The Evolving Military Balance in the Korean Peninsula and Northeast Asia

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Executive Summary

The tensions between the Koreas – and the potential involvement of the People’s Republic of China (China or PRC), Japan, Russia, and the United States of America (US) – create a nearly open-ended spectrum of possible conflicts. These range from posturing and threats – “wars of intimidation” – to a major conventional conflict on the Korean Peninsula to intervention by outside powers like the US and China to the extreme of nuclear conflict.

The Korean balance is also sharply affected by the uncertain mix of cooperation and competition between the United States and China. The US rebalancing of its forces to Asia and the steady modernization of Chinese forces, in particular the growth of Chinese sea-air-missile capabilities to carry out precision conventional and nuclear strikes deep into the Pacific, affect the balance in the Koreas and Northeast Asia. They also raise the possibility of far more intense conflicts and ones that could extend far beyond the boundaries of the Koreas.

There are powerful deterrents to such conflicts. The Republic of Korea (ROK or South Korea) has emerged as a major economic power, one that is important to the economies of the US, Japan, and China – as well as to the world. The Democratic People’s Republic of Korea (DPRK or North Korea) is one of the world’s most heavily militarized states, but it is still a relatively small military power by US and Chinese standards. It remains vulnerable to US aid, missile power, and precision strike capability, and runs a serious risk of being isolated if it provokes or escalates a conflict without Chinese support.

Both the US and China have every reason to prevent and contain a conflict in the Koreas and Northeast Asia. Both are dependent on the ROK and Japan for critical aspects of their trade and economies, and both are dependent on the overall stability of a global economy that is heavily driven by the stability of Northeast Asia. Neither can “win” any conflict between them at a cost approaching the benefits of avoiding a conflict, neither has an incentive to becoming locked into an arms race that extends beyond basic national security concerns, and neither can “win” a limited clash or conflict without triggering a far deeper, lasting process of competition that may lead to far more serious wars.

Japan is another player in this process and one that has virtually the same reasons to avoid intensifying its present military efforts or becoming involved in a conflict if it can. Japan cannot, however, stand aside from the Koreas and the overall balance of forces in Northeast Asia. Japan, too, must assess its security position in terms of the DPRK’s expanding missile and nuclear capabilities and the outcome of both the rebalancing of US forces and China’s pace of military modernization. It, too, faces a “worst case” that could push it into creating far larger military forces and even offensive missile and nuclear forces.

The fact remains that no one can dismiss the risk of a serious clash or war between the Koreas that escalates to involve the powers outside it. This is particularly true if one considers the number of times that war has resulted from unpredictable incidents and patterns of escalation. The historical reality is that the likelihood of less-probable forms of war actually occurring has been consistently higher than what seemed in peacetime to be the most
probable contingencies and the patterns of escalation that seemed most likely from the viewpoint of a “rational bargainer.”

This report focuses on the strategies, resources, and patterns of modernization that shape the balance in the Koreas and Northeast Asia as well as the broader balance in the Pacific region. It is the first volume in a three volume series that assesses the balance of forces that shape the stability and security of the Korean Peninsula in the full range of conflicts that could occur in the region. It focuses on the forces of the ROK and DPRK, but looks at outside powers as well. It also addresses the complex and constantly shifting mix of conventional, asymmetric, and CBRN (chemical, biological, radiological, and nuclear) capabilities that shape the balance.

The report also examines these interrelated “balances” using a range of different sources – emphasizing the official language used in DPRK, ROK, US, Chinese, Japanese, and Russian sources where possible. These sources seem to present the best view of what countries think about their own forces and the threats they face, although many clearly are designed as at least partial exercises in strategic communications and propaganda. They do, however, include US Department of Defense reports which provide a unique unclassified picture of US intelligence estimates and analysis.

The detailed contents of each chapter consistently reveal just how different the perceptions and values of each side are and how great the risk is of miscalculation based on different values. North Korea is, to put it mildly, a strategic outlier in virtually all of its statements and actions – differing sharply from China as well as South Korea, the US, and Japan.

Even when given sides appear to share the same values, it may be more a matter of rhetoric and propaganda, and the political, ideological, and strategic differences between major actors are compounded by major differences in the estimates of given sources, both in terms of data on given military forces and as to how the balance should be assessed. It is clear that any model of deterrence, scenarios, and escalation ladders – as well as arms control options – would present the need for research and negotiations over basic data, similar to past experiences.

Such an assessment is critical to shaping a strategy that can deter and defend against North Korea as well as for negotiations and planning responses to a variety of potential situations on the Peninsula and Northeast Asia, and that involve critical Chinese and American choices between cooperation and competition. At the same time, the assessment shows there is no one way of assessing the Korean military balance that can be used for policy planning, strategic assessments, or arms control negotiations. The unclassified information available is often too uncertain, national perceptions differ too much, and different combinations of forces may be relevant in different situations.

At this point, there is only a limited common base of perceptions and data to build upon. The analysis attempts to deal with these problems by drawing the primary statistical data on the military balance from reporting by the International Institute for Strategic Studies, and supplementing each section with a range of data taken from US, Japanese, Chinese, Russian, ROK, and DPRK official sources, other NGOs, and defense reporting by sources like IHS Jane’s. However, similar data are not available in meaningful detail from unclassified DPRK
– and to a lesser extent, Chinese – sources, and there are too few unclassified data on exercises, tactics, and doctrine that are detailed enough to try to interpret just how much declared statements differ from underlying values and perceptions.

**Security Strategies**

The security strategies that shape the Korean balance are driven by the DPRK’s aggressive ness and militarization, long history of confrontation with the ROK, the legacy of the Korean and Cold Wars, and the US presence in the ROK and Japan. At the same time, they are increasingly driven by the emergence of China as a great power in Asia and the Pacific, and the broader strategic competition between the US and China.

**The DPRK**

In practice, enhancing the cult of the “dear leader” and regime survival are the DPRK’s grand strategy. Its militarism, provocations of South Korea, and exaggerated threats are all means to this end. As for ideology, the DPRK has never shown any evidence it cares about Marxism or its people in another meaningful sense. In practice, its now hereditary “great leaders” owe more to the emperors of ancient Korea’s Goguryeo kingdom, and the divinity they claimed through their Jumong foundation myth, than Marx, Lenin, or Mao.

The PRK has use a mix of threats and sporadic attacks, decades of military build-up, and endless propaganda campaigns about foreign threats and invasions to justify its dictatorship, and devoting the bulk of its resources to military forces. It has used such foreign threats to manipulate its people, while it has used its military build-up and covert or limited attacks in an effort to extort foreign outside aid and enhance its status and negotiating leverage.

In his February 2012 Senate testimony, Defense Intelligence Agency Director Ronald L. Burgess Jr. stated,¹

> … the primary goals of the Democratic People's Republic of Korea (DPRK) are preserving its current system of government, improving its poor economy, and building national confidence and support for Kim Jong Un – youngest son of the late Kim Jong Il and North Korea's new “Great Leader.” North Korea's leadership is emphasizing policy continuity under Kim Jong Un which DIA anticipates will include continued pursuit of nuclear and missile capabilities for strategic deterrence and international prestige, as well as to gain economic and political concessions.

The following year, Director of National Intelligence James R. Clapper reported to the Senate,²

> Kim Jong Un has quickly consolidated power since taking over as leader of North Korea when his father, Kim Jong II, died in December 2011. Kim has publicly focused on improving the country’s troubled economy and the livelihood of the North Korean people, but we have yet to see any signs of serious economic reform.

> North Korea maintains a large, conventional military force held in check by the more powerful South Korean-US military alliance. Nevertheless, the North Korean military is well postured to conduct

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limited attacks with little or no warning, such as the 2010 sinking of a South Korean warship and the artillery 23 bombardment of a South Korean island along the Northern Limit Line.

At the same time, these assessments reflect the DPRK’s emergence as one of the most militarized nations in the world and a very real and growing threat to regional stability that has begun to take the form of nuclear threats that extend to point of launching a nuclear war against the United States. The DPRK has worked to expand its military capacity since the mid-1970s, valuing quantity over quality and focusing on conventional means. Despite economic troubles, the DPRK has continued its efforts to modernize its arms and pursue strategic WMD, with the ultimate goal of building a prosperous and strong nation.3

Performance-wise, various weapons found in North Korea’s ground forces, including T-62 tanks, M-1973 armored vehicles, various self-propelled guns, multiple rocket launchers, AT-3/4 anti-tank missiles and modified SCUD missiles, are modernized weaponry. North Korea is currently making concentrated efforts to modernize its military equipment by building Pokpung-ho (“Storm Tiger”) tanks, which are reproduced designs of Soviet-made T-72s, along with introducing, manufacturing and deploying 23mm antiaircraft guns.

