleration of domestic defence R&D.[123] Government support, for example through the implementation of offset policies when arms were being procured from abroad, started to yield significant improvements to the country's technological sophistication. Improvements in the R&D sector have ultimately allowed South Korea to develop and produce its own weapons systems, albeit often by including technologies provided by foreign contractors. Key present-day military equipment, such as the K2 main battle tank (MBT) (see Image 4), the K21 infantry fighting vehicle (IFV), the K9 self-propelled howitzer and the T/FA-50 jet aircraft have all to a great extent been developed domestically.[124] South Korea's gradual technological advances in the defence sector have facilitated the subsequent growth of its defence industry and, by extension, the development of domestic technology has led to increased rates of in-country defence production and enhanced the industry's capacity to produce a wider array of weapons systems.[125]

Image 4: *South Korea's new K2 main battle tank is unveiled during a ceremony in Changwon, southeast of Seoul, in 2007.*

[123] Ibid., p. 10.
[124] Ibid., p. 11.
[125] Ibid.

4.2 Trends in South Korea's Defence Industrial and R&D Activities

South Korea's defence industrial sector is in a period of transition and structural change. The Defense Reform 2020 Plan initiated in 2005 underscored a bureaucratic power shift within the defence sector. Administrative control over the force improvement budget and the acquisition process has been transferred from the military, specifically the Army, and the Ministry of National Defense (MND) to civil servants. The traditional dominance of the former over the defence industrial sector has in consequence significantly diminished. The creation of the Defense Acquisition Programme Administration (DAPA) in 2006 is the most obvious effect of the structural paradigm shift. It has drawn substantial criticism from an MND that is seeking to regain its influence over policy.[126] Contention over bureaucratic jurisdiction and administrative control has given rise to new and divergent bureaucratic interests, complicating not only the interaction between state organisations and industry but by extension policy planning and implementation as well.

At present, South Korea is more actively seeking to produce defence materiel based on technologies acquired through its own research and development. At the same time the role of the ADD as South Korea's main provider of defence R&D is diminishing, at least compared to its role a decade ago. The major defence industrial contractors are becoming more engaged in R&D-related activities, partly as a measure to mitigate their dependence on the often criticised capabilities of ADD, and partly as a way to increase their competitiveness on the domestic and international arms market.[127] Traditionally, there has been a separation between the defence R&D sector and the production sector, with the ADD being responsible for R&D while the activities of defence contractors were limited to production. Industries are now moving towards conducting both production and R&D-related activities.

The strengthened role of the industry in the defence R&D sector is, like many other industrial developments in South Korea, the result of a government-induced effort.[128] Indeed, South Korea has been actively increasing its spending on domestic defence R&D. The 2011 defence R&D budget stood at approximately 2 billion US dollars (USD). As a comparison, the 2009 budget stood at 1.3 billion USD, implying that there has been a 54 per cent increase in

[126] Ministry of National Defense of the Republic of Korea (2011) *2010 Defense White Paper*, pp. 218-219.
[127] Interview, Yonsei University, Seoul, December 2011.
[128] Interview, LIG Nex1, Seoul, December 2011.

defence R&D spending in the past two years alone.[129] The ADD is being asked to shift its focus towards R&D activities relating to core defence technologies, which are identified as crucial for national security and should therefore remain under government control. Most other defence R&D efforts, for example systems engineering and integration, are increasingly being outsourced to domestic defence industries, implying that there is a growing division of labour in the defence R&D sector.[130] Furthermore, observers indicate that many former ADD researchers are actively being recruited to the R&D sections belonging to various defence contractors.[131] However, even though its role is being progressively reduced, the ADD still maintains the most advanced defence R&D capabilities owing not only to its long-standing monopoly and experience in the sector, but also thanks to its access to advanced research facilities which have been built and maintained over the course of its existence.[132]

South Korea's defence industrial sector is increasingly seeking both the development and the acquisition of core technologies. The pursuit of access to more advanced technologies is widespread in the ROK's acquisition of foreign-developed defence materiel. More specifically, South Korea is seeking not only the direct acquisition of weapons systems, but coupled to that technology transfers as well. The offset policy, discussed further below, is one of the measures employed to achieve such transfers. South Korea is in addition seeking to increase its joint cooperation ventures in the defence sector with other nations as a means not only to produce defence materiel but also to partake in their development.[133] In essence, technology transfers from foreign suppliers have become a prime interest of South Korea's defence contractors, as they are gradually increasing their activities in the defence R&D sector.[134]

Moreover, being able to meet most of the demand from its domestic arms market, South Korean defence contractors are increasingly focusing their attention on foreign markets. The growing emphasis on becoming an arms supplier to foreign states and industries is not only prompted by the need to sustain the individual contractor's production capacity; another key driver is the political ambition to transform the defence sector into a more export-oriented

[129] Ibid.
[130] Interview, KIDA, Seoul, December 2011.
[131] Interview, Yonsei University, Seoul, December, 2011; and Interview, LIG Nex1, Seoul, December 2011.
[132] Interview, LIG Nex1, Seoul, December 2011.
[133] Moon and Lee (2008) "The Revolution in Military Affairs and the Defence Industry in South Korea", p. 125.
[134] Interview, Saab, Seoul, December 2011.

industry.[135] The defence industry has been identified as a new strategic industrial sector in South Korea, and consequently designated as a potential contributor to national economic growth.[136] The essential implication is that the defence industries are identified increasingly as an economic asset in addition to its core function as a tool for national security.[137]

South Korea seeks to diversify its international supplier base through engaging in joint defence industrial cooperation with nations other than the United States.[138] This may be analysed in political terms, implying that the ROK is actively seeking to become more independent in the defence sector. A more important driver, however, is the identified need to achieve profitability. Joint cooperation will, according to observers, increase the ROK's competitiveness in the international arms market, consequently increasing external demand and thus facilitating the export of defence materiel.[139] Diversifying its supplier base has nevertheless from a political standpoint been difficult to achieve, as South Korea has traditionally strong political and military ties with the United States. The US consequently remains for the time being the ROK's main supplier of defence materiel.[140]

4.3 Defence Industrial Policies and Strategy

The vitalisation of South Korea's defence industry has been facilitated by several government-led initiatives. Significant policies have been implemented by the ROK government since the 1990s in a seemingly successful effort to further promote the development of the country's defence industry. The indirect impact of the Defense Reform 2020 Plan on defence industrial development cannot be disregarded. The ROK armed forces' and government's demands for improved command, control, communication, computer, intelligence, surveillance and reconnaissance (C4ISR) capabilities, precision-guided munitions and advanced weapons platforms have pushed the defence industry to focus less on production through imitation and reverse engineering and more on indigenisation and domestic R&D. More specifically, the ROK's procurement trends since the late 1990s show a growing emphasis on acquiring domestically developed and

[135] Ibid.
[136] Ministry of National Defense of the Republic of Korea (2011) *2010 Defense White Paper*, p. 230.
[137] Interview, Saab, Seoul, December 2011.
[138] Interview, LIG Nex1, Seoul, December 2011.
[139] Ibid.
[140] Stockholm International Peace Research Institute (SIPRI) (2011) *SIPRI Yearbook 2011: Armaments, Disarmament and International Security* (Oxford and New York: Oxford University Press), p. 273.

manufactured products.[141] The considerable emphasis on procuring equipment based on domestic R&D and production is also mandated by the Defense Reform 2020 Plan.[142]

Government policies have proved to be significant, as they politically promote the defence industry's development. For example, defence contracts and contractors are designated by the government. This by law entitles the chosen contractors to substantial benefits and subsidies. Once a contract has been awarded, the government provides guarantees that it will procure the products once they have been manufactured and assembled.[143] The defence industry is consequently provided with major incentives to maintain production, as a relation between supply and demand is institutionally guaranteed by the South Korean government.

Furthermore, defence contractors have traditionally been granted monopolistic or oligopolistic positions within the defence sector, as each individual contractor has been directed to specialise in a certain area of production.[144] However, this policy of protecting a contractor's dominance within a specific sector of the defence industry is being challenged by the current Lee Myung-bak administration. The argument is that such a policy, which divides the market between a limited number of defence contractors, has significantly undercut competition among them.[145] There is therefore a growing trend for increased competition in the defence industrial sector to be promoted, the purpose being to further improve domestic R&D and lower the barriers to market entry in the defence sector.[146]

In essence, the state has played a crucial and fundamental role in shaping both South Korea's defence industrial strategy and the industry's development. The state's central role in this sector underlines its preference for partaking in defence industrial cooperation with other countries on a state-to-state level as opposed to a more direct engagement between defence contractors.

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[141] Moon, Chung-in and Paek, Jae-ok (2010) "Defense Innovation and Industrialization in South Korea", *Study of Innovation and Technology in China*, Policy Brief, No. 4, September, p. 2.
[142] Cambridge Econometrics et al. (2010) *FWC Sector Competitiveness Studies – Study on the Impact of Emerging Defence Markets and Competitors on the Competitiveness of the European Defence Sector*, ECORYS SCS Group, Rotterdam, The Netherlands, 12 February, p. 177.
[143] Moon and Paek (2010) "Defense Innovation and Industrialization in South Korea", p. 5.
[144] See Table 4.1 for an overview of the major defence contractors' respective areas of specialisation.
[145] Moon and Paek (2010) "Defense Innovation and Industrialization in South Korea", p. 5.
[146] Ministry of National Defense of the Republic of Korea (2011) *2010 Defense White Paper*, p. 219.

4.3.1 The Offset Policy

The ROK's offset policy seeks to uphold the country's national security interests by promoting the interests of the defence industry. Offsets are in essence compensations which a domestic buyer of defence materiel demands from its foreign supplier. The offset policy is primarily designed to aid South Korea in acquiring advanced military technologies through technology transfers, but may also provide it with export rights or the right to engage in licensed production.[147]

Offset programmes are demanded in accordance with government regulations when the expected cost of a particular procurement exceeds 10 million USD and the product meets the requirements set by each service of the armed forces.[148] Two types of contracts are subjected to offset demands. First, offsets worth at least 50 per cent of the procurement contract value will be demanded when there are multiple and competing bidders. Second, if there is only one bidder, the required offset package will represent at least 30 per cent of the contract value.[149] Offset packages can be classified into two categories: direct and indirect offsets. Direct offset packages include the transfer of technology and rights to export the components which are directly related to the weapons system that is being procured. Indirect offsets include the same values, but need not relate to the items procured.[150]

South Korea's defence industry and research institutes have benefited from such offset programmes, particularly because the offset policy has been effective in securing the transfer of foreign military technologies. Defence industrial actors have consequently been gaining greater access to advanced technologies through these practices.[151] Yet offsets are not a new feature of South Korea's foreign defence procurement regulations. The MND has encouraged their use since 1983, and they have since been employed in acquisitions of major defence items such as Lockheed Martin's F-16 fighter. Furthermore, if offset packages are applicable to the particular case, purchasing weapons systems which have been tested in combat and are technologically proven is generally preferred over seeking licensed production agreements.[152]

[147] Myoung, "Korea: Defense Budget and Procurement Procedure of DAPA", 2010, p. 7.
[148] See the Defense Acquisition Programme Administration (DAPA) website.
[149] Ibid.
[150] Ibid.
[151] Cho, Myeong-chin (2003) "Restructuring of Korea's Defense Aerospace Industry: Challenges and Opportunities?", *Bonn International Center for Conversion*, Paper 28, p. 59.
[152] Ibid.

4.3.2 Foreign Investment in the Defence Industry

South Korea employs only limited restrictions pertaining to foreign direct investment in its defence industrial sector. There are no established barriers to market entry which specifically target foreign contractors who seek to invest in a particular weapons system or defence industry. Indeed, the French defence contractor Thales merged with Samsung Electronics, one of Samsung's defence subsidiaries, in 2001 and formed Samsung Thales, now one of South Korea's largest defence contractors specialised in the production and development of radars, electronic warfare equipment and C4ISR systems.[153]

Foreign defence contractors who wish to engage in the production and development of defence materiel in South Korea must however obtain designation as defence contractors by the ROK Ministry of Knowledge Economy. Such a designation is generally provided after consultations between the minister of knowledge economy and DAPA, and on the condition that the foreign contractor meets the required standards of production facilities, corporate finances and security.