Changes in the DPRK’s leadership are also having an impact on the extent to which the DPRK poses a military threat. The new leader, Kim Jong-un, was elected Vice Chairman of the Central Military Commission in 2010. Following the death of his father, he was elected Supreme Commander of the Korean People’s Army as well as Central Military Commission Chairman and First Chairman of the National Defense Commission in April 2012. These three steps established his control and consolidated his authority over the party, military, and state.

The DPRK has said often via state media that there would be no change in policy between Kim Jong-un and his father. For example, shortly after Kim Jong-il’s death, the media stated that “foolish politicians around the world, including in South Korea, should not expect any changes from us.”4 There have been no indications that Kim Jong-un is disposed to taking measures that could reduce regional frictions or improve the daily lives of North Korean citizens. Several factors make it likely that the DPRK’s political system – a concentrated, one-man dictatorship – will continue without significant reform.

Senior North Korean officials do speak about military policy and strategy in broad terms. At the fifth Plenum of the fourth Korean Workers’ Party’s Central Committee in 1962, the DPRK adopted the military concept of ‘Four Military Guidelines’: extensive training for all soldiers, fortifying the whole country, modernization of the armed forces, and arming the entire population. Since then, the DPRK has been building its military capabilities in accordance with these guidelines.

The DPRK has said it bases its military policy on a Four-point Military Guideline that promotes such objectives. The DPRK’s constitution states that “on the basis of politically and ideologically arming the military and populace, the state shall realize a self-defensive

military force built on the following objectives: (1) a cadre-based army, (2) modernization, (3) militarization of the populace, and (4) a stronghold-based fortified nation.\textsuperscript{5}

The DPRK promotes two main policies or ideologies in its government propaganda. The primary state ideology is \textit{juche} ("self-reliance") – meaning that the focus of DPRK efforts is always on making North Korea a strong, independent nation, not reliant on any other nation for anything, including security. \textit{Juche} promotes the idea of the collective identity as an organic whole, with the supreme leader at the top of this unified system. The DPRK leaders’ personality cults reinforce popular support for the system.

Secondly, the DPRK follows a \textit{songun} policy ("military first"), presented as deriving from and reinterpretting \textit{juche}, in order to construct a strong socialist state politically, economically, ideologically, and militarily. According to the DPRK communist party newspaper, \textit{songun} is “a unique mode of politics that dedicates maximum effort to reinforcing the KPA [Korean People’s Army], in which military power becomes the basis that propels general tasks in the vanguard of the socialist revolution and construction of a socialist nation.”\textsuperscript{6}

According to the South Korean government, “The North continues to pursue its military-first policy and address the KPA as revolutionary armed forces. This indicates that the regime, which maintains its power base in the military, has not abandoned its desire to take over by force and unify the Korean peninsula under communism.”\textsuperscript{7}

The ROK has sought to establish better relations with the DPRK with consistently uncertain results. Over the last half century, North Korea has made over 2,660 military provocations against South Korea. This has not, however, prevented the ROK from taking repeated initiatives for better relations.

Kim Dae-jung (President 1998-2002) adopted the “Sunshine Policy” in dealing with North Korea, emphasizing increased communication, assistance, and exchanges with the DPRK while delaying political settlement and reunification to a future time. His successor, Roh Moo-hyun (President 2003-2007) followed a similar policy, entitled “peace and prosperity policy.”

During these two liberal presidencies, the ROK pursued large-scale economic engagement with the DPRK for a decade, believing that they had to convince the DPRK’s leadership that its external environment was benign. Through economic engagement, the ROK attempted to both pacify the DPRK’s belligerence and initiate slow reform in the DPRK itself. In turn, these goals would avoid any collapse of the DPRK and the so-called “hard landing” unification scenario. When Kim Jong-il responded to the ROK’s unilateral offers of assistance, these two Presidents felt validated that their policies were successfully working.

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However, the DPRK was simply accepting ROK assistance and calling it “gifts” to its Great Leaders from the weaker ROK.

However, after the Cheonan and Yeonpyeong Island attacks in 2010 in which the ROK military failed to respond effectively to North Korean provocations, the ROK started promoting a new strategy, called “active deterrence” or “proactive deterrence.” This policy emphasized enhanced offensive capabilities in order to ensure deterrence of the DPRK, enabling the ROK military to immediately retaliate in the event of any further DPRK provocations. The ROK Army has deployed short-range missiles and other weapons systems to border areas in order to increase rapidity of response. This also increases the potential for miscalculation or accidental escalation – for example, ROK troops, wishing to implement the new strategic doctrine, accidentally shot at an Asiana civilian airliner in 2012.

President Park Geun-hye was virtually forced to strongly denounce the DPRK’s third nuclear test, saying it undermined trust-building and posed a significant threat to the Korean Peninsula and international peace. At the same time, Park indicated that such DPRK actions were anticipated, and thus her approach to the DPRK would not significantly change – she will work to separate humanitarian assistance from the broader political issues on the Peninsula.

In her inauguration speech, she stated that “North Korea’s recent nuclear test is a challenge to the survival and future of the Korean people, and there should be no mistake that the biggest victim will be none other than North Korea itself.” She urged the DPRK to abandon its nuclear ambitions, “instead of wasting its resources on nuclear and missile development and continuing to turn its back to the world in self-imposed isolation.”

The US has remained firmly committed to the security of the ROK ever since the Korean War. Thomas Donilon, the National Security Adviser to President Obama, stated in a March 2013 speech that the overarching objective of the Obama Administration’s Asia policy was to “sustain a stable security environment and a regional order rooted in economic openness, peaceful resolution of disputes, and respect for universal rights of freedom.” The policy was based on several key considerations:

This reflected a recognition of the critical role that the United States has played in Asia for decades, providing the stabilizing foundation for the region’s unprecedented social and economic development. Beyond this, our guiding insight was that Asia’s future and the future of the United States are deeply and increasingly linked. Economically, Asia already accounts for more than one-quarter of global GDP. Over the next five years, nearly half of all growth outside the United States is expected to come from Asia. This growth is fueling powerful geopolitical forces that are reshaping the region: China’s ascent, Japan’s resilience, and the rise of a “Global Korea,” an eastward-looking India and Southeast Asian nations more interconnected and prosperous than ever before.

At the same time, the balance in the Koreas and Northeast Asia is driven by much broader changes in the strategies and force postures of the United State and China. Current US policy

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calls for a rebalancing of US strategy in Asia composed of five strategic pillars: strengthening alliances, forging deeper partnerships with emerging powers, building a constructive relationship with China, strengthening regional institutions, and building an economic architecture to increase the benefits of trade and growth for countries in the Asia-Pacific region and the US – such as through the US-ROK FTA and the Trans-Pacific Partnership (TPP). Furthermore, there is currently a period of significant transition in Asia, especially in Northeast Asia – a new DPRK leader at the end of 2011, a Japanese leadership change at the end of 2012, and leadership transitions in both the ROK and China in early 2013.

The US alliances with Japan and the ROK remain the foundations of the US regional security and economic strategy; polls in both countries show approximately 80% support for their alliances with the US. Greater trilateral cooperation is envisioned as key to maintain security. Militarily, the rebalance involves:

... in the coming years a higher proportion of our military assets will be in the Pacific. Sixty percent of our naval fleet will be based in the Pacific by 2020. Our Air Force is also shifting its weight to the pacific over the next five years. We are adding capacity from both the Army and the Marines. The Pentagon is working to prioritize the Pacific Command for our most modern capabilities – including submarines, Fifth-Generation fighters such as F-22s and F-35s, and reconnaissance platforms. And we are working with allies to make rapid progress in expanding radar and missile defense systems to protect against the most immediate threat facing our allies and the entire region: the dangerous, destabilizing behavior of North Korea.

In terms of the China-US relationship, US strategy indicates that both cooperation and competition will continue, though the US policy has consistently been “to improve the quality and quantity of our cooperation; promote healthy economic competition; and manage disagreements to ensure that U.S. interests are protected and that universal rights and values are respected... the United States welcomes the rise of a peaceful, prosperous China.” In order to achieve these goals, communication channels must be improved and practical cooperation on important issues demonstrated.