4.3.3 Export Controls

Both the promotion and the control of defence materiel exports are managed by DAPA. In terms of export promotion, DAPA may provide financial, material or human assistance to domestic defence contractors who seek to export their products. Moreover DAPA is required to provide the particular contractor with permission to carry out the intended arms sale prior to the actual deal. DAPA thus exercises administrative authority over export controls and regulations. It may restrict the proliferation of domestic defence materiel and technology to foreign stakeholders if the transfer risks damaging South Korea's national security or diplomatic relations.

Consequently it seems unlikely that the ROK, despite its ambitions to increase the export value of defence materiel, would allow such exports to be made to countries on which the ROK itself, or in particular its alliance partners, have placed sanctions or embargoes.

[153] Samsung Thales website: "About Us: History – Early 2000".

4.4 The Defence Procurement and Industrial Sector: State Actors

South Korean defence contractors are not independent from other institutions in the country's defence sector. Rather, as has been implied above, the defence industrial sector comprises a number of actors besides the defence industries, including government organisations and agencies as well as military institutions.

For anyone dealing with defence industrial issues on a practical level, understanding the relationships, responsibilities and interactions amongst the state entities driving and regulating South Korea's defence procurement is crucial. This section provides a detailed overview of the main organisations participating in the procurement and acquisition process.

The foremost government institutions taking part in defence industrial activities include the Ministry of National Defense, DAPA, the ADD and the armed forces. DAPA and the ADD are agencies which come under the MND, each playing a different role in relation to the industry. These government organisations are directly involved in South Korea's defence industrial sector. The Blue House and the National Assembly are engaged more indirectly but nevertheless are important considering their political influence over the defence industrial sector. The Korea Institute for Defense Analyses (KIDA), another agency under the MND, is an increasingly active participant in the defence industrial sector, particularly in the planning and evaluation of new weapons systems acquisitions.

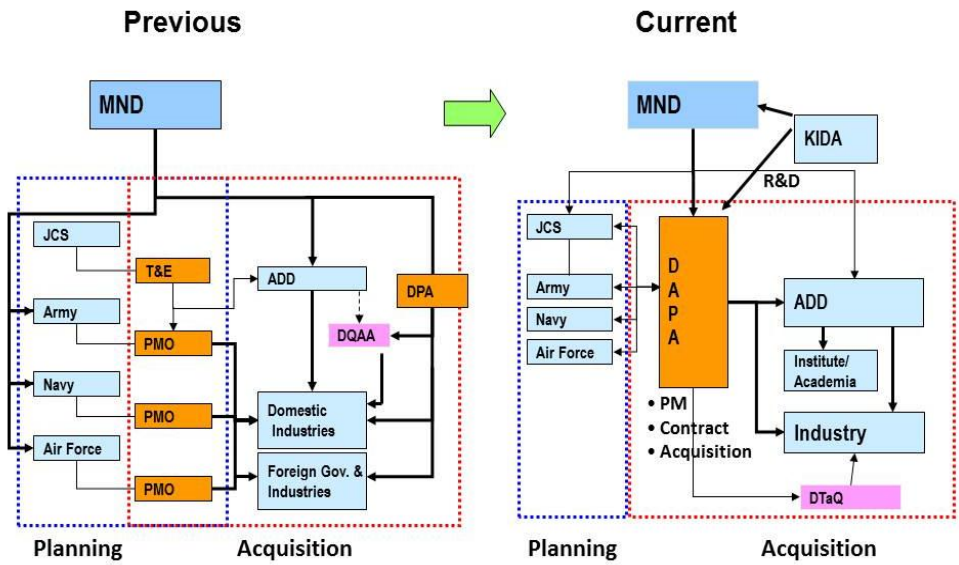
There are differing political views and controversies behind the functions performed by the three agencies under the Ministry of National Defense (DAPA, the ADD and KIDA). The main issue of contention concerns administrative control over the acquisition process. The creation of DAPA in 2006 fundamentally reduced the influence of the MND and the military establishment over matters of acquisition planning and implementation. Administrative control over such functions now rests with the civil servants at DAPA. In effect this has ultimately triggered a relative decline of the ADD's dominance in the defence R&D sector, as defence R&D activities are increasingly being delegated, by DAPA, to the contractors themselves.

DAPA's creation has also prompted the elevation of KIDA as an increasingly active participant in the defence industrial establishment. Part of KIDA's newly added function has been understood as being to provide the MND with analyses and evaluations independent from those provided by DAPA. The main reason for this is to supplant the ministry's and military establishment's relative information disadvantage vis-à-vis DAPA and provide them with a second opinion pertaining to acquisitions and force modernisation programmes.

Centralising administrative control over acquisitions and arms sales in one agency, DAPA, has sparked a bureaucratic conflict between civil servants and the military establishment, with the latter seeking to regain its former influence. This struggle is not, however, separated from politics. The current conservative government is generally supportive of the military establishment, particularly the Army, and has been seeking to reduce the role of DAPA in the acquisition process by calling for the transfer of administrative control from DAPA to the MND. Indeed DAPA was established by the former Roh Moo-hyun government in connection with the origination of the Defense Reform 2020 Plan, partly for reasons of promoting transparency but also with the purpose of placing the acquisition process under civilian control.

Figure 4.1 illustrates how South Korea's organisational structure of the acquisition process has been transformed with the establishment of DAPA.

Figure 4.1 Reorganisation of the ROK's Defence Acquisition Process



Key: JCS = Joint Chiefs of Staff; T&E = test and evaluation; DQAA = Defense Quality Assurance Agency; PMO = Procurement Management Office; DPA = Defense Procurement Agency; DTaQ = Defense Technology and Quality agency.

The Defense Acquisition Programme Administration – DAPA

DAPA is a fairly new agency which was only set up in 2006. It was established at the same time as the Defense Reform 2020 Plan was initiated and reflected the Roh Moo-hyun government's ambition to increase the efficiency and transparency of the acquisition and procurement process. As noted by observers, however, one reason for establishing DAPA was to mitigate the traditional dominance of the military, especially the Army, and the Ministry of National Defense in the acquisition process.[154] DAPA was created as a measure to streamline the acquisition process by centralising those activities in a single agency controlled by civil servants. The previous acquisition structure was decentralised and dominated by military officials; each military service branch had its own procurement office while the MND exercised administrative control.

[154] Interview, LIG Nex1, Seoul, December 2011.

The activities carried out by DAPA are predominantly concerned with managing and executing acquisitions of foreign and domestic defence materiel. Moreover, DAPA is now the sole agency in the ROK government controlling the acquisition process.[155] As such, DAPA plays a central role in the acquisition process as it is the only government institution conducting formal negotiations on issues pertaining to price, technology transfers, local production and offset packages.[156] Furthermore, DAPA exercises definitive authority over budget allocations for acquisitions and whether a certain weapons system should be procured domestically or from foreign suppliers. However, another significant role of DAPA is to promote the domestic industry and R&D, implying that it will favour the procurement of defence materiel developed and produced within South Korea.[157] The growing domestic competition for R&D and production contracts is also handled by DAPA, which selects the prime contractor based on the bidders' level of technological advancement and the estimated cost of production.[158] R&D contracts are increasingly awarded to industries rather than the ADD, partly as a measure to improve the capabilities of the industry but also to reduce the dominance of the ADD in the defence R&D sector.

Analyses suggest that the current Lee Myung-bak government is seeking to reduce the influence of DAPA over the acquisition process by reducing its size and authority. Consequently, there currently is a debate, led by the political administration, arguing that DAPA's power over planning and budget allocations should be transferred back to the MND.[159] Yet, regardless of these politically motivated bureaucratic struggles, DAPA continues to be heavily involved in all processes concerning the defence industrial sector and is therefore capable of exerting substantial influence.[160] Indeed, by exercising control over domestic defence acquisitions while at the same time having both export promotional and regulatory authorities situated under the same roof, DAPA is a special, if not unique, kind of organisation.

[155] Myoung (2010) "Korea: Defense Budget and Procurement Procedure of DAPA", p. 2.
[156] Ibid.
[157] Cambridge Econometrics et al. (2010) *FWC Sector Competitiveness Studies*, p. 178.
[158] Interview, KIDA, Seoul, December 2011.
[159] Moon and Paek (2010) "Defense Industrialization and Innovation in South Korea", p. 19.
[160] Interview, KIDA, Seoul, December 2011.

The Agency for Defense Development – ADD

Amongst the many organisations involved in the overall procurement and acquisition process the ADD remains a key agency. It was established 40 years ago as an agency under the MND, and is the primary organisation in South Korea engaged in defence R&D. The ADD's budget amounted to approximately 1 billion USD in 2011. Over 70 per cent of those funds are spent on R&D-related activities, thus excluding administration and the technological support function which the agency also performs.[161] The ADD's relative advantage over the industry's defence R&D sector is partly founded in the agency's access to established research and test facilities, including 56 major laboratories where R&D and the testing of weapons systems are conducted. Of these the largest number, 21, is dedicated to R&D work relating to missile technology and precision-guided munitions.[162]

As noted earlier, the ADD has until recently enjoyed a strict monopoly in the country's defence R&D sector. A portion of its R&D work is now gradually being outsourced to the defence industries. Overall, the activities of ADD can be divided into three categories: (1) core technology R&D; (2) defence systems R&D; and (3) technological support to industry and the armed forces.[163] Defence contractors are progressively taking over in the second category, defence systems R&D, which in other words relates to the more general weapons systems used by the armed forces. Consequently the emphasis of the ADD's R&D will lie on core, high-end technologies, including but not limited to strategic weapons systems such as cruise and ballistic missiles.[164] Furthermore the ADD is also expected to provide assistance to defence industries in the areas for which they are taking over responsibility.[165]

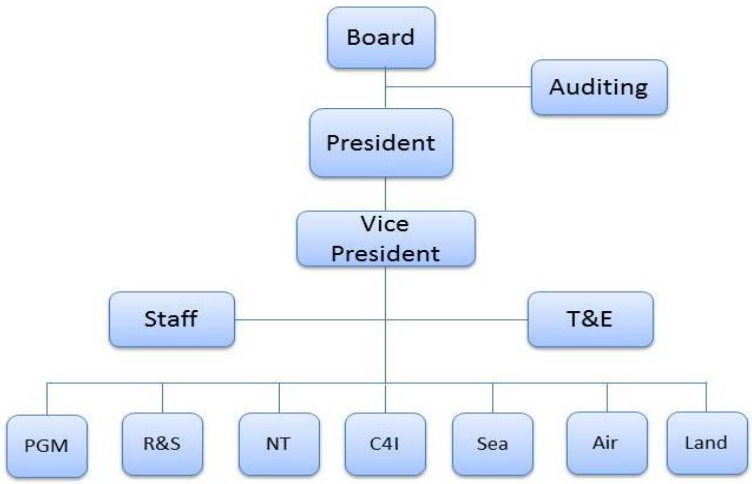
These changes may be observed in the ADD's evolving organisational structure, illustrated in figures 4.2 and 4.3. As the figures show, the ADD is essentially undergoing a process of organisational transformation which, although not yet completed, virtually divides the agency into two parallel structures. Overall defence R&D activities are gradually being divided between two executive vice-presidents. The new organisational structure indicates that the activities carried out under the auspices of the first vice-president are predominantly concerned with strategic and core technology R&D, including precision-guided munitions,

[161] Interview, LIG Nex1, Seoul, December 2011.
[162] Ibid.
[163] Ibid.
[164] Paek, Jae-ok (2010) "Defense Science and Technology of the ROK and Desirable Directions for Relevant R&D Policies", *The Korean Journal of Defense Analysis*, Vol. 22, No. 2, June, p. 199.
[165] Interview, LIG Nex1, Seoul, December 2011.

radars and surveillance systems, and neo-technologies such as high-energetic materials. The second vice-president's area of responsibility, the defence systems R&D category, is thus increasingly becoming a support function to the major defence contractors' research divisions.[166] It remains uncertain where this organisational partition of the ADD's responsibilities will lead.

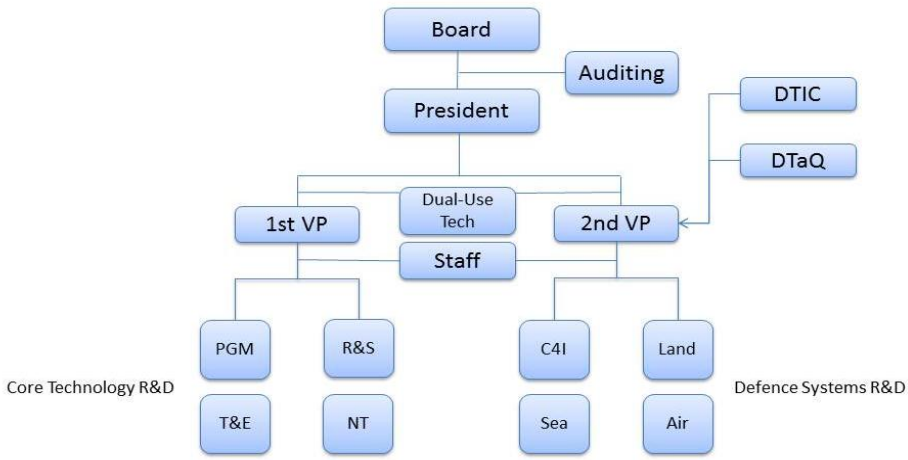
[166] Ibid.; and Interview, Stockholm, January 2012.

Figure 4.2 – The ADD's Previous Organisational Structure



Key: PGM = precision-guided munitions; R&S = radar and surveillance; T&E = test and evaluation; NT = neo-technologies (e.g. energetic materials).

Figure 4.3 The ADD's New Organisational Structure (Projected)



Key: VP = vice-president; PGM = precision-guided munitions; T&E = test and evaluation; R&S = radar and surveillance; NT = neo-technologies; C4I = command, control, communications, computers and intelligence; DTIC = Defense Technology InnoCenter; DTaQ = Defense Technology and Quality (agency).

The participation of the Defense Technology InnoCenter (DTIC) and the Defense Technology and Quality (DTaQ) agency can also be seen in the new organisational structure. Specifically, these institutions engage directly in the activities that come under the second vice-president of ADD. The DTIC is a newly established department within DAPA responsible for planning and delegating R&D programmes to either industries or the ADD.[167] DTaQ, although not a part of DAPA, is practically directed by it and thus its relation to DAPA is similar to that of the ADD. Consequently many of the changes to the ADD's organisational structure and its gradually diminishing dominance in South Korea's defence R&D sector are mainly a result of the directives and policies pursued by DAPA.[168]

The Blue House, National Assembly and the Korea Institute for Defense Analyses

The office of the president of South Korea, the Blue House, is perhaps the most important among the government institutions which partake in the defence industrial sector from a relatively more peripheral position. This is particularly the case in the defence acquisition process where the president has the final authority to approve the acquisition of defence materiel, particularly concerning direct acquisitions from foreign suppliers.[169]

The National Assembly and its Committee on Defense are the primary actors from the legislative perspective. Although often passed by in the policymaking process, the National Assembly holds the authority to approve budget appropriations, including those necessary for defence procurements and the mid-term defence plans.[170] Furthermore, assessments indicate that the National Assembly usually favours acquisitions through domestic R&D and production rather than through foreign suppliers.[171]

KIDA is a defence research and analysis agency responsible to the MND. Although KIDA does not engage directly in the defence industrial sector as DAPA and ADD do, it does play an important role in evaluating the force requirement programmes presented to the MND. It therefore has a part in the defence industrial sector and the acquisition process, mainly as an advisory body

[167] Interview, Stockholm, January 2012.
[168] Ibid.
[169] Moon and Paek (2010) "Defense Industrialization and Innovation in South Korea", p. 20.
[170] Interview, Yonsei University, Seoul, December 2011; and Interview, MND, Seoul, December 2011.
[171] Moon and Paek (2010) "Defense Industrialization and Innovation in South Korea", p. 20.

which submits its analyses directly to the MND.[172] KIDA also hosts a centre for weapons systems studies, whose primary duties involve policy, strategic and financial planning concerning weapons systems.[173] All these functions within KIDA are primarily meant to strengthen the position of the MND vis-à-vis DAPA in the defence industrial sector in general, and the acquisition process in particular. In practice, the analyses and evaluations performed by KIDA are second opinions provided to the MND and aim to complement the analyses conducted by DAPA.[174]

The Armed Forces

The armed forces of the ROK are the primary domestic end-users of defence materiel. The armed forces do not have separate R&D facilities and are not directly engaged in the defence industrial sector. Since the establishment of DAPA the role of the military has been reduced from one of active engagement in the entire acquisition process to that of participation in the planning stage. However, being the primary end-user of military equipment, the armed forces do play a significant role in preparing acquisition requests. More specifically, the Joint Chiefs of Staff (JCS) and the service branches provide the MND and DAPA with information on the required operational capabilities (ROCs) of new equipment. Information is also provided regarding the projected operational environment in which those capabilities are to be deployed.[175] Each service branch of the armed forces has a combat development division which is responsible for planning and communicating the requirements for new weapons systems.[176] Furthermore, the JCS produces mid- and long-term acquisition plans which describe the expected future capability requirements of the armed forces.[177] The military also takes part in the testing and evaluation of prototype weapons systems upon delivery by the producing contractor. This is carried out by the relevant service branch together with the JCS.[178]

Analyses suggest that the different military service branches have diverging needs and interests in regard to whether new weapons systems should be acquired from the domestic industry or from foreign contractors. The domestic defence industry is generally able to satisfy the ROCs set by the Army, thus implying that the Army makes little to no demand for weapons systems acquired

[172] Interview, KIDA, Seoul, December 2011.
[173] Ibid.
[174] Ibid.
[175] Interview, LIG Nex1, Seoul, December 2011.
[176] Moon and Paek (2010) "Defense Industrialization and Innovation in South Korea", p. 18.
[177] Interview, LIG Nex1, Seoul, December 2011.
[178] Ibid.

from abroad. The ROK Navy and, more so, the Air Force, on the other hand, do seem to prefer foreign acquisitions of weapons systems. Indeed there is a relative deficiency of domestic R&D and industrial capabilities needed to produce weapons systems which meet these services' ROCs.[179] At the same time, the armed services' constant upgrading of their ROCs is expected to provide incentives for the domestic defence industry to seek technological advances and innovation so as to satisfy domestic demands.[180]

4.5 The Defence Industrial Sector: Private Actors

South Korea's defence industrial sector is dominated by a few big business conglomerates, also known as *chaebols*, whose primary activities are in the civilian production sector. These are family-owned private enterprises which have traditionally been given strong government support.[181] Most of the major defence industries are subsidiaries to these conglomerates. The major defence contractors in South Korea are presented in Table 4.1.[182]

[179] Moon and Paek (2010) "Defense Industrialization and Innovation in South Korea", pp. 18-19.
[180] Ibid.
[181] Stockholm International Peace Research Institute (2011) *SIPRI Yearbook 2011*, p. 241.
[182] Innovation Norway (2008) "Korea Defense Industry", *Innovation Norway Korea*, October; Stockholm International Peace Research Institute (2011) *SIPRI Yearbook 2011*; and websites belonging to the defence contractors.

Table 4.1 Defence Contractors and Their Major Specialisations

Major Defence Contractor [*Parent Company*]	**Products & Primary Area of Specialisation**
LIG Nex1 [*LG Group*]	Electronic warfare systems, C4ISR, missile technologies, precision-guided munitions, underwater surveillance systems, radar systems
Hyundai Heavy Industries [*Hyundai*]	Shipbuilding (frigates, destroyers, submarines) and related components
Hyundai Rotem Company [*Hyundai*]	Main battle tanks (MBTs) including K1A1 and K2
Doosan DST [*Doosan*]	Armoured vehicles (e.g. K21 IFV), air defence systems (anti-aircraft cannons, surface-to-air missile systems)
Korea Aerospace Industries	Fixed- and rotary-wing aircraft, aircraft components, aviation technologies
Daewoo Shipbuilding and Marine Engineering [*Daewoo*]	Shipbuilding (frigates, destroyers, submarines) and related components
Samsung Techwin [*Samsung*]	Self-propelled howitzers and artillery (e.g. K9 and K55), ammunition resupply vehicles
Samsung Thales [*Samsung/Thales*]	C4ISR, radar systems, avionics, electronic warfare systems, naval combat management systems
STX Engine [*STX*]	Diesel engines for naval surface combatants (e.g. KDX-II destroyers), MBTs (K1A1, K2) and other armoured units (e.g. K9)
Hanwha Corporation [*Hanwha*]	Missile technologies, precision-guided munitions, underwater sonar and surveillance systems

These industries, as Table 4.1 shows, are specialised in certain areas of production pertaining to defence materiel. This being the case, each defence contractor enjoys a relatively dominant domestic market share within their respective areas of specialisation. Nevertheless, defence contractors do face substantial challenges. According to some assessments, the capabilities of the defence industries are very limited, particularly in defence R&D. Although this is related to the historically monopolistic dominance of the ADD in that area, the defence industries are largely lagging behind in their ability to develop core technologies such as thermal imaging sensors, flight control systems, engines and stealth technologies.[183] Consequently, South Korea's defence industry lacks, to a certain degree, the capability to develop and produce advanced weapons systems independently, implying that there remains a significant reliance on foreign suppliers.[184]

South Korea's defence industrial supply chain is based on institutionalised cooperation between different kinds of contractors. These are in turn always selected by DAPA. Prime contractors of defence materiel deal largely with system integration, while primary subcontractors are engaged in the production of major components and secondary subcontractors in the supply of parts. Moreover the ROK separates its defence industries into two categories: major defence contractors and general defence contractors. The former designation is usually given to industries which engage in the production of defence materiel relating to precision-guided weapons, aircraft, armoured vehicles, naval vessels, radars, electronic warfare systems and products relating to chemical, biological and radiological warfare. Although the contractors listed in Table 4.1 are by far the largest and most important, and indeed fall under the category of major defence contractor, by 2008 there were in total 91 businesses in South Korea designated as defence contractors. Furthermore, although not considered as defence industries, around 4,000 business entities were engaged in the supply of parts to the defence industry.[185]

The institutional arrangements by which the principal defence industries are subsidiaries of large, multinational commercial enterprises are the most telling characteristic of South Korea's defence industrial sector. Nine out of the ten most prominent defence contractors listed above are subsidiaries of *chabeols*.[186] Observers argue that the organisational set-up of the defence industries has allowed them to utilise the parent company's civilian R&D and production

[183] Moon and Paek (2010) "Defense Innovation and Industrialization in South Korea", pp. 3-4.
[184] Stockholm International Peace Research Institute (2011) *SIPRI Yearbook 2011*, p. 243.
[185] Paek, Jae-ok (2010) "Defense Science and Technology of the ROK", pp. 200-201.
[186] Ibid., p. 4.

capabilities for spin-on to the defence sector, and vice versa.[187] Indeed South Korea is increasingly seeking to utilise the strategic placement of its defence industries by promoting the development of dual-use technologies and diversification of production. In 2009 the current Lee Myung-bak government amended the law on the promotion of dual-use technology to enhance cooperation between the civilian and defence production sectors.[188] The conclusion is that South Korean defence contractors have a substantial amount of governmental support. This support includes but is not limited to the policy of "buy Korean", implying that the procurement of domestically produced defence materiel will be prioritised over foreign direct acquisitions.[189] There is also a system most correctly described as one of state subsidy to the existing defence industries. For example a large contract on a specific weapons system given to one contractor can be complemented by a smaller contract to another industry in the same technical area. This is a way of upholding multiple and parallel competences in the defence sector.

4.6 Defence Materiel Exports

As noted above, South Korea's defence industrial strategy is to a great extent guided by the political ambition to increase the quantity and value of its exports of defence materiel. Defence materiel exports for 2011 surged past expectations and have underlined the new goal of exporting arms to the value of 3 billion USD for the year 2012. DAPA has, arguably as a result of the success of the previous year, furthermore revised its export ambitions and is now setting a target of 10 billion USD a year in arms exports by 2017. As a reference, the 2011 target for defence materiel exports was set to 1.6 billion USD.