China has steadily improved its military capabilities for well over a decade and is increasingly projecting power throughout the East Asian region. These trends began along with China’s emergence as a major economic power, and have increasingly led to tension with the US – as well as a number of China’s neighbors.

In terms of the Koreas, China maintains the “Sino-North Korean Mutual Aid and Cooperation Friendship Treaty” that it signed in 1961. The two countries have traditionally been described has “blood brothers” or “closer than lips and teeth,” although the PRC-DPRK relationship has been rocky over the past 60 years, and China has sought to moderate the DPRK’s behavior and move it towards economic reform based on the Chinese model.

China does not formally allocate military forces for the defense of the DPRK and does not forward deploy military forces in that country. It also has recently stepped up its efforts persuade the DPRK to restrain its aggressiveness and nuclear and missiles efforts. China did,

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10 Ibid.
11 Ibid.
however, save the DPRK from total defeat in the Korean War, and it sees the DPRK as a critical buffer that ensure ROK and US forces remain away from its borders, as well as a counterbalance to Japan. No one can dismiss the possibility that Chinese forces might intervene if the DPRK again was threatened with defeat, or if any form of regime collapse threatened to create a US presence in the DPRK or deploy ROK forces near the Chinese border.

More broadly, US and Chinese strategy regarding the Koreas cannot be separated from their broader strategic interests in Northeast Asia, in Asia as a whole and the Pacific. Whether the US chooses to formally state it or not, its “rebalancing” of its force posture and military modernization efforts in Asia is driven in large part by China’s military modernization and growing power projection capabilities. China in turn is doing far more than creating a “blue water” navy and modernizing key elements of its forces. Its strategy involves the creation of new joint warfare, power projection, and sea-air-missile-nuclear capabilities that affect any confrontation or conflict in the Koreas and northeast Asia at least as much as any struggle that affects Taiwan of US base and forces deeper in the Pacific up to the “second island chain.”

The Economic Balance

This volume also examines the resources each nation can use to create and sustain its military forces. It looks at the relative size of military spending and arms transfers of the DPRK and ROK – as well as China, Japan, Russia, and the US. There are, however, no reliable estimates for the DPRK – a country that can manipulate its entire economy to support its military efforts without regard to market prices or the market value of military personnel; similar problems affect estimates of Chinese efforts, though to a lesser degree.

In spite of these uncertainties in the data, it is clear that the ROK has a far greater capacity to develop and support its forces than the DPRK. The CIA estimated in April 2013 that the DPRK had a GDP that worth roughly $40 billion in 2011 (ranking 103rd in the world), while the ROK’s GDP in 2012 was worth some $1.62 trillion (ranking 13th in the world), or roughly 40 times that of that of the DPRK. It also estimated that the DPRK had a GDP per capita of about $1,800 (ranking 197th in the world), while the ROK’s GDP per capita was approximately $32,400 (ranking 40th in the world), or 18 times of that of the DPRK. Over the past decade, the DPRK’s rankings in GDP and GDP per capita have been decreasing, while those of the ROK have been steadily increasing.

The CIA also estimated that the DPRK had a total population of 24.6 million in 2012, while the ROK’s population is 48.8 million, or more than 2.1 times that of the DPRK. It estimated the median age of the DPRK’s population at 33 years, and that of the ROK at 39 years. Finally it estimated that the DPRK had 6.5 million males available for military service and 207,737 young men entering military age each year, while the ROK had 13.2 million available males and 365,760 males entering military age annually.

All of these data show that the ROK has far more resources to use in supporting its national security structure than the DPRK, and that overall trends will remain significantly in the ROK’s favor.
The World Bank and UN make somewhat different estimates of the size of the DPRK and ROK’s resources, but all agree that the ROK has a vastly larger economy, far better income distribution and personal wealth, and far more personnel that can be devoted to military service. The ROK’s disadvantages are that its population has much higher expectations, it must pay far more for manpower, it must price military investment in market rather than command terms, and it finds it harder to command popular sacrifices in the name of enhanced security.

The ROK is limited largely by its perceptions and the military expenditures it chooses to make. It has the economic capacity to easily spend far more than it does today, a much stronger technology and manufacturing base, and access to the best weapons and military systems in US inventory.

Efforts to compare data between state-controlled and market economies raise major questions as to the comparability of costs. This not only affects investment, but every aspect of manpower and readiness. The DPRK, for example, can command any amount of manpower it wants at any price it wants; the ROK cannot.

At the same time, it is clear that the DPRK has steadily declined as an economic power and in every aspect of competitiveness with the ROK. While it is impossible to quantify the impact of the DPRK’s economic issues on its military capabilities and readiness, the fact remains that it has major problems in providing adequate stocks of basic commodities such as fuel.

There have been some reports that the DPRK’s economic problems are serious enough to limit its training and production of basic military supplies like artillery ammunition. Such reports cannot be confirmed, but the DPRK’s economic weaknesses may overshadow any benefits gained from its ability to allocate economic resources without regard to popular and market demands.

The DPRK’s industrial base is largely obsolete, and it lags a decade or more behind in key areas of technology like computerization, modern communications, and other key technical elements of the “revolution in military affairs,” which make up key elements of modern battle management, targeting systems, and intelligence, surveillance, and reconnaissance (ISR) capabilities – though it has been significantly increasing its cyber capabilities in recent years.

**The Military Spending and Arms Import Balance**

North Korea does everything possible to conceal its true level of military spending, and there are no reliable estimates of how many resources it devotes to its forces. All outside sources agree, however, that it is one of the most militarized countries in the world.

The ROK’s state-run Korean Institute of Defense Analyses reported that while the DPRK officially said it spent $570 million on its military in 2009, calculating based on PPP, the real amount was $8.77 billion – 13 to 15 times greater than announced. The total gross national income of the DPRK in 2009 was approximately $25 billion, meaning that the DPRK spent about a third of its national income on its military. According to DPRK figures, military spending was $470 million in 2006, $510 million in 2007, and $540 million in 2008.
The 2012 Japanese Defense White Paper noted that,\(^\text{12}\)

Although North Korea has been facing serious economic difficulties and has depended on the international community for food and other resources, the country seems to be maintaining and enhancing its military capabilities and combat readiness by preferentially allocating resources to its military forces. North Korea deploys most of its armed forces along the DMZ. According to the official announcement at the Supreme People’s Assembly in April 2012, the proportion of the defense budget in FY2011’s national budget was 15.8%, but it is believed that this represents only a portion of real defense expenditures.

The ROK is far less militarized than the DPRK, but it has had to respond to the steady build-up of the DPRK’s military forces. The ROK’s military expenditures in 2011 amounted to $28.3 billion, or approximately 2.7% of the country’s GDP. The ROK’s FY2012 defense budget showed an increase of approximately 5% over the previous year, the 13\(^{th}\) consecutive year-on-year rise. The 2012 budget totaled 32.9 trillion won, accounting for 14.8% of the government budget and 2.4% of ROK GDP. This was the fourth largest national spending category, after healthcare, welfare and labor; general public administration; and education.

An expert at the Korea Institute for Defense Analyses explained the 2012 budget’s force maintenance and force improvement projects in detail,\(^\text{13}\)

In order to foster a “combat-oriented” military, the Force Maintenance budget for the year 2012 prioritizes maximizing war-fighting capability by tightening military operation and watch systems on the front line and expanding scientific combat training equipment and personal combat equipment. It also focuses on improving the working and living conditions for military service members as well as boosting their morale and welfare by advancing military medical services and improving their living quarters. Consequently, the expenses for military uniforms, military service member health and welfare enhancement, military personnel management, and training and education show a rapid year-on-year increase of more than 10 percent.

The budget for dispatching ROK Forces overseas was set at KRW 22.6 billion, with 21.6 billion allotted for sending troops to multi-national forces (MNF) and 1 billion for PKO activities. Meanwhile, the cost for defense cost-sharing under the Special Measures Agreement on Defense Cost-sharing from 2009 to 2013 amounts to KRW 746.1 billion, taking into account past budget execution results and the estimated size of future spending.