In 2011 South Korea exported defence materiel worth 2.4 billion USD, twice the value of its defence exports in 2010.[190] The most notable export items included three Type 209/KSS-I submarines and 16 T-50 trainer jets sold to Indonesia. The contracts were valued at 1.1 billion and 400 million USD respectively.[191] It is notable that the submarine contract was awarded to Daewoo Shipbuilding which won the bid in competition with HDW, the German defence contractor which

[187] Interview, Saab, Seoul, December 2011.
[188] Moon and Paek (2010) "Defense Innovation and Industrialization in South Korea", p. 5.
[189] Ibid., p. 6.
[190] Scanlan, Craig (2012) "South Korea Hits 2.4 billion Dollars in Arms Exports for 2011, Targeting 3 billion for 2012", Asia Security Watch, *New Pacific Institute*, 3 February.
[191] Ibid.

had initially developed and later sold the same type of submarine to South Korea.[192]

Taking recent export deals into account, it becomes clear that South Korean defence materiel is primarily exported to nations with high economic growth rates, significant ambitions for their individual defence industrial sectors and relatively unsophisticated levels of defence technological advancement, at least if South Korea's exports are compared to those of the internationally dominant suppliers of defence materiel. Turkey and Indonesia have emerged over the past few years as the primary recipients of South Korean defence materiel.[193] For example, in a deal worth around 1 billion USD, Turkey was the first foreign country to acquire the K9 self-propelled howitzer, produced by Samsung Techwin, from South Korea.[194]

The most notable weapons systems being promoted for future export efforts include KSS-I attack submarines, T/FA-50 jet aircraft, K9 howitzers and, potentially, Low-cost Guided Imaging Rocket (LOGIR) missiles. The recently developed K11 airburst multi-purpose combat rifle has also attracted foreign attention, for example in the United Arab Emirates which in 2010 bought 40 units at a cost of 560,000 USD.[195] Reports further indicate that negotiations have been held with a number of countries, including Jordan, Thailand and Indonesia, regarding the sale of K1A1 and K2 MBTs.[196]

4.7 Summary

South Korea's defence industrial sector has been developing constantly since it was established nearly 40 years ago. The country's defence industrial base was first established in the 1970s, a time when the ROK was completely dependent on military equipment supplied by the United States. While initially producing defence materiel through licensed production agreements and reverse engineering, the ROK is now relatively successful in producing defence materiel through its own efforts. Although the dependence on foreign assistance has not been entirely eliminated, it has diminished to a point where South Korea's defence industry is capable of meeting most of its domestic demand pertaining to weapons systems and defence materiel. The defence industry has shown

[192] See Appendix III for a brief discussion on the contentions and implications of this particular deal.
[193] See Appendix IV.I.
[194] Global Security "K9 155mm Self-propelled Howitzer", *Globalsecurity.org*.
[195] Jung, Sung-ki (2010) "Korea Emerges as Arms Development Powerhouse", *The Korea Times*, 16 June.
[196] Ibid.

substantial progress in several production areas, including shipbuilding, armoured vehicles and precision-guided munitions. Indeed, some of the world's most advanced naval surface combatants, such as the KDX-III destroyers, have been produced in South Korea. Yet the case of the KDX-III also reflects the limits of South Korea's defence industrial capabilities. Despite the industry's adequacy in production and complex systems integration, most of the advanced technologies employed by the KDX-III are foreign-developed, including its Aegis combat system.

South Korea's defence industrial development has from the outset been a government-induced effort. Substantial benefits have been and continue to be provided to those industries which have been politically designated as defence contractors. These benefits include tax and tariff reductions, concessions of production sites and guaranteed oligopolistic market dominance. Most major defence contractors are subsidiaries of established, family-owned big business conglomerates, *chaebols*, whose primary production and research activities lie in the civilian sector. This institutional arrangement has facilitated the development of dual-use technologies, either through spin-on or spin-off effects to or from the defence sector. A notable characteristic of South Korea's defence industry is that the major contractors have, through government directives, specialised in different areas of defence-related production. While this has partly undercut domestic competition in the defence sector and raised the barriers to market entry, these institutional arrangements have at the same time favoured growing industrial expertise in each area of production.

Although substantial improvements have been made, the continued development of South Korea's defence industry is facing major challenges, particularly in the defence R&D sector. South Korea remains dependent on foreign suppliers for core technologies, including but not limited to engines, thermal imaging sensors and flight control systems. Thus, many of the high-tech weapons systems produced in South Korea have been developed through the technological assistance of foreign contractors. South Korea's political ambition to become entirely self-sufficient in the defence industrial sector is thus challenged by the industry's failure to reach an adequate level of technological advancement.

The ROK is consequently employing several measures to facilitate its progress in the R&D sector. It is diversifying its defence R&D supplier base by having the ADD outsource several of its R&D programmes to domestic defence contractors. At the same time there is a growing trend for the acquisition of defence materiel which has been developed by domestic means. DAPA, the country's newly established procurement agency, seems to favour the use of domestic contractors rather than foreign suppliers in the defence acquisition process. While this is partly a measure to provide the industry with incentives to maintain production

and strengthen R&D, it may also be viewed as a political ambition aimed at mitigating the country's dependence on foreign suppliers. The ROK is increasingly dissatisfied with procuring pre-assembled and complete weapons systems from abroad. Instead, it is actively pursuing technology transfers when such systems are acquired, traditionally by demanding offset packages. Moreover, South Korea is increasingly seeking to engage in joint cooperation ventures with foreign contractors and governments, in order to take part not only in the production of weapons systems but more importantly in their development as well.

The drivers of South Korea's defence industrial development can be broken down into two main categories. First is the ambition described above to improve the country's technological level in the defence sector through increased investment in R&D. Second, there is a growing trend to pursue economic profitability. The government has identified the defence industrial sector as a potential contributor to South Korea's economic growth, implying that defence industrial production and R&D will be driven increasingly by export ambitions. This has not been entirely unproblematic, as the international arms market is dominated by a few countries with highly developed defence industries, underwriting the high barriers to market entry that face South Korean firms. Moreover, the general assessment holds that South Korea still lacks some of the technological capabilities needed to compete viably in an international setting. Engaging in joint cooperation with foreign and preferably more technologically advanced defence industries is seen as an important solution in this context as well. Such ventures are expected to improve the technological sophistication of South Korea's defence industry and, by extension, make its defence industrial sector more competitive in the international arms market.

The obvious implication is that joint cooperation with South Korea's defence industry could, in the long term, challenge the competitive advantages held by the foreign contractors and reduce their relative market share. Perhaps equally important, however, are the benefits those cooperative schemes could bring both parties in terms of improvements in R&D, production and assembly. South Korea's defence industrial development, its relative disadvantages in the R&D sector, its export ambitions and the general ambition to engage in joint cooperation programmes present both incentives and challenges for the defence industries in Sweden and Europe. The following and concluding chapter will discuss and analyse those implications in more detail.

5 Conclusions

This report has addressed South Korea's security, its defence politics, the current defence reforms, and the defence industry and research sector. The chapters have been mainly descriptive, attempting to summarise and put into context the various important issues relating to South Korea's defence and security sector. In this concluding chapter, some reflections are made and conclusions drawn based on these observations.

Security and Defence Policy

The split of Korea into two parts following World War II and the subsequent war of reunification has been the single most important issue for South Korean defence and security policy since it became an independent state. The Cold War setting in which the Korean War was fought also shaped the continuing North–South conflict after the 1953 armistice. The anti-communist agenda of the Western powers created a foundation for the military dictatorships and harsh regimes that were to dominate South Korean politics up until the 1980s. The consistent goal of reunification in both South and North has existed in parallel with the great hatred and resentment which the Korean War caused. This basic dichotomy, the will to reunify but resentment of the respective regimes, is central for understanding South Korea's security dilemma.

South Korea moved from the Sunshine Policy of the early 2000s to a more assertive stance in the later part of the decade, when tensions rose between the North and the South. During the last five years or so this tension has taken on new qualities hitherto not seen. First of all, North Korea decided to go ahead with its nuclear programme and in 2006 and again in 2009 tested nuclear devices. In parallel it continued its pursuit of long-range ballistic missiles. There have also been provocations and military incidents clearly exceeding anything that has been seen since the armistice came into force. This has prompted a distinct South Korean and international reaction, again putting Seoul's political focus on the complex security dilemma on the peninsula. It has also sharpened South Korea's domestic debate about how best to approach and handle North Korea.

Meanwhile, the last ten years have seen an accelerating change in the regional security architecture, primarily driven by the rise of China and US/allied reactions to this rise. Although during the early and mid-2000s South Korea put considerable focus on the development of its regional military capabilities, the problems of the last few years have again limited its capacity to shift its attention away from North Korea. Another dilemma for South Korea is how to balance its alliance relationships with the need to maintain close relations with China, its largest trade partner.

The current challenge facing the region in general and South Korea in particular is that all actors seem to have the least to lose by accepting the status quo on the peninsula. This in combination with the entrenched position of North Korea – now underlined by its possession of nuclear devices and the increased tension on the peninsula – makes it difficult to see an early resolution of the conflict in the near term.

Defence Reform and Defence Modernisation

The wish to take a broader regional approach in defence matters is partly reflected in the Defense Reform 2020 Plan initiated in 2005 by the Roh Moo-hyun government. It embodies the larger South Korean discussion on political strategy and relations with North Korea vis-à-vis the region. The pro-Sunshine Policy pursued by the Roh administration underlined the changes to South Korea's military posture. These included a significant reduction in the size of the ROK Army. It also emphasised acquiring greater regional military capabilities, making modernisation of the Navy and Air Force key objectives. To achieve this it was deemed necessary to counterbalance the Army's dominance over military affairs and this became a *de facto* part of the larger defence reform plan.

The Army has thus far seen its influence in the armed forces' command structure decrease in favour of the two other service branches. It has also had to downsize more than 30,000 of its soldiers. At the same time the 2020 Plan has paved the way for growing annual military expenditure, parts of which have been invested in acquisitions of advanced weapons systems including, but not limited to, Aegis destroyers, F-15K fighter jets and precision-guided munitions.

Significant elements of the 2020 Plan have been implemented and the plan itself is formally still in effect. However, it is not certain that it will be fully implemented as initially envisioned. Changes in the domestic political climate and in South Korean threat perceptions of the North have put in doubt the direction of the reform process. The current Lee Myung-bak government has been forced, and has also had the political inclination, to redirect emphasis towards inter-Korean security problems. In this context regional power projection is of less importance than the country's deterrence and defence capabilities vis-à-vis the North. This would imply strengthening the Army and taking back wartime operational control of the armed forces. Indeed amendments to this effect have been made over the last few years. The Lee Myung-bak government's proposed 307 reform plan (also known as the 11-30 plan) makes adjustments to the higher command and control structure of the armed forces in preparation for the transfer of wartime operational control. This transfer was initially to have been achieved by 2012, but is currently planned for 2015.

Regardless of the current government's ambition to refocus the direction of the defence reform process, the 307 Plan is unlikely to pass into law and come into effect. Political opposition from both the legislative branch and the armed forces has been challenging the enactment of the new plan. This reflects the prevalent lack of bipartisanship in South Korean defence politics and by extension the absence of a unified political will to implement either of the two defence reform plans fully. The essential implication is that South Korea will have continuous difficulties in pursuing future defence reforms. Defence reform and behaviour in general have been modified during recent years on an *ad hoc* basis following military-political crises on the peninsula. It is thus not unlikely that future such crises will trigger additional modifications.

The apparent ambiguity surrounding the defence reform process and the lack of political will to implement it could present South Korea with negative implications. It may hamper South Korean involvement in an evolving regional security architecture based on more tri- and multilateral efforts to hedge against Chinese military expansion. At the same time South Korea, possibly more than any other neighbour, will be pressed to uphold good and constructive relations with China while supporting allied strategies. Although appearing ambiguous in its defence reform process may in this context be the most rational policy from South Korea's perspective, it may also create problems in its strategic relations with Japan and the United States.

Acquisition, Industry and R&D

The South Korean defence industrial sector is in a period of transition with both ambitions and expectations set high. Consistent policy throughout the last 40 years has emphasised substantial government support and investment. The development of a now established capacity to produce and assemble advanced defence materiel has been a key goal. Yet the industries continue to be beset by challenges, primarily in the defence R&D sector. The ongoing structural changes in South Korea's defence industrial sector are adding increased pressure on the defence industry to do independent R&D. Its inexperience in basic R&D means that there will be a continued dependence on foreign suppliers for many years to come. This realisation in South Korea may also be a driver for expanded international cooperation on defence R&D.

Although still besieged by such challenges to the development of its defence industry, South Korea's ambitious goal is to become highly independent in the field of arms development and procurement. Coupled with this objective is the ambition to increase arms exports and enhance profitability. Ideally the defence industry should contribute to the overall South Korean economy.