The IISS describes the trends in the ROK’s military spending as follows,\(^\text{14}\)

The 2012 defence budget amounted to US$29bn or 14.8% of the central government budget and 2.5% of GDP. There is a growing consensus that defence spending should increase to at least 2.7% of GDP. The ‘Mid-Term Defense Plan 2013–17’ called for increased spending on capabilities including surface-to-surface missiles, stand-off precision-guided weapons and airborne electronic-attack systems. However, additional outlays will be constrained by annual growth rates that, due to the country’s maturing economy, will likely hover around 2–3%, as well as by calls for increased social-welfare spending by presidential election candidates.

As for outside powers, the US still leads the world in terms of total military spending, but it has only limited deployments in Korea and Asia. At the same time, China is not only an emerging military power, but also has major forces in the areas near its border with the


DPRK. Japan is able to afford significant forces in spite of the fact it spends no more than one percent of its GDP on defense, but does not currently plan for missions that affect the Korean balance. Russia is another major military power in the region that has a major stake in Northeast Asia, but it is more likely to exert political pressure and influence than use military force.

The Modernization Balance

Modernization efforts are another key variable in assessing the balance in the Korean Peninsula. The modernization trends of all the countries involved in the region have great significance in determining what type of engagements potentially can be fought there and what types of equipment and systems would be needed to counter any provocations by the DPRK – potentially including its allies. Conversely, the modernization of US allies’ militaries also affects the course of any engagement as well as how much and what types of capacities the US would need to commit to the region, both in times of peace and in times of tension.

Once again, there are serious limits to the unclassified data available for comparisons of Northeast Asian military modernization – especially for China and the DPRK. Unclassified sources do not include many smart munitions, they only cover a limited amount of other weaponry, and they do not reflect investments in logistics and transport. They also often do not include battle management, ISR, or Command, Control, Communications, and Computer (C4) assets. These are becoming steadily more critical aspects of military modernization.

The Korean balance is a case where any meaningful assessment requires a full examination of all the complex issues and uncertainties involved, and one that looks at the overall pattern of military change in the US, China and Japan – not simply modernization as it affects forces in the Korean Peninsula. Any assessment of modernization trends requires a detailed examination by key force element and service, and must then be assessed in terms of overall impact on the force structures examined in Volume II of this report.

The DPRK has focused its resources on expanding and further developing its asymmetrical capabilities, including WMD, special operations forces, ballistic missiles, and electronic/information warfare. For the DPRK leadership, these capabilities can project a greater threat at a smaller cost than conventional capabilities. Asymmetric capabilities will be discussed further in the latter chapters of this report.

The ROK has modernized more rapidly with more advanced equipment than the DPRK, while the DPRK has focused on force expansion. The ROK has almost achieved a massive lead in modern aircraft and surface-to-air missiles. The analysis shows that the ROK has an effective plan for force modernization through 2020 – a plan it has upgraded since 2005 to reflect the increase in DPRK provocations over the past few years.

The DPRK pursued an asymmetric strategy to enhance its long-range strike capability against civilian and military targets in order to compensate for declining conventional capabilities. Specific attention has been focused on self-propelled artillery, multiple rocket launchers, and ballistic missiles. More reliance has also been given to the Special Forces, tasked with
stealthy infiltration of the ROK rear. Most sources agree that DPRK Special Forces have been augmented to a 200,000 end-strength, up from 180,000 in 2008.

The ROK is committed to significant future defense reforms, especially in light of increased DPRK provocations over the past several years, and especially in terms of military hardware. It has gathered additional stealth air-to-surface missiles and advanced cluster bombs, in addition to development of deep-penetrating ‘bunker-buster’ bombs capable of destroying fortified artillery – in case the DPRK initiates a new artillery shelling attack, like at Yeonpyeong Island.

Current modernization plans focus on three priority areas: increasing the integrity of the ROK armed forces through military restructuring, ensuring active deterrence capabilities, and maximizing the efficiency of the national defense administration and force structure. Early warning and surveillance capabilities, include increasing the number of UAVs, were also emphasized. Furthermore, current plans focuses on eight priority issues:  

(1) Reorganization of the armed forces’ chain-of-command,
(2) Establishment of an island defense command for the northwest (Yellow Sea),
(3) Improvement of the national defense training structure,
(4) Organization of a priority order for strengthening military power,
(5) Response to North Korea’s special forces and cyber threats,
(6) Enhancement of mental strength and assistance for educating national citizens about security,
(7) Improvement of the national defense personnel management system, and
(8) Bettering the efficiency of the national budget.

The US is working with the ROK as part of its force rebalance to support its allies in Asia. In spite of cuts in the US defense budget, the US is still carrying out major modernization activities, building up its air-sea power projection capabilities and Special Forces, and enhancing key aspects of its stealth and ISR capabilities.

US efforts must, however, be assessed in terms of the steady modernization of Chinese forces and Chinese ability to deter or intervene in a conflict in the Koreas. Both the US and China are modernizing their forces in ways that will radically change the balance of deterrence and military capabilities in the Koreas, Northeast Asia, and the Pacific.

The US is focusing on a limited “rebalancing” of its forces that will lead to some redeployment from Europe and the Atlantic to Asia and the Pacific. It is also focusing its force modernization in ways that will enhance the capability of all its forces in Asia and its power projection capabilities. As yet, it has no clear plans to make such changes and its efforts are being affected by an internal financial crisis and growing defense budget cuts.

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China is making far more rapid efforts to modernize key aspects of its land, air, and naval forces, its conventional precision strike capabilities, its joint warfare and battle management capabilities, its power projection capabilities, its space warfare capabilities, its missile and nuclear forces, and its capabilities for asymmetric warfare including new areas like cyberwarfare.

No one can as yet predict how the resulting balance of US and Chinese capabilities will evolve, but China may well emerge as a peer military power in Asia and even beyond. Combined with the DPRK’s missile and nuclear programs, this may lead to major changes in ROK and Japanese conventional, asymmetric, and nuclear military modernization efforts – issues explored in more depth in Chapters 4 and 9. At a minimum, it means that the balance in the Koreas will increasingly be determined by the outside changes in US and Chinese forces and their degree of strategic cooperation versus competition.
I. Korea and Northeast Asia: History and Security Strategies

The history of the events that have shaped the Korean balance is complex and involves a wide range of different actors. In broad terms, however, it is the history of a long series of crises that have been driven largely by North Korea’s (the Democratic People’s Republic of Korea’s or DPRK’s), need to use foreign threats to justify its dictatorship and militarism. South Korea (the Republic of Korea or ROK) has been in a largely defensive position, supported by the US.

While there have many efforts to negotiate a peace or more stable balance of forces and avoid the “nuclearization” of the Korean Peninsula, all have so far failed and left the Koreas in a constant state of crisis, with growing military forces and the ever-present threat of war. Figure I.1 provides a quick list of key events since the Korean War.

Figure I.1: Timeline of Important DPRK-ROK Events

- **July 27, 1953**: The Korean War ended in a truce signed by a representative of the US-backed UN forces and a representative of DPRK and allied Chinese forces. The ROK was not a signatory. There is no formal peace treaty, meaning the two countries are technically still at war. The Korean War cost 2 million lives.
- **January 1968**: North Korean commandos launched a failed assassination attempt on then-president of the ROK, Park Chung-hee.
- **August 15, 1974**: Another assassination attempted on Park Chung-hee by a DPRK agent. Park survives, but his wife is killed.
- **October 9, 1983**: DPRK agents struck at the area of a visit by South Korean president Chun Doo-hwan to Burma, killing more than 20 people, including four ROK cabinet ministers. The president escaped.
- **November 29, 1987**: DPRK blew up a South Korean civilian airliner, killing 115 people. The US decided to include the North on its list of countries that support terrorism.
- **September 17, 1991**: North and South Korea became UN members.
- **December 31, 1991**: North and South Korea announced that they have initialed an agreement banning nuclear weapons from the Korean Peninsula, but did not agree on measures to ensure compliance.
- **January 30, 1992**: After years of promises and false starts, the DPRK signed an agreement to permit inspections of its seven sites at Yongbyon, its heavily guarded nuclear complex 60 miles north of Pyongyang.
- **March 12, 1993**: In a defiant move against international pressure to inspect its suspected nuclear weapons development program, North Korea announced it was withdrawing from the Nuclear Nonproliferation Treaty, which it ratified in 1985, but then reconsidered the withdrawal. The North also began stockpiling plutonium.

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May 29, 1993: North Korea conducted what appeared to be the first successful test of the country’s homegrown midrange missile, raising Japanese fears that missiles could reach some of Japan’s most populous cities.