These main goals by necessity constitute risks for any foreign company or government collaborating or doing business with South Korea in the field of defence materiel. The defence industry will as a rule seek to access technology developed and supplied by foreign companies. There will therefore be the persistent risk of strengthening a future competitor's ability to export arms. However, as testified by the many ongoing projects, these risks are mitigated by the gains provided, such as financial profit, governmental and industrial confidence building, joint technological advances and increased defence industrial productivity.

In order to weigh the inherent risks against the benefits, each individual contract must be evaluated from several different perspectives. The most important of these are naturally the legal and contractual aspects, and also the balance between short-term profit and long-term gains as well as issues of trust. It will be especially important to identify industrial capabilities and know-how which South Korean firms will not develop in the near future. This will allow for a more balanced and complementary industry-to-industry relationship.

Opportunities for such complementary relationships are more likely to be found in areas such as organisational management and complex systems integration, necessities which rely on expertise beyond simply mastering specific technological know-how. This would allow for a more long-term relationship based on shared needs and mutual interests while at the same time developing a trustful relationship.

An example of where cooperation could be especially fruitful and beneficial in the long term as well could be bilateral co-development projects where distinct state-to-state stakes are identified. Examples could be taken from the full range of South Korean defence industrial activity. Specific areas include the submarine sector, sensor and detection systems, and the aviation sector. Co-development of defence materiel demands high levels of trust and substantial degrees of legal regulation, and benefits from formal state involvement.

The current trend is that an increasing amount of high-tech defence materiel will be developed and produced in South Korea, although often with the support of foreign defence contractors. Collaboration with or imports from countries other than the US are likely to expand. However, South Korea, like so many other allies of the US, will for the foreseeable future remain dependent on US defence technology in many areas. Although the alliance is fraught with challenges it remains the most important security guarantor for South Korea. The close defence cooperation taking place within the alliance makes it difficult for South Korea to markedly replace a majority of US contractors with those from other countries. Experiences from the early 1990's, when the ROK deliberately moved away from the US and soon ran into problems with systems integration in

domestically produced platforms, may have an impact. System compatibility and interoperability between U.S. and Korean forces is after all indispensable for both countries.

The Defence Industrial Calculus: Exports to and Cooperation with the ROK

Extrapolating from the above conclusions, one can identify some key factors which need to be taken into the calculus of individual defence contractors prior to any commitment. The authors consider that there are seven particularly important issues to take into account. Naturally these will have to be applied on a case-by-case basis.

The first factor regards technology transfers to South Korea. The ROK will be demanding technology transfers in the event of acquisitions from or cooperation with foreign defence industries. The significant limitations to South Korea's defence R&D capabilities underline its ambitions to foster technological advances through acquisitions and cooperative engagements.

This highlights the second factor. The ROK has a long-term need for foreign input, especially in the R&D and high-tech sectors, and particularly in the areas of aerospace, marine, submarine and underwater systems R&D. Thus, there is significant demand in South Korea for a wide range of weapons systems and defence materiel which currently can only be satisfied by foreign defence industries.

The third factor regards South Korea's ambition to diversify its foreign supplier base. There is a greater emphasis on cooperation with technologically advanced Western countries. Although the United States has been and remains the ROK's main foreign partner in terms of supplying defence materiel and technologies, the traditional alliance with the US has not satisfied South Korea's industrial and technological needs and ambitions. It is important to note that foreign government participation in defence industry to defence industry cooperation will often be demanded by the ROK government.

Fourth, South Korean defence firms do not cooperate domestically even though such cooperation could potentially benefit the development of their production and R&D capabilities.

Fifth, the defence industry is highly specialised and dual-use or civilian production remains limited. There are however some ambitions to increase production of dual-use materiel.

Sixth, the links between the South Korean state and the defence industry remain strong. The commercialisation of the defence industrial sector will go hand in

hand with continued state involvement and support. Foreign defence contractors should therefore expect strong government support and participation in South Korean arms exports.

Seventh, the risk of technology transfer from the ROK, in the form of Korean exports to third parties, has to be taken into account. In the judgement of the authors, the ROK's overall strategic alignment and its alliance relationships with and obligations towards the United States make the risk of deliberate technology transfer to for example China less likely. This will continue to be true even in the light of the ambitious plans to increase its exports of defence materiel. Such general assessments aside there are speculative press reports about concerns on the U.S. side akin to the 2007 Japanese Aegis leaks that may have spoiled Tokyo's plans on acquiring the F-22.[197] One example would be the reporting on the Global Hawk in November 2011, where the risk of technology transfer was given as one reason for the stalled agreement with the ROK concerning the sale of the U.S. Global Hawk UAV system.[198] As always, individual contractors and license holders must make a detailed and specific evaluation with the help of relevant national agencies.

To sum up, owing to its security and strategic environment, South Korea is increasing its defence budget and investments in the defence industry at a time when major powers throughout the world are reducing theirs. South Korean threat perceptions have remained relatively unchanged since the armistice agreement was signed in 1953 and there is no indication that there will be significant shifts in the foreseeable future. Consequently, the South Korean defence market is expected to remain vibrant and Seoul's demand for defence materiel and technologies will continue to be strong.

[197] Miks, Jason (2009) "F-22 Export Ban, Collective Security Test U.S.-Japan Defense Ties", *World Politics Review*, 30 January.
[198] Defense Industry Daily (2011) "US-South Korea Rift? Of Tiger Eyes & Industrial Spies", 23 November.

6 Appendices

Appendix I: A List of Important Agreements Relating to North Korea and Inter-Korean Relations[199]

- 1945 Soviet-Anglo-American Communiqué, Moscow Conference, 27 December
- 1953 The Korean War Armistice Agreement, Panmunjom, Korea, 27 July
- 1972 North-South Joint Communiqué, Pyongyang, 4 July
- 1991 North/South Reconciliation Agreement, New York, 13 December
- 1992 Joint Denuclearisation Agreement, 20 January
- 1993 US/DPRK Joint Statement, New York, 11 June
- 1994 US/DPRK Agreed Framework, Washington, 21 October
- 1995 KEDO Establishment Agreement, New York, 5 March
- 1997 US/DPRK Agreement on POW/MIAs, New York, 15 May
- 1999 DPRK Unilateral Missile Moratorium, 24 September
- 2000 South-North Reunification Joint Declaration, Pyongyang, 15 June
- 2000 ROK/DPRK Agreement on Separated Families and Long Term Prisoners, 30 June
- 2000 DPRK/Russia Joint Declaration, 19 July
- 2000 ROK/DPRK Six-Point Joint Communiqué, 31 July
- 2000 ROK/DPRK Joint Statement of Defense Ministerial Talks, Cheju Island, 26 September
- 2000 DPRK/US Joint Communiqué, Pyongyang, 12 October
- 2000 ROK/DPRK Economic Cooperation Talks Agreement, 11 November
- 2002 DPRK/Japan Pyongyang Declaration, Pyongyang, 12 September
- 2002 7th Inter-Korean Ministerial Talks Joint Press Release, 14 August
- 2003 DPRK NPT Withdrawal Statement, Pyongyang, 10 January

[199] List compiled with the help of "DPRK Briefing Book: Agreements" *Nautilus Institute for Security and Sustainability*.

Appendix II: The Defence Acquisition Process

The government, industry and the armed forces are all actors in and interact within the defence industrial sector. This appendix will illustrate the patterns of interaction between them in the acquisition process. It should be noted that this illustration is based on how the formal acquisition process evolves and for that reason does not speculate on the participation of informal actors, such as individuals and lobby organisations. This appendix divides the formal acquisition process into four phases.

Phase I: Planning and Submission of ROCs

The main actors in the planning phase are the MND and the armed forces, in particular the JCS. The MND is primarily engaged in planning long-term acquisition policies and the mid-term defence plan, including the mid-term force improvement programme. These plans serve both as frameworks for policy and as guidelines for the ROCs. The ROCs are planned by each service branch within the armed forces together with the JCS. As the armed forces are the primary end-users of weapons systems, the JCS holds the power of taking the final decision on whether a particular weapons systems is required or not.[200] Once the JCS has made a formal decision of approval, the request for the new weapons system is then submitted both to the ADD and to DAPA for evaluation and assessment.

Phase II: Evaluation and Decision

Several actors become involved in the acquisition process once a decision has been taken by the JCS and a request for a new weapons system has been submitted. These include KIDA, the ADD and DAPA, all of which are agencies under the Ministry of National Defense. KIDA is expected to provide the MND with an assessment on whether the requested weapons system is necessary from a strategic and operational perspective if the estimated cost for that particular system exceeds 5 billion USD.[201] Although both the ADD and DAPA will evaluate whether the materiel requested can be acquired by domestic means, ultimate decision making in this phase lies with DAPA.

DAPA performs its own evaluation of the ROCs submitted by the armed forces, while at the same time passing on information to the ADD which assesses whether it has the technological means to provide the system. However, DAPA exercises administrative authority over the ADD, implying that the ADD will

[200] Interview, MND, Seoul, December 2011; and Interview, LIG Nex1, Seoul, December 2011.
[201] Interview, MND, Seoul, December 2011; and Interview, KIDA, Seoul, December 2011.

only be brought into the evaluation process if DAPA deems it necessary.[202] Although DAPA remains dependent on the ADD for its technological expertise, it is at the same time seeking to diversify that dependence by involving both academia and industry in the evaluation process.[203] Once DAPA has completed the evaluation with the support of the industry's and the ADD's expertise, the agency makes a formal decision on whether the requested weapons system should be acquired.

Phase III: Development and Production

Assuming that the acquisition will proceed, DAPA's subsequent decision will revolve around awarding the R&D and production contract to the domestic industry or to foreign contractors. This decision is primarily dependent on whether the required technology is available within the domestic defence sector. If it is, a domestic bidding process will begin. DAPA, having formal authority over decision making, will award the contract and presumably divide it among prime contractors and primary and secondary subcontractors. In the case where the domestic industrial sector does not have the required technological means to produce the system, the contract for development and production will be diverted to foreign contractors, most often coupled with offset demands and requests for technology transfers. In this scenario, the role of the domestic industry and ADD will be reduced, and the Blue House has to give formal approval to acquire the given system from foreign contractors.

Development and production may also be carried out within a framework of joint cooperation. There is a growing reluctance in South Korea to disregard its domestic industry in an acquisition process, particularly in the development stage. Development and production through joint cooperation between domestic and foreign defence industries are therefore prioritised, rather than directly acquiring a weapons system from abroad. Hypothetically, a framework of joint cooperation could include South Korean defence industries as primary contractors, while foreign contractors would be awarded roles as either primary or secondary subcontractors.

Phase IV – Delivery and Evaluation

The armed forces will perform operational tests and evaluate the end-product once the requested weapons system has been produced and delivered. Furthermore, the system having been developed and produced either domestically or through joint cooperation, the system will be mass-produced.

[202] Interview, MND, Seoul, December 2011.
[203] Interview, D&D Focus, Seoul, December 2011.

Moreover, assuming that there are no restrictions on the use and dissemination of the technology, the final ambition will presumably be to make the new weapons system available for export.

Appendix III: Two Case Studies of Recent Arms Deals

The ROK's demand for technological advancement coupled with its growing export ambitions has in recent years prompted an increase in the defence industry's international engagements. Two examples of South Korea's recent activities on the international defence industrial scene will be briefly presented below. The first case study will examine South Korea's acquisition of submarines from Germany and Seoul's subsequent sale of domestically produced submarines to Indonesia. The second case study will examine South Korea's cooperation with Turkey regarding the development of the new Turkish MBT, the Altay.

Case Study I – South Korean Submarines and Indonesia

Background. In 2011 South Korea won a 1.1 billion USD deal to produce and export three KSS-I diesel-electric attack submarines to Indonesia, the same 1,200-tonne Type 209 submarine which the ROK had procured from Germany years earlier. Also among the contenders for the deal was the German defence contractor HDW which initially developed the Type 209. Daewoo Shipbuilding and Marine Engineering (DSME), the South Korean defence contractor which was awarded the contract, had also participated in the production of the submarines. South Korea won the contract partly because it had agreed to transfer technologies along with the submarines.[204]

Assessment. Concern has been voiced regarding the perceived unreliability of exporting defence materiel to the ROK without imposing subsequent export restrictions pertaining to the product's technology and design. The original developer, in this case Germany, may risk losing its international market share and comparative advantages in the submarine sector. This is inherently a legal problem solvable through negotiations on contracts and technology transfers. Yet from a business perspective it is also an issue of confidence. The common argument holds that it will be difficult to engage in defence industrial cooperation if one side perceives risks of competitive disadvantages further down the road. Although questions remain as to whether the ROK did in fact exploit German submarine technology for its own export uses, the subsequent damage to mutual trust has not triggered a cancellation of other cooperative defence

[204] Wibisono, Shirley (2011) "S. Korea to Build Submarines for Indonesia", *Agence France Presse, The China Post*, 23 December.

industrial programmes. Germany's deliveries to South Korea and their cooperative arrangements regarding the KSS-II Type 214 submarine remain unaffected. This reflects priorities but also serves as an indicator of an uncomfortable truth. Regardless of any perceived business risk of engaging the ROK, foreign defence contractors are left with little option but to continue their exports and cooperative efforts in order to maintain productivity, and thus ensure profitability and technological advancement.

Case Study II – The Altay MBT

Background. Since signing a contract in 2008, Turkey and the ROK have been cooperating on the development of the new Turkish MBT, the Altay. South Korea's Hyundai Rotem Company will be acting as the primary foreign subcontractor in the deal which provides the ROK with 400 million USD in exchange for technology transfers and assistance in development.[205] The Altay will be based on the design of Hyundai Rotem's K2 MBT and incorporate related yet hitherto unspecified technologies. The first prototype, constructed with South Korean assistance, has already been delivered.[206]

Assessment. The Altay deal is the first instance of the ROK exporting technology attained primarily through its own domestic R&D, indicating its rising technological prowess where to armoured vehicles are concerned. The deal also reflects the growing cooperation between Turkey and South Korea, two emerging yet somewhat challenged defence industrial powers. The main gain for South Korea may be considered to be the financial capital it receives, which could be invested in developing new weapons systems and core technologies. Perhaps more significant, however, is the ROK's now strengthened defence industrial relationship with a growing defence market. Analysts argue that engaging in joint cooperation and transferring technologies is a measure which builds trust and, by extension, reinforces the foundation for continued defence industrial cooperation.[207]

[205] Jung, Sung-ki (2008) "Korea Inks $400 Million Tank Deal With Turkey", *The Korea Times*, 30 July.
[206] Anatolia News Agency (2011) "Prototype of First Turkish Tank to be Unveiled, Minister Says", *Hurriyet Daily News*, 1 May.
[207] Interview, Saab, Seoul, December 2011.

Appendix IV: Macroeconomic and Military Expenditure (ME) Trends

Bengt-Göran Bergstrand, Swedish Defence Research Agency (FOI)

This appendix will briefly present some background data on South Korean macroeconomic developments and military expenditure (ME) trends, including some data on arms transfers to and from South Korea. Based on available data, a projection based on current trends is also made for coming years, suggesting that South Korean military expenditure will increase, in real terms, by about 25 per cent, from ~27 billion USD in 2010 to ~34 billion USD in 2016 (2005 prices).

The graphs and tables in this appendix are based on the FOI Database, which is in turn based on published data provided by a number of sources, including the Stockholm International Peace Research Institute (SIPRI), the International Monetary Fund (IMF) and the World Bank.

1. Macroeconomic and Military Expenditure Developments

Figure 1 shows gross domestic product (GDP) growth in South Korea, based on data from the IMF *World Economic Outlook* database.[208] In the graph the columns and the left-hand axis show South Korean GDP in billion US dollars (USD) in constant 2005 prices, while the curve line and the right-hand axis show GDP growth rates in percentages.

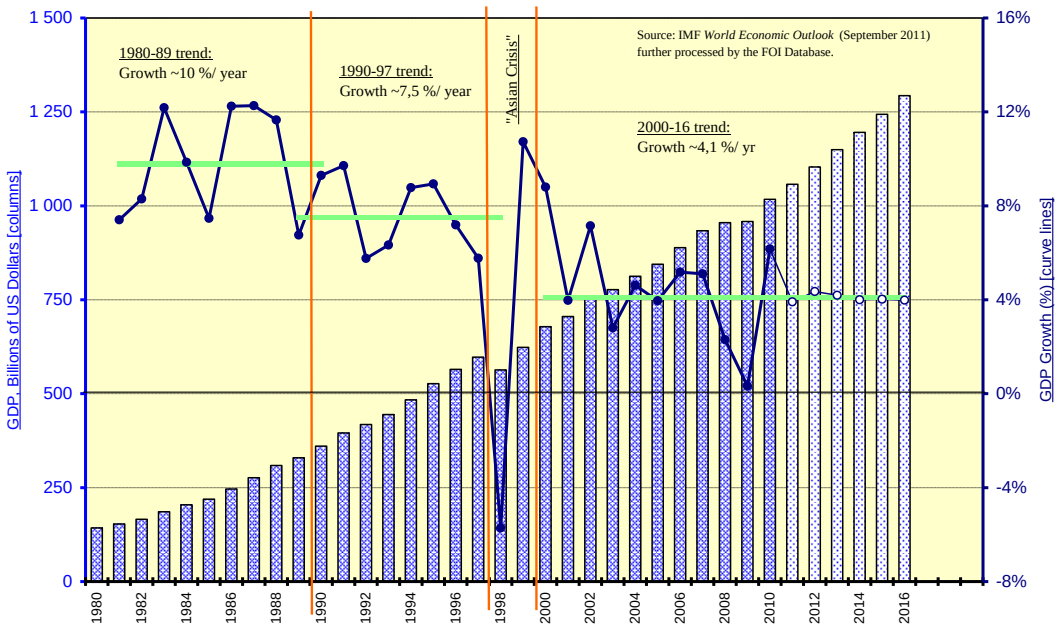
During the 1980s, growth averaged ~10 per cent per year (shown in the graph by the green line), while it declined slightly in the 1990s to ~7.5 per cent annually. During the "Asian Crisis", GDP fell by 5.7 per cent in 1998, but then increased anew in 1999. Since 2000, growth has averaged ~4.1 per cent per year. The global financial crisis reduced growth in 2009, but by less than what the Asian Crisis of the late 1990s had done, and the year 2010 was marked by some recovery. For the years 2011–16 (shown in the graph with a lighter shading) the *World Economic Outlook* forecasts that growth will average ~4 per cent, or a rate of growth in line with the growth rate that has prevailed since 2000.

During the period under study, 1980–2016, South Korea's GDP will consequently have grown by 900 per cent in real terms, from ~142 billion USD in 1980 to ~1293 billion USD in 2016. There are very few countries in the world which can show such a rapid and also steady rate of economic growth as South

[208] This database is accessible at http://www.imf.org/external/ns/cs.aspx?id=28 (published by the IMF in September 2011). Most economic calculations in the FOI database, as well as this appendix, are based, unless noted otherwise, on these IMF *World Economic Outlook* statistics.

Korea. Many countries have experienced high rates of growth during recent years, but what makes the South Korean experience remarkable is the steady pace at which the economy has grown – only interrupted by the Asian Crisis which had only a temporary effect – an experience which is not shared by very many countries.

Figure A1 South Korean GDP Growth 1980–2016 – GDP in Billion USD (Constant 2005 Prices) and Economic Growth



The tables at A1 put South Korea's national income in an international context based on *World Economic Outlook* data, by showing GDP and GDP per capita data for the 40 main countries of the world, ranked by position. The upper part of the table shows that South Korea's GDP is the 15th largest in the world, just slightly lower than that of Mexico (South Korea's GDP of 1015 billion USD in 2010 is about 2.3 times larger than Sweden's 459 billion USD).

South Korean GDP per capita is the 34th highest in the world, suggesting that an average South Korean has roughly the same standard of living as an average

Portuguese citizen (Sweden is placed as number 8 on the GDP per capita list, with a GDP per capita about 2.5 times higher than that of South Korea).[209]

Table A1

GDP 2010, Billions of US dollars/ "Countries ranked by size"

1	United States	14 526.55	21	Belgium	467.78
2	China	5 878.26	22	Sweden	458.73
3	Japan	5 458.80	23	Saudi Arabia	448.36
4	Germany	3 286.45	24	Taiwan Province of	429.85
5	France	2 562.74	25	Norway	412.99
6	United Kingdom	2 250.21	26	Islamic Rep. of Iran	407.38
7	Brazil	2 090.31	27	Austria	377.38
8	Italy	2 055.11	28	Argentina	369.99
9	India	1 631.97	29	South Africa	363.66
10	Canada	1 577.04	30	Thailand	318.91
11	Russia	1 479.83	31	Denmark	309.87
12	Spain	1 409.95	32	Greece	305.42
13	Australia	1 237.36	33	United Arab Em.	302.04
14	Mexico	1 034.31	34	Venezuela	293.27
15	**South Korea**	**1 014.48**	35	Colombia	289.43
16	Netherlands	780.67	36	Finland	239.18
17	Turkey	735.49	37	Malaysia	237.96
18	Indonesia	706.75	38	Portugal	229.15
19	Switzerland	527.92	39	Hong Kong SAR	224.46
20	Poland	469.40	40	Singapore	222.70

GDP per capita 2010, US dollars/ "Countries ranked by size"

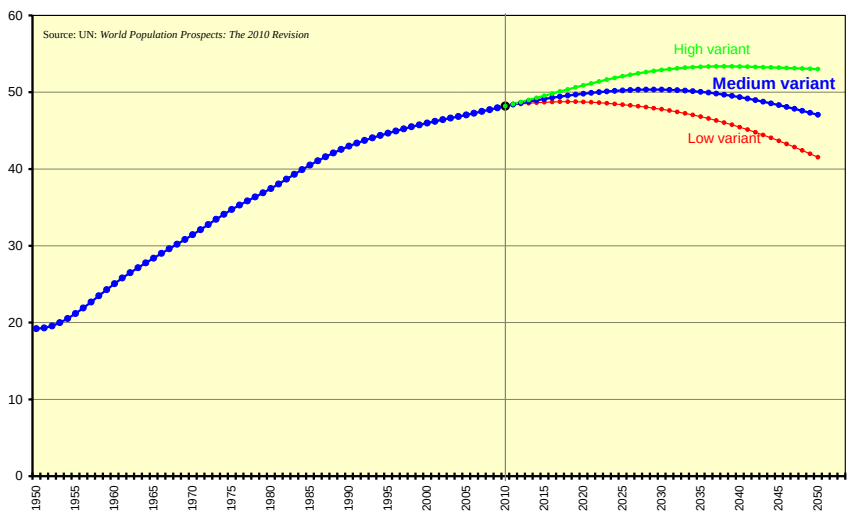
1	Luxembourg	108 952	21	Kuwait	37 009
2	Norway	84 144	22	United Kingdom	36 164
3	Qatar	74 901	23	Italy	34 059
4	Switzerland	67 779	24	New Zealand	32 163
5	United Arab Em.	57 884	25	Hong Kong SAR	31 514
6	Denmark	55 986	26	Spain	30 639
7	Australia	55 672	27	Brunei Darus.	29 675
8	Sweden	49 183	28	Israel	29 264
9	Netherlands	46 986	29	Cyprus	28 854
10	United States	46 860	30	Greece	27 311
11	Canada	46 303	31	Slovenia	23 648
12	Ireland	46 298	32	The Bahamas	22 350
13	Austria	44 988	33	Portugal	21 542
14	Finland	44 496	34	**South Korea**	**20 756**
15	Singapore	43 117	35	Bahrain	20 475
16	Belgium	42 845	36	Malta	19 707
17	Japan	42 783	37	Oman	19 405
18	France	40 704	38	Taiwan Province of	18 558
19	Germany	40 274	39	Czech Republic	18 277
20	Iceland	39 026	40	Saudi Arabia	16 267

[209] Rankings of this kind most of course be made in a common currency unit, and one could here discuss whether US dollars, based on market exchange rates, or so-called "international dollars", based on purchasing power parities (PPPs), should be used. As the IMF *World Economic Outlook* publishes data expressed in both market rates and PPPs, the FOI database also includes calculations based on the two kinds of exchange rates. In order to save space, no PPP-calculated data have been presented in this Appendix, but such information is available in the FOI database.