December 1993: The Central Intelligence Agency (CIA) told President Bill Clinton that the DPRK may have one or two nuclear bombs, though the intelligence was murky. When the International Atomic Energy Agency (IAEA) analyzed samples of North Korea’s plutonium in 1992, it had concluded that scientists had engaged in more extensive reprocessing had been acknowledged.

February 1994: The DPRK averted a possible trade embargo by allowing one full inspection of seven atomic sites by the IAEA. But when inspectors arrived in March, the North refused to let them take radioactive samples from critical parts of its nuclear reprocessing center at Yongbyon.

May 1994: IAEA inspectors returned to North Korea to finish their inspection, concluding that the country was within days of obliterating evidence of how much, if any, nuclear fuel had been diverted to its weapons program. The Pentagon said the spent fuel could provide enough material for four or five nuclear bombs.

May 31, 1994: The DPRK tested a cruise missile designed to sink ships; American officials said the cruise missile was part of North Korea’s broad effort to upgrade its conventional forces.

June 1994: The DPRK announced its withdrawal from the IAEA and said the agency’s inspectors would no longer be allowed in the country. It also threatened to turn its stockpile of nuclear fuel into bombs. The Clinton administration reinforced the American military presence in South Korea, while former President Jimmy Carter, acting on his own, traveled to the North, meeting with Kim Il-sung and striking a deal that averted confrontation.

July 9, 1994: Kim Il-sung died suddenly. His son, Kim Jong-il became the DPRK’s leader.

October 21, 1994: Negotiations following the Carter visit resulted in a deal: the DPRK agreed to freeze and then dismantle the complex in Yongbyon and open up two secret military sites to inspection by international experts. In exchange, an international consortium would replace the North’s current graphite nuclear reactors with new light-water reactors, which produce little weapons-grade plutonium. The US and its allies also agreed to provide fuel oil to the North.

September 1996: A DPRK submarine landed commandos on the South Korean coast.

August 31, 1998: The North fired a two-stage Taepodong-1 missile over Japan and into the Pacific Ocean. The firing suggested that North Korea had greatly increased the range of its missiles.

June 2000: DPRK leader Kim Jong-il and ROK President Kim Dae-jung met in Pyongyang.

January 2002: Then US President George W. Bush made his “axis of evil” speech, including North Korea and linking it to Iran and Iraq.

October 2002: Confronted by Bush administration officials with evidence that it had cheated on the 1994 agreement, North Korea admitted that it has been conducting a major clandestine nuclear program using enriched uranium. It declared it had “nullified” its agreement to freeze all nuclear weapons development activity.

February 2003: As the US prepared to invade Iraq, the North decided to begin harvesting plutonium from its five-megawatt reactor at the Yongbyon complex.

August 9 2003: The US, China, Russia, South Korea and Japan hold the first of several rounds of Six Party Talks with the DPRK in Beijing.

May 11, 2005: The DPRK said it had removed 8,000 spent fuel rods from a reactor at its main nuclear complex at Yongbyon as one of several "necessary measures" to bolster its nuclear arsenal.

February 2005: The DPRK claimed to have built nuclear weapons.
September 19, 2005: The DPRK agreed to end its nuclear weapons program in return for security, economic, and energy benefits.

July 5, 2006: The DPRK test-fired seven medium- and long-range missiles.

October 8, 2006: The DPRK said it had set off its first nuclear test, becoming the eighth country in history to proclaim that it has joined the club of nuclear weapons states. The test was something of a fizzle – a subkiloton explosion – but it was enough to win unanimous passage of a resolution that imposed new economic sanctions.

October 31, 2006: The DPRK agreed to resume the Six Party nuclear disarmament talks.

February 13, 2007: The US and four other nations reached a tentative agreement to provide North Korea with roughly $400 million in fuel oil and aid in return for the DPRK’s starting to disable its nuclear facilities and allowing nuclear inspectors back into the country.

November 2007: The prime ministers of the two Koreas met for the first time in 15 years.


June 27, 2008: The DPRK demolished the cooling tower at its Yongbyon nuclear reactor site.

July 2008: A DPRK soldier shot and killed a South Korean tourist at the Mount Kumgang resort.

September 2008: Complaining that the Bush administration had not yet fulfilled a promise to remove North Korea from a list of state sponsors of terrorism, the DPRK moved to resume plutonium reprocessing.

October 11, 2008: The US removed the DPRK from its list of states sponsoring terrorism after North Korea agreed to resume disabling its nuclear plant and to allow inspectors access to its declared nuclear sites.

December 2008: Six Party Talks failed to reach an agreement on inspecting the DPRK’s nuclear sites. The North subsequently said there would be no more talks and vowed to increase its nuclear efforts – including uranium enrichment.

April 5, 2009: The DPRK launched a long-range rocket capable of carrying a nuclear warhead. Criticism from the UN Security Council prompted Kim Jong-il to walk out of talks aimed at ending the North’s nuclear program.

May 25, 2009: The DPRK announced it had successfully conducted a second nuclear test, sparking an emergency UN Security Council meeting. It also withdrew from the 1953 Korean War armistice.

May 26, 2009: The DPRK fired three missiles into the sea near Japan and said it “fully ready for battle” against the US.

June 12, 2009: The UN Security Council voted unanimously on an enhanced package of sanctions that, among other things, called upon UN members to inspect cargo vessels and airplanes suspected of carrying military material in or out of the DPRK.

November 2009: Shots were exchanged near the Yellow Sea border for the first time in seven years.

January 2010: North Korea fired artillery near its disputed maritime border with the South. The ROK returned fire, but no one was injured.

March 27, 2010: ROK corvette Cheonan sank after an unexplained explosion; 46 sailors died. A later investigation found that the boat was sunk by a torpedo launched from a North Korean submarine.

September 2010: Kim Jong-un, Kim Jong-il’s youngest son, gained high-powered military and political posts, resulting in increased speculation that he would be his father’s successor.

October 2010: North and South Korea exchanged shots across the border.
Anthony H. Cordesman and Ashley Hess

- **November 2010**: The DPRK gave a US scientist a tour of a uranium plant, creating alarm at the sophistication of its nuclear technology.

- **November 23, 2010**: The DPRK fired artillery rounds onto an inhabited South Korean border island. The ROK scrambled its fighter jets and returned fire; two ROK marines and two civilians were killed.

- **December 19, 2011**: Kim Jong-il died of a heart attack, and Kim Jong-un was declared “supreme leader” two weeks later.

- **February 29, 2012**: In the so-called Leap Day Agreement, the DPRK agreed to suspend nuclear weapons testing and uranium enrichment and to allow international inspectors to monitor and verify activities at its main reactor as part of a deal that included a US pledge to provide food aid.

- **April 12, 2012**: The DPRK launched a rocket that the US and its allies called a provocative pretext for developing an intercontinental ballistic missile that might carry a nuclear warhead in the future. The failed launch drew swift international condemnation, including the suspension of food aid by the US.

- **December 12, 2012**: North Korea successfully launched a long-range rocket into orbit.

- **January 2013**: In response to the UN Security Council’s unanimous decision to tighten sanctions, the DPRK bluntly threatened the US, saying that it had no interest in talks on denuclearization and that it would forge ahead with its missile and weapons development with the goal of developing the capability to hit US territory.

- **February 12, 2013**: The DPRK confirmed that it had conducted a third nuclear test.

- **March 7, 2013**: The UN Security Council ordered new economic sanctions against the DPRK for its third nuclear test, unanimously approving a resolution that the US negotiated with China.

- **March 11, 2013**: North Korea declared that it would no longer abide by the 1953 armistice amid joint US-ROK military drills.

- **March 15, 2013**: The US said it would deploy additional ballistic-missile interceptors along the Pacific Coast by 2017. The new deployment would increase the number of ground-based interceptors to 44 from the 30 already in California and Alaska.

- **March 27, 2013**: The DPRK cut off the last remaining military hot lines with the South, accusing President Park Geun-hye of pursuing her predecessor’s hardline policy.

- **March 28, 2013**: The US military carried out a rare long-range mission over the Korean Peninsula, sending two nuclear-capable B-2 stealth bombers on a practice sortie over the ROK, underscoring Washington’s commitment to defend its ally amid rising tensions with the North. In response, the DPRK ordered missile units to be ready to strike the ROK and US.

- **April 2, 2013**: The DPRK threatened to restart its plutonium reactor.

- **April 3, 2013**: The United States announced that it was deploying an advanced missile defense system to Guam two years ahead of schedule, in what the Pentagon said was a “precautionary move” to protect American naval and air forces from the threat of a North Korean missile attack.

- **April 4, 2013**: The ROK’s defense chief said that the DPRK had moved a missile with “considerable” range to its east coast, but that it was not capable of reaching the US, while the North’s military warned that it was ready to strike US military forces with “cutting-edge smaller, lighter and diversified nuclear strike means.”

- **April 5, 2013**: The DPRK’s government advised Russia, Britain, and other countries to consider evacuating their embassies in Pyongyang. Analysts in Russia and the ROK suggested that the announcement was part of rhetorical escalation of threats.

- **April 8, 2013**: North Korea said it would withdraw all of its 53,000 workers and “temporarily suspend the operations” at Kaesong, an industrial park jointly run with the ROK, casting doubt on the future of the last remaining symbol of inter-Korean reconciliation.
o **April 9, 2013**: The DPRK warned foreigners that they might want to leave the ROK because the Peninsula was on the brink of a nuclear war.

o **April 11, 2013**: The Defense Intelligence Agency said with “moderate confidence” that the DPRK had learned how to make a nuclear weapon small enough to be delivered by a ballistic missile.

The underlying forces behind all these events since the Korean War ceasefire have been the efforts of three different DPRK leaders from the same family – Kim Il-sung, Kim Jong-il, and Kim Jong-un – to use outside threats to maintain power, as well as the steady militarization of the DPRK; the DPRK’s efforts to become a nuclear power; and the responses of the ROK, US, and DPRK.

At the same time, the balance in the Koreas and Northeast Asia is driven by much broader changes in the strategies and force postures of the United State and China. Current US policy calls for a rebalancing of US strategy in Asia composed of five strategic pillars: strengthening alliances, forging deeper partnerships with emerging powers, building a constructive relationship with China, strengthening regional institutions, and building an economic architecture to increase the benefits of trade and growth for countries in the Asia-Pacific region and the US – such as through the US-ROK FTA and the Trans-Pacific Partnership (TPP). Furthermore, there is currently a period of significant transition in Asia, especially in Northeast Asia – a new DPRK leader at the end of 2011, a Japanese leadership change at the end of 2012, and leadership transitions in both the ROK and China in early 2013.

The US alliances with Japan and the ROK remain the foundations of the US regional security and economic strategy; polls in both countries show approximately 80% support for their alliances with the US. Greater trilateral cooperation is envisioned as key to maintain security. Militarily, the rebalance involves:

… in the coming years a higher proportion of our military assets will be in the Pacific. Sixty percent of our naval fleet will be based in the Pacific by 2020. Our Air Force is also shifting its weight to the Pacific over the next five years. We are adding capacity from both the Army and the Marines. The Pentagon is working to prioritize the Pacific Command for our most modern capabilities – including submarines, Fifth-Generation fighters such as F-22s and F-35s, and reconnaissance platforms. And we are working with allies to make rapid progress in expanding radar and missile defense systems to protect against the most immediate threat facing our allies and the entire region: the dangerous, destabilizing behavior of North Korea.

In terms of the China-US relationship, US strategy indicates that both cooperation and competition will continue, though the US policy has consistently been “to improve the quality and quantity of our cooperation; promote healthy economic competition; and manage disagreements to ensure that U.S. interests are protected and that universal rights and values are respected… the United States welcomes the rise of a peaceful, prosperous China.” In order to achieve these goals, communication channels must be improved and practical cooperation on important issues demonstrated.\(^\text{18}\)

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\(^{17}\) Thomas Donilon, National Security Adviser to President Obama, speech at Asia Society New York, March 11, 2013.

\(^{18}\) Ibid.
China has steadily improved its military capabilities for well over a decade and is increasingly projecting power throughout the East Asian region. These trends began along with China’s emergence as a major economic power, and have increasingly led to tension with the US – as well as a number of China’s neighbors.

In terms of the Koreas, China maintains, the “Sino-North Korean Mutual Aid and Cooperation Friendship Treaty” that it signed in 1961. The two countries have traditionally been described has “blood brothers” or “closer than lips and teeth,” although the PRC-DPRK relationship has been rocky over the past 60 years, and China has sought to moderate the DPRK’s behavior and move it towards economic reform based on the Chinese model.

China does not formally allocate military forces for the defense of the DPRK and does not forward deploy military forces in that country. It also has recently stepped up its efforts persuade the DPRK to restrain its aggressiveness and nuclear and missiles efforts. China did, however, save the DPRK from total defeat in the Korean War, and it sees the DPRK as a critical buffer that ensure ROK and US forces remain away from its borders, as well as a counterbalance to Japan. No one can dismiss the possibility that Chinese forces might intervene if the DPRK again was threatened with defeat, or if any form of regime collapse threatened to create a US presence in the DPRK or deploy ROK forces near the Chinese border.

More broadly, US and Chinese strategy regarding the Koreas cannot be separated from their broader strategic interests in Northeast Asia, in Asia as a whole and the Pacific. Whether the US chooses to formally state it or not, its “rebalancing” of its force posture and military modernization efforts in Asia is driven in large part by China’s military modernization and growing power projection capabilities. China in turn is doing far more than creating a “blue water” navy and modernizing key elements of its forces. Its strategy involves the creation of new joint warfare, power projection, and sea-air-missile-nuclear capabilities that affect any confrontation ort conflict in the Koreas and northeast Asia at least as much as any struggle that affects Taiwan of US base and forces deeper in the Pacific up to the “second island chain.”

The end result is that the current security situation on the Korean Peninsula is shaped by the military balance between the two Koreas, the role of US forces, and the positions of three other regional powers: China (the People’s Republic of China, or PRC), Japan, and Russia. These countries not only influence how the Koreas behave, but can also become entangled in any potential DPRK-ROK crisis or conflict.

**DPRK**

In practice, enhancing the cult of the “dear leader” and regime survival are the DPRK’s grand strategy. Its militarism, provocations of South Korea, and exaggerated threats are all means to this end. As for ideology, the DPRK has never shown any evidence it cares about Marxism or its people in another meaningful sense. In practice, its now hereditary “great leaders” owe more to the emperors of ancient Korea’s Goguryeo kingdom, and the divinity they claimed through their Jumong foundation myth, than Marx, Lenin, or Mao.
The PRK has use a mix of threats and sporadic attacks, decades of military build-up, and endless propaganda campaigns about foreign threats and invasions to justify its dictatorship, and devoting the bulk of its resources to military forces. It has used such foreign threats to manipulate its people, while it has used its military build-up and covert or limited attacks in an effort to extort foreign outside aid and enhance its status and negotiating leverage.

**US Official Assessments**

Unlike the other countries in this report, the DPRK does not publish an English or Korean-language defense white paper, security strategy, or other report discussing the country’s armed forces in depth. There are, however, some outside sources that can help put its actions in context, and North Korea does issue propaganda statements that help illustrate its views.

Senior US officials have summarized the US view of DPRK strategy as follows. In his February 2012 Senate testimony, Defense Intelligence Agency (DIA) Director Ronald L. Burgess Jr. stated, 19

> … [T]he primary goals of the Democratic People's Republic of Korea (DPRK) are preserving its current system of government, improving its poor economy, and building national confidence and support for Kim Jong Un – youngest son of the late Kim Jong Il and North Korea's new "Great Leader." North Korea's leadership is emphasizing policy continuity under Kim Jong Un which DIA anticipates will include continued pursuit of nuclear and missile capabilities for strategic deterrence and international prestige, as well as to gain economic and political concessions.

The following year, Director of National Intelligence (DNI) James R. Clapper reported to the Senate, 20

> Kim Jong Un has quickly consolidated power since taking over as leader of North Korea when his father, Kim Jong II, died in December 2011. Kim has publicly focused on improving the country’s troubled economy and the livelihood of the North Korean people, but we have yet to see any signs of serious economic reform.

> North Korea maintains a large, conventional military force held in check by the more powerful South Korean-US military alliance. Nevertheless, the North Korean military is well postured to conduct limited attacks with little or no warning, such as the 2010 sinking of a South Korean warship and the artillery 23 bombardment of a South Korean island along the Northern Limit Line.