South Korean ***population trends*** have had, and will have, a major impact on economic and socio-economic developments. Figure A2 shows long-term population trends for South Korea for the period 1950–2050, based on data published by the United Nations *World Population Prospects: The 2010 Revision*.[210] Data for the period 1950–2010 are actual data, while those for 2011–50 are UN forecasts. The most probable trend, the so-called the "medium variant", is supplemented by a "high" and "low" variant, creating a span between possible outcomes.

South Korea's rapid population increase during the 1950s, 1960s and 1970s has gradually declined, and during the coming decades the South Korean population will – according to the medium variant – roughly remain flat, at ~50 million people. In the 2040s, the population will start to decline, suggesting that South Korea in 2050 will have roughly the same number of inhabitants, ~47 million, as in 2005. The "high variant" suggests that the South Korean population will continue to increase, though at a rather slow pace, up to 2035, and then remain fairly stable at ~53 million inhabitants. The "low variant" suggests that the South Korean population has already reached a stable level, at ~48.5 million, and will then start decreasing after 2020, suggesting that South Korea in 2050 will have a population of ~41.5 million.

Figure A2 South Korean Population Developments 1950–2050



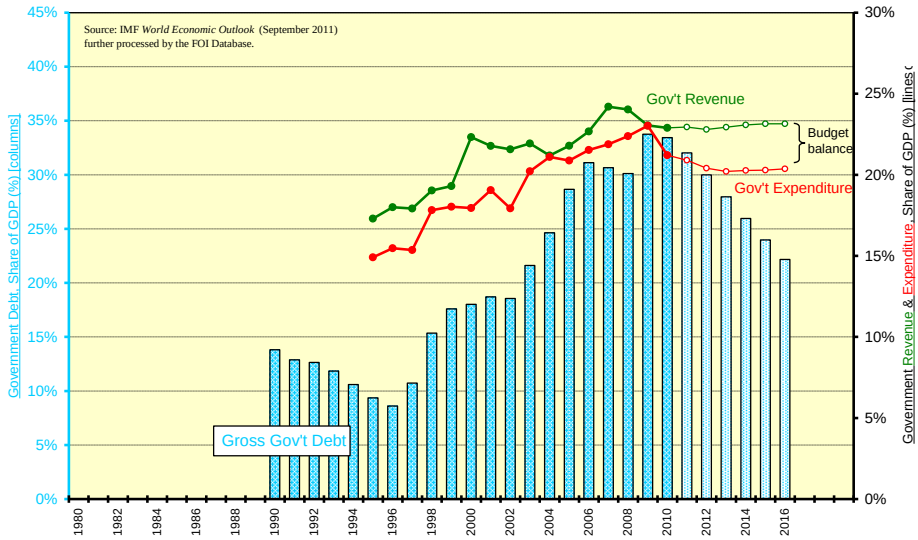
[210] UN population data may be downloaded from http://esa.un.org/wpp/unpp/panel_population.htm.

These population developments could of course be related to many socio-economic changes. First, if economic growth formerly, during the 1950s up to the 1980s, was related to a plentiful supply of cheap labour, the demographic trends noted here suggest that South Korean economic growth has gradually been, and will increasingly be, more capital-intensive. Second, welfare issues – such as care for older generations – will presumably become more important, both because welfare will require a larger share of the national income and because there will be a higher percentage of retired people in the population and fewer people in the working-age cohorts.

Figure A3 shows South Korean the development of ***government debt, revenue and expenditure***, measured as shares of GDP, from 1980 to 2016, based again on data from the IMF *World Economic Outlook*. The columns show gross government debt and the curve lines government revenue and expenditure (with the budget balance as the difference between revenues and expenditure).

The South Korean government's revenues have usually exceeded expenditure, meaning that South Korea has strong government finances, with a budget surplus. Since the late 1990s, gross government debt has nevertheless increased – although it is much lower than in most developed countries – and for the coming years the International Monetary Fund projects that reduced expenditure will create a larger surplus and lead to a reduction of debt, from 33 per cent of GDP in 2010 to 22 per cent in 2016.

Figure A3 South Korean Government Finances 1980–2016 – Government Debt, Revenue and Expenditure as Percentages of GDP



Military expenditure data for almost all countries of the world for the years 1988–2010 are published on the SIPRI website.[211] Figure A4 shows South Korean ***military expenditure trends*** in billion USD (columns and the left-hand axis) as well as ME as a share, in percentages, of GDP (the curve line and the right-hand axis).

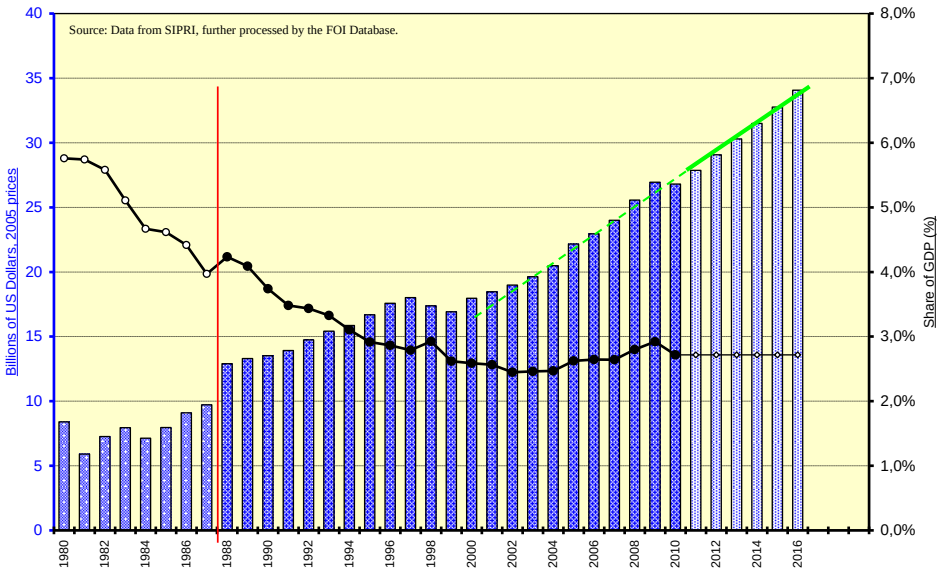
ME data are also published in the *SIPRI Yearbooks*, and the data published on the website are based on these *Yearbook* statistics. An attempt has therefore been made to supplement the series for 1988–2010 with data for 1980–87 from earlier *Yearbooks*, although it seems that the *Yearbook* numbers are a little lower than, and therefore not fully compatible with, the website data – which have apparently been revised upwards – and a red line, highlighting the series break, has therefore been inserted and amounts for 1980–87 have also been drawn with a different colouring.

South Korean ME shows a rather steady increase, only interrupted by the Asian Crisis in the late 1990s and the current crisis in 2010. Accordingly, ME in 2010 was, in real terms, more than twice as high as in 1988 (~27 billion USD in 2010,

[211] See http://www.sipri.org/ and http://www.sipri.org/research/armaments/milex/research/armaments/milex/milex_database.

compared to ~13 billion USD in 1988, 2005 prices). There is, however, a difference between the ME increases before and after the late 1990s. Up to the late 1990s, the high rate of economic growth was greater than the increases in ME and the share of ME in GDP gradually declined. Since the late 1990s, by contrast, the increases in ME have largely been at par with the ~4 per cent rate of growth noted in Figure A1, and the share of military expenditure in GDP has, consequently, been fairly stable, at ~2.7 per cent.

Figure A4 South Korean Military Expenditure 1980–2016 – Billion USD (Constant 2005 Prices) – and Military Expenditure as a Percentage of GDP



From an *economic* point of view, we could therefore draw two opposite conclusions. On the one hand, the South Korean economy is projected to experience a healthy 4 per cent per year rate of growth during the coming years, and considering that increases in ME have been at par with economic growth since the late 1990s, a safe assumption would be that ME will continue to grow at the same rate as GDP. In Figure A4, such a trend has been illustrated with the green line, showing how such increases in ME for 2011–16 would be in line with the ME increases since the late 1990s. Such a rate of ME increases would raise ME, in real terms, by 25 per cent, from ~27 billion USD in 2010 to ~34 billion

USD in 2016. Notably, such an increase could be made without increasing the share of ME in GDP, which would still be ~2.7 per cent.[212]

South Korea is also in the enviable position of having strong government finances and, in 2010, a debt of only 33 per cent of GDP – a level that is quite striking compared with most European countries as well as the US. Consequently, South Korea would not have any financial problem in increasing its military expenditure at the rate at which it has increased hitherto.

On the other hand, it is also projected that government revenue will remain largely flat during the coming years, and in order to create a larger surplus to make it possible to reduce the (still comparatively low) level of government debt, government expenditure must therefore be reduced during the next few years. Such measures may also curtail the rate of ME increases, particularly during 2011–12, but less so during 2013–16 when no further reductions in government expenditure will be made, meaning that government expenditure will increase at par with the rate of economic growth. Similarly, South Korea will eventually also have the same problem as, for example, Japan, with an increasingly aging population, and, although this demographic change will not present any acute socio-economic problems for South Korea, it may in the long term be necessary to reduce ME to a smaller share of GDP.

2. Arms Transfers

Since 1998 (after it had recovered from the Asian Crisis), South Korea has exported more than it has imported, and it is projected to have a surplus in its current account during the coming years as well.[213] This success in its external trade relations is one, though not the only, reason for South Korea's impressive economic growth rate.

Information on arms trade and transfers is, however, much more difficult to obtain. While all kinds of data on trade have been collected since ancient times (not least because governments have wanted to collect tariffs and duties on goods crossing their borders), statistics on trade in arms have been and are somewhat ambiguous. First, arms transfers are often surrounded with various degrees of

[212] A projection of this kind is of course of great informative value should it prove to be realised, not least because projections increase our understanding of various relationships and developments. It should also be remembered that projections which have not been fully correct in their predictions may still be valuable points of reference. Hence, it would be quite interesting five years from now, in March 2017, to make an "Appendix Revisited" study reviewing the projection here made of increased South Korean ME, to see whether ME had increased as projected, or – if that is not the case – why ME increased more slowly or more rapidly than projected.

[213] See IMF data at the noted *World Economic Outlook* database.

secrecy, and it is not always certain that countries provide full information on their arms transfers, what kinds of items they have classified as arms when such items have a dual-use purpose, or that the prices used for the selling and purchasing of arms represent some kind of market price. Thus, while much progress has been made in collecting general trade statistics, one problem is that the arms trade is not properly classified in the general trade statistics published either by countries or by international organisations. Numbers reported for instance for "arms" in such cases may only cover, say, civilian rifles used for hunting, while a fighter aircraft may just be included in the general "aircraft" category without being differentiated from civilian commercial aircraft.[214]

Consequently, the usual sources for trade statistics cannot be used for analyses of arms trade trends, and there are only two providers of international arms trade data – SIPRI and the US Department of State, which has recommenced its publication World Military Expenditures and Arms Transfers (WMEAT).[215]

In order to produce its estimates on arms transfers, SIPRI has developed a special methodology for its monitoring of and research on trends. This methodology is presented on the SIPRI website and could in essence be described as a "building-block method" (even if SIPRI itself rarely uses this particular term to describe its methodology).[216] First, as much information as possible on transfers of conventional arms, of certain selected categories from one country to another, is collected in a special registry database (for a discussion of the categories, see the SIPRI website). Then, an estimate of value, a "price tag", is attached to all these items, which added together constitute what SIPRI calls a "trend indicator value" (TIV). As these price tags are defined in US dollars and constant 1990 prices, TIV figures are naturally also expressed in the same value.

Such estimated TIV figures can therefore not be compared with other economic data, based on the financial flows generated by trade. Similarly, if a country for instance were to give 100 battle tanks free as military aid to another country,

[214] Two organisations are at the forefront in working with international trade classification schemes. The World Customs Organization (WCO) is an intergovernmental organisation, headquartered in Brussels, which maintains the international Harmonized System (HS) as a nomenclature for goods. The United Nations Statistics Division maintains another classification system, the Standard International Trade Classification (SITC), although the SITC is designed more to be usable for analytical purposes than to be an operational instrument for customs authorities.

[215] The WMEAT was published regularly from 1975 up to 2002, but was then only published in parts in May 2009, and it was only in January 2012 that WMEAT arms trade data were published. Currently, WMEAT only includes data up to and including 2005, and no WMEAT statistics have therefore been included in this Appendix.