In May 2013, the Department of Defense (DoD) issued its first unclassified report on the military forces of the DPRK, providing a more detailed picture of US views: 21

> Regime survival in a zero-sum competition for legitimacy on the Peninsula with the South has been the consistent, overarching strategic objective of the Kim regime since 1945, but North Korean goals and supporting strategy have evolved significantly over the years. Throughout the 1960s and 1970s, North

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Korea boasted a viable economy and military and international relationships that either matched or outclassed those of the ROK. During this period, North Korea had reason to believe its goal of reunification on its terms was a possibility. Since the loss of the Soviet Union as a principal benefactor, devastating famine of the 1990s, and the economic rise and political maturation of the ROK, North Korea has largely abandoned unilaterally enforced reunification as a practical goal.

North Korean goals and strategies reflect the reality of political isolation, significant economic deprivation, a deteriorating conventional military, and the increasing political and military power of nearby states. Nevertheless, the North has pursued a military posture that allows it to influence coercively South Korea through provocation and intimidation, and to attempt to have as equal a voice as possible in the future of the Peninsula.

North Korea’s pursuit of a “military first policy” demonstrates its view that ultimately the national security of North Korea is disproportionately dependent on military might in the absence of any other notable elements of national power. The DPRK seeks recognition as an equal and legitimate international player and as a recognized nuclear power that is eventually able to normalize its diplomatic relations with the Western world and pursue economic recovery and prosperity. The DPRK’s rhetoric suggests the regime at this time is unlikely to pursue this second goal, at the expense of the primary goal of pursuing its nuclear and missile capabilities.

**NATIONAL STRATEGY**

Beyond its fundamental role as a guarantor of national and regime security, the North Korean military supports the Kim regime’s use of coercive diplomacy as part of its larger diplomatic strategy. Through the use of limited provocations – even those that are kinetic and lethal in nature – North Korea uses small-scale attacks to gain psychological advantage in diplomacy and win limited political and economic concessions, all while likely believing it can control escalation.

Closely tied to this strategy of political coercion are North Korea’s nuclear and ballistic missile programs which – absent normalized relations with the international community – it sees as essential to its goals of survival, sovereignty, and relevance.

**REGIONAL OBJECTIVES AND REGIONAL BEHAVIOR**

North Korea is dependent on China as a key benefactor, both in terms of diplomatic and economic support. North Korea also maintains friendly relations with Russia, although the relationship is not as robust as North Korea’s relations with China. In its pursuit of nuclear and missile capabilities, and in its use of limited provocations for diplomatic objectives, North Korea is always conscious of how China and Russia will respond, and likely calculates both are more concerned about limiting U.S. responses than trying to control or dictate North Korea’s behavior.

In its approach to the ROK, North Korea seeks to extract aid and investment from the ROK using a combination of diplomacy and coercion while minimizing any influence or leverage the ROK might try to wield in return. North Korea adopted a largely adversarial posture toward former ROK President Lee Myung Bak and his administration given his insistence on reciprocity and linking of aid to progress in denuclearization, leading to the failure of the North’s traditional approach to exact concessions from the ROK and drive a wedge in the U.S.-ROK relationship. North Korea’s objectives in delinking inter-Korean relations from denuclearization and minimizing political concessions it makes in response to ROK economic and development assistance are likely to be unchanged in its approach to the new Park Geun-hye administration.

North Korea has a contentious relationship with the Japanese Government. Absent a breakthrough on the issue of North Korean abductions of Japanese citizens, there is little prospect for improvement in relations or for a lifting of Japanese economic sanctions against North Korea.
There is broad agreement from most expert sources outside the DPRK that the DPRK has emerged as one of the most militarized nations in the world, though its economy has been unable to adequately support this militarization. The DPRK has recently started using a large portion of its military for economic development and public order; troops have been deployed to participate in a variety of economic construction projects such as highways and power plants, as well as to work on farming and inspections. However, the DPRK is finding it difficult to escape this further militarizing of the economy, with several effects that have actually contributed to further impoverishing the DPRK:

First, the populace has had to bear more taxes to meet military expenditures. Second, increasing economic dependence on the military causes distortions in the allocation of human and material resources, in addition to cutbacks in resource supplies needed for civilian purposes. Third, a majority of finished goods and raw material have to be channeled to support non-productive military armament. Fourth, it hampers rational investment and constructions of new civilian facilities. Fifth, instilling conformity to military discipline and ethos in all aspects of the economy impedes the development of liberal and cooperative social relations and order.

The DPRK has worked to expand its military capacity since the mid-1970s, valuing quantity over quality and focusing on conventional means – for example, North Korea built its own hovercraft for naval operations and has also been working to improve submarine capabilities and develop new mines and torpedoes. Despite economic troubles, the DPRK has continued its efforts to modernize its arms and pursue strategic WMD, with the ultimate goal of simultaneously building a prosperous and strong nation.

Performance-wise, various weapons found in North Korea’s ground forces, including T-62 tanks, M-1973 armored vehicles, various self-propelled guns, multiple rocket launchers, AT-3/4 anti-tank missiles and modified SCUD missiles, are modernized weaponry. North Korea is currently making concentrated efforts to modernize its military equipment by building Pokpung-ho (“Storm Tiger”) tanks, which are reproduced designs of Soviet-made T-72s, along with introducing, manufacturing and deploying 23mm antiaircraft guns.

**DPRK Statements on Military Policy**

Senior North Korean officials occasionally speak about military policy and strategy in broad terms. At the fifth Plenum of the fourth Korean Workers’ Party’s Central Committee in 1962, the DPRK adopted the military concept of ‘Four Military Guidelines’: extensive training for all soldiers, fortifying the whole country, modernizing the armed forces, and arming the entire population.

The DPRK has since been building its military capabilities and developing its military policy in accordance with these guidelines. The DPRK’s constitution states that “on the basis of politically and ideologically arming the military and populace, the state shall realize a self-defensive military force built on the following objectives: (1) a cadre-based army, (2)
modernization, (3) militarization of the populace, and (4) a stronghold-based fortified nation.” Figure I.2 summarizes these guidelines and the policy objectives that follow.

North Korea promotes two main policies or ideologies in its government propaganda. The primary state ideology is *juche* (“self-reliance”) – meaning that the focus of DPRK efforts is always on making North Korea a strong and independent nation that is not reliant on any other nation for anything, including security. *Juche* further promotes the idea of the collective identity as an organic whole, with the supreme leader at the top of this unified system. The DPRK leaders’ personality cults reinforce popular support for the system.

Secondly, the DPRK follows a *songun* policy (“military first”), presented as deriving from and reinterpreting *juche*, in order to construct a strong socialist state politically, economically, ideologically, and militarily. According to one DPRK Party newspaper, *songun* is “a unique mode of politics that dedicates maximum effort to reinforcing the KPA [Korean People’s Army], in which military power becomes the basis that propels general tasks in the vanguard of the socialist revolution and construction of a socialist nation.”" The South Korean government notes, “The North continues to pursue its military-first policy and address the KPA as revolutionary armed forces. This indicates that the regime, which maintains its power base in the military, has not abandoned its desire to take over by force and unify the Korean peninsula under communism.”

After the collapse of the USSR and the loss of a significant source of patronage, the DPRK increased emphasis on the *songun* policy to overcome the crises it faced:

In 1997, even amid severe economic difficulties, North Korea reinforced maneuvers for its mechanized corps in rear areas as well as infiltration exercises for its special operation forces, while substantially stepping up joint tactical exercises between its air force and navy. It also monitored wartime readiness and training of its troops in all areas. In March 1998, for instance, the regime publically issued a nation-wide wartime mobilization order for the purpose of an integrated exercise, involving the public, regime, and military, that was meant to rehearse a shift to a war footing. Intensive energy-saving map exercises were conducted afterwards for landing and takeoff drills for AN-2s, hydroplanes equipped with boats. In 1999, the regime deployed a large number of field guns with large caliber and multiple rocket launchers in underground facilities near the Demilitarized Zone (DMZ). The regime also created an electronic warfare unit and started to train military hackers.

Following the general officers’ talks held between the two Koreas in June 2004, North Korea suspended propaganda broadcasts against South Korea along the DMZ. At the same time, however, it substantially stepped up the political and ideological education of its troops. The Korean People’s Army reduced the number of large-scale military exercises, but increased drills for special operation forces and communication units, while placing unusual emphasis on the importance of exercises. Following the Iraq war, North Korea started to train a large number of military hackers in preparation

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for cyber war, expanded light infantry units, and reinforced capabilities for special warfare such as night fighting, mountain combat, and street battles. The North Korean forces are also known to have improved their electronic jamming skills as a means of dealing with electronic warfare as well as defense against precision guided missiles.