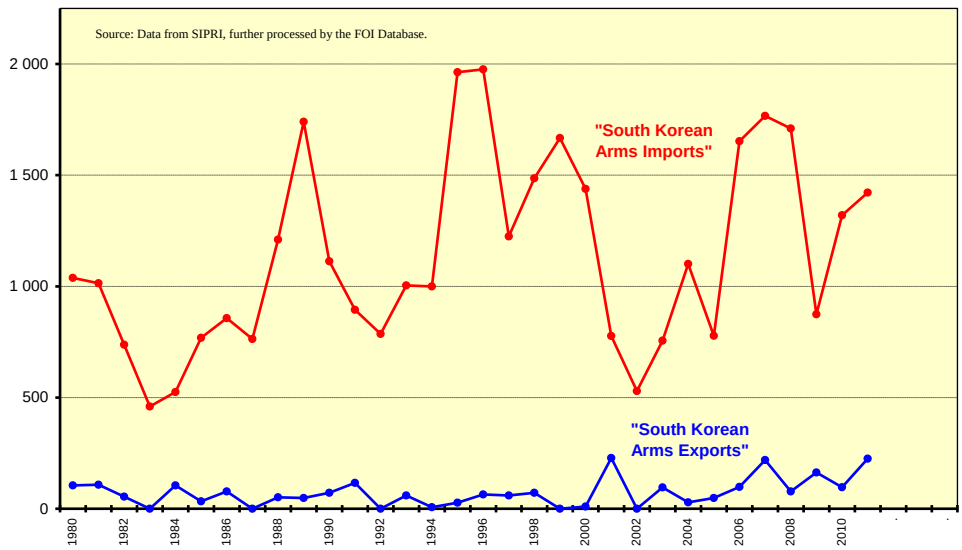
[216] For the SIPRI methodology, see http://www.sipri.org/databases/armstransfers/background.

without any "trade" taking place, SIPRI would still include such a gift in its registry database of transfers, attach a price and calculate a TIV figure.

SIPRI publishes its findings both in the *SIPRI Yearbooks* and on the SIPRI website, but recommends users to consult the website, which is more often revised and updated, rather than the printed *Yearbook*.[217]

Given these caveats, a series of five figures is presented below, giving a comprehensive review of South Korean ***arms transfers***. First, it should be noted that arms transfers to South Korea ("arms imports") are much larger than arms transfers from South Korea ("arms exports"). Arms imports have, however, both been quite large and varied greatly from one year to another. Notable peaks in South Korean arms imports may be noted for 1989; 1995-96, and 1999; and 2006-08. Arms imports declined greatly in 2009, but increased again during 2010-11.

Figure A5 Arms Transfers to and from South Korea (Imports and Exports), Million TIV – in Constant 1990 Prices



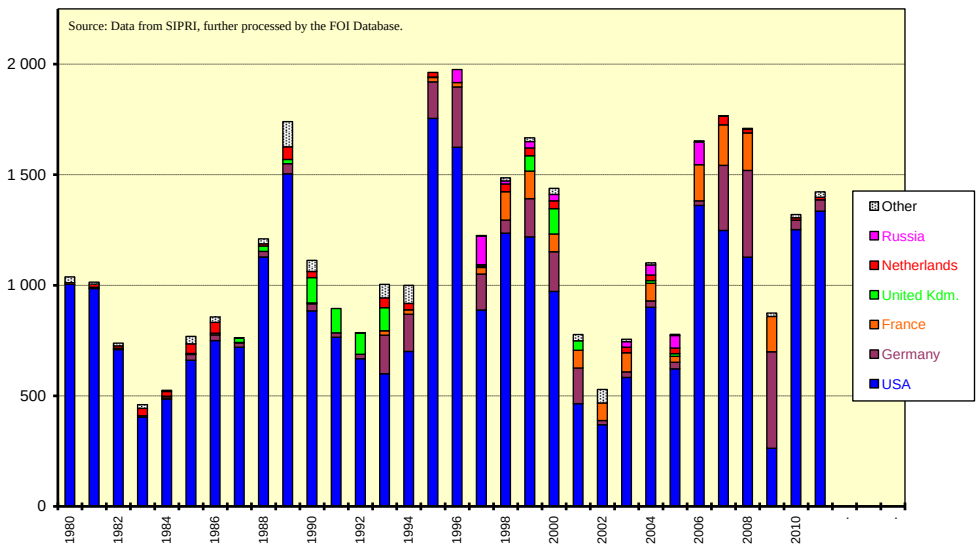
Note: TIV = trend indicator value

[217] The SIPRI arms transfer database is available at http://www.sipri.org/research/armaments/transfers/databases/armstransfers. The five arms transfer graphs presented in this Appendix are based on information released by SIPRI on 19 March 2012.

On the following two pages, two pairs of figures are presented, showing arms transfers to and from South Korea, by country and by category. The United States is the main supplier of arms to South Korea, and for the period 1980–2011, the US has, on average, supplied 80 per cent of the arms imported by South Korea. Aircraft represent the major category of arms imports, and aircraft comprise close to half of all arms transferred to South Korea during the period.

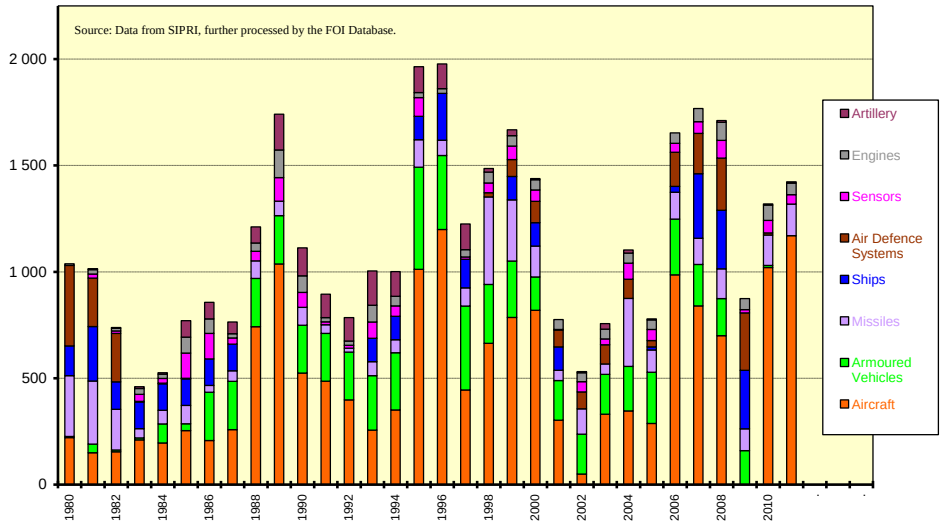
Figure A5 above shows that South Korean arms exports are much smaller than arms imports. Indeed Figures A7.1 & A7.2 are drawn with a scale of just one tenth of Figures A6.1 & A6.2. For South Korea – the world's leading shipbuilding nation – it is not too surprising that arms exports are dominated by the category "Ships", making up more than 70 per cent of all South Korean arms exports during the period 1980-2011. Indonesia and Turkey have been the two most important customers of South Korean arms, and nearly all South Korean arms exports have been destined for developing countries.

Figure A6.1 Arms Transfers to South Korea (Imports), in Million TIV in Constant 1990 Prices – By Country



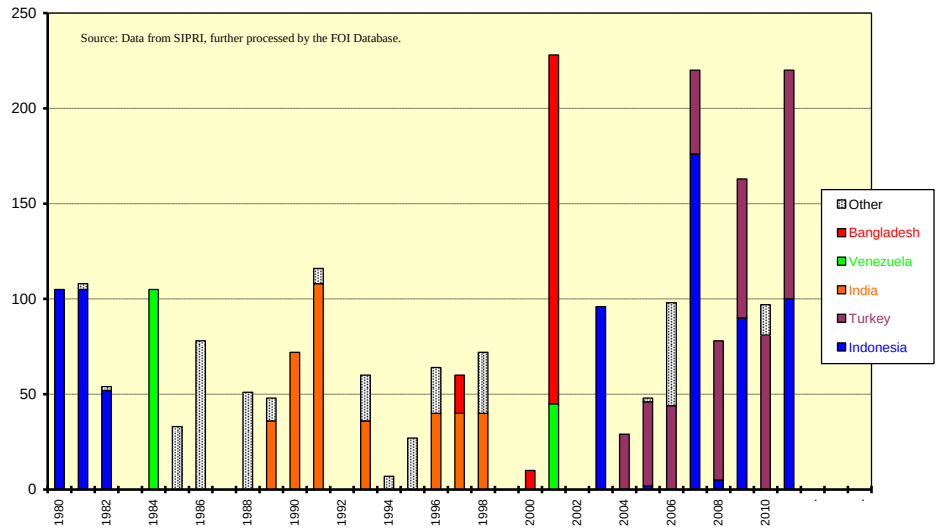
Note: TIV = trend indicator value

Figure A6.2 Arms Transfers to South Korea (Imports), in Million TIV in Constant 1990 Prices – By Category



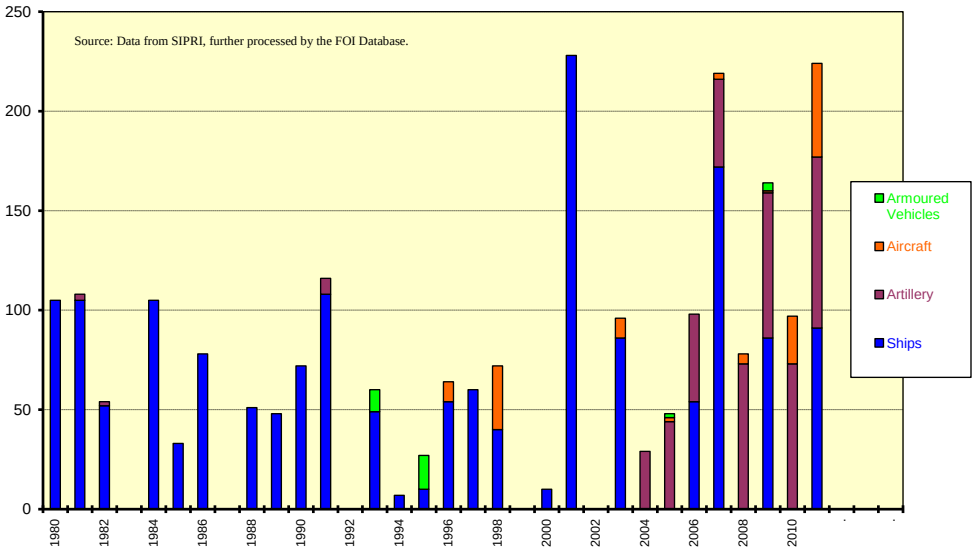
Note: TIV = trend indicator value

Figure A7.1 Arms Transfers from South Korea (Exports), in Million TIV in Constant 1990 Prices – By Country



Note: TIV = trend indicator value

Figure A7.2 Arms Transfers from South Korea (Exports), Million TIV in Constant 1990 Prices – By Category



Note: TIV = trend indicator value

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Sammanfattning

Som en global ekonomisk och industriell makt är Republiken Korea världsledande inom IT och fartygs- och bilindustrin. Sydkorea har också lämnat sitt autokratiska arv och utvecklats till en demokratisk stat. Men trots alla framgångar befinner sig landet i en allvarlig konflikt med Nordkorea. Denna rapport sammanfattar Sydkoreas försvars- och säkerhetssektor. I fyra kapitel beskriver rapporten säkerhetspolitik, försvarsreform, försvarsindustri och forskning.

Några av rapportens slutsatser är att Sydkoreas försvars- och säkerhetssektor genomgår strukturella förändringar. Under de senaste åren har Koreakonflikten ändrat karaktär och i några meningar fördjupats. I samband med en förändrad försvars- och säkerhetspolitik har den pågående försvarsreformen varit föremål för debatt. Det är osäkert hur de beslutade reformprocesserna kommer att implementeras och vad resultatet blir. Sydkoreas försvarsindustri och försvarsforskning har som ambition att bli allt mer ekonomiskt lönsam och oberoende i sin produktion och utveckling. De pågående förändringarna är allvarligt menade men det finns begränsningar för vad industrin kan göra eftersom den fortsatt är beroende av statliga subventioner.