**Figure I.2: The DPRK’s Four-point Military Guideline**

<table>
<thead>
<tr>
<th>Military Guidelines</th>
<th>Policy Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transformation of the entire force into a cadre army</td>
<td>Train all soldiers ideologically, politically, and technically, and enable them to handle upgraded tasks in case of emergency</td>
</tr>
<tr>
<td>Modernization of the entire force</td>
<td>Equip troops with modern arms and combat skills, help them learn modern military science and skills, and train them to handle advanced weapons competently</td>
</tr>
<tr>
<td>Armament of the entire population</td>
<td>Arm the entire working class, including workers and peasants, ideologically and politically along with the People’s Army</td>
</tr>
<tr>
<td>Fortification of the entire country</td>
<td>Construct extensive defense facilities across the country to turn it into an impregnable fortress</td>
</tr>
</tbody>
</table>


**The Impact of Kim Jong-un**

Changes in the DPRK’s leadership are also having an impact on the Peninsular military balance. The new leader, Kim Jong-un, was elected Vice Chairman of the Central Military Commission (CMC, a powerful institution of the Korean Workers Party) in 2010. Following the death of his father, he was elected Supreme Commander of the Korean People’s Army (KPA) as well as CMC Chairman and First Chairman of the National Defense Commission (NDC) in April 2012. These three steps established his control over the party, military, and state, consolidating of his authority.30

Kim Jong-un, the third son of Kim Jong-il, was approximately 27 years old at the time of his succession and had previously been relatively unknown outside of the DPRK. Due to the significant resemblance of Kim Jong-un to his grandfather, Kim Il-sung, ROK media outlets speculated for months that Kim Jong-un had undergone plastic surgery to look like Kim Il-sung. One Chinese TV report cited a diplomatic source that had confirmed the plastic surgery rumors, which led to DPRK state media heatedly objecting to the “sordid hackwork of rubbish media,” while Chinese government censors ordered Chinese media to “not report, comment on, or redistribute stories about the personal lives of North Korean leaders (such as face-lifts).”31

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Kim Jong-un had been educated for several years in the West, leading some observers to believe that he would open up the economy and begin to reintroduce Korea to the world. However, the DPRK has often said via its state media that there would be no change in policy between Kim Jong-un and his father; for example, shortly after Kim Jong-il’s death, the media stated that “foolish politicians around the world, including in South Korea, should not expect any changes from us.”

Yet, Kim has instigated some changes, showing a few signs of opening, paying more attention to economic development, and displaying a more populist image than his father, such as by giving speeches, going on more expeditions around the country, allowing Western influences such as clothing and Disney characters, being seen in public often with his wife, and acting informally in public appearances – even embracing citizens at times.

In contrast to his father, Kim Jong-un has focused his on-the-spot guidance visits on Pyongyang. When he has left the capital, it has almost always been to visit military and security sites. There have also been indications that Kim has been working to consolidate his support among the urban elite – since taking power, a number of new projects aimed at this class have been undertaken, including a maternity hospital, health complex, skating rink, apartment complexes, and a fun fair.

At the same time, the changes in the DPRK since Kim Jong-un’s rise to power should not be exaggerated by any means. Since his accession, the DPRK has carried out two missile launches and one nuclear test as well as negotiated and then abrogated an agreement with the US. Especially since late 2012 and early 2013, hopes of DPRK change have been fading quickly. Kim has not fundamentally departed from his father’s policies, re-introducing an even stronger version of the songun military-first policy. In negotiations as well, he has followed the usual DPRK policy of attempting to gain humanitarian and economic concessions from the other Six-Party dialogue participants in return for reversible and largely symbolic concessions.

As one US analyst notes, there has been an unusually high frequency and intensity of threats in the first year of Kim Jong-un’s rule, “raising questions about whether junior Kim fully understands the ritualistic rules of the inter-Korean ‘threat-down’; whether he might be more accepting of risks than his father, and whether he’s more likely to make miscalculations that could drive a hair-trigger situation over the edge.” The need to consolidate his power politically could lead Kim to “walk even closer to the edge than usual.”

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It should be noted that some analysts believe it is unlikely that Kim – with little background in politics or government experience – is developing and directing these moves. Kim’s aunt and uncle are often pointed out as the most likely candidates to be wielding real power in the DPRK, but the situation remains far from clear and expert opinion is highly divided.37 As one senior ROK policymaker commented, “Who is in charge in North Korea? It’s hard to say. How strong is Kim Jong-un? We don’t know exactly. Who is giving orders in Pyongyang? Apparently, it’s Kim Jong-un, but we are not sure about the inner-circle decision-making process.”38

There have been no indications that Kim is or will be disposed to taking measures that could reduce regional frictions or improve the daily lives of North Korean citizens. Several factors make it likely that the DPRK’s political system – a concentrated, one-man dictatorship – will continue without significant reform: “[c]hronic insecurity, a command economy, a strong tradition of democratic centralism, a complex structure of political institutions and a well-developed indigenous ideology,” all of which reinforce the concentration of power and the Kim family cult.39 It also appears that several of the DPRK prison camps have grown significantly in size.40

Furthermore, despite some high-level leadership changes, such as the sudden removal of Vice Marshal Ri Yong-ho – Vice Chairman of the CMC, Politburo Presidium member, general staff chief, and longtime mentor of Kim Jong-un in military affairs – along with the removal or demotion of three other high-level elder leaders who accompanied Kim Jong-il’s hearse, there are no indications of any party, military, or state opposition to Kim’s succession.41 One report indicated that two-thirds of the DPRK’s senior generals have been demoted, replaced, pushed aside to jobs with less power, or banished, while all have been required to sign loyalty letters.42 A January 2013 Congressional Research Service (CRS) report notes,43

When Kim first came to power, many observers predicted that he would rule with the aid of regents coming from his father’s inner circle, especially Kim-Jong-il’s brother-in-law Jang Songtaek. It is possible that a collective leadership makes national policy decisions while promoting Kim Jong-un as the visible figurehead of the regime. However, many analysts point to personnel decisions that seem to portray a strategy to concentrate power in Kim Jong-un’s hands and sideline influential military leaders: four of the highest-ranking generals in the Korean People’s Army (KPA) were stripped of their ranks. In addition to the purges, a civilian party functionary was appointed to director of the

KPA’s important General Political Department. South Korean media have cited sources that say Kim is elevating the internal security apparatus as well as those in charge of propaganda.

The appointments of Kim Jong-un and others to high-level party positions have led some analysts to posit that the KWP may be gaining in stature over the military establishment. The emphasis on the Central Military Commission, the tool through which the Party controls the military, may indicate that the regime is moving away from the concentrated power in the National Defense Commission established by Kim Jong-il and instead returning to a Party-centric order, as was the case under Kim Il-sung. The Songun, or “Military First,” policy appears to have remained in place, but Kim Jong-un appears to have focused on rebuilding many party institutions to establish an alternative power center.

It also seems as though Kim Jong-un is seeking more independence from China. It would appear that his relationship with his Chinese counterparts is less friendly than that of Kim Jong-il. Some analysts think that the age difference between Kim Jong-un and Xi Jinping – as well as other Chinese leaders – is one of the reasons that the two are not close, and it is unknown if they have ever met.44

After the DPRK’s February 2013 nuclear test, China offered to send several senior officials to help, but North Korea did not accept, and in late November 2012, a Chinese Politburo member had led a delegation to the DPRK with a letter from Xi Jinping telling Kim Jong-un not to launch a ballistic missile – which he proceeded to do less than two weeks later. Through April 2013, there does not seem to have been any publicized visit of Chinese leaders to the DPRK.45

**DPRK Views of the US, Japan, and South Korea**

While the DPRK has a generally congenial relationship with Russia and close relations with China – discussed in more detail subsequently in this report – it clearly sees the US, ROK, and Japan as its enemies.

Public media are a key instrument of the North Korean regime, including the *Rodong Sinmun* [The Worker’s Newspaper], *Pyongyang Sinmun*, *Minju Choson* [Democratic Korea], *Pyongyang Times*, and *Korean Central News Agency* (KCNA) – which is the primary mouthpiece for the DPRK and one of the country’s most influential news outlets. Of these, *Rodong Sinmun*, *Pyongyang Times*, and the KCNA publish English-language versions. The daily KCNA and the weekly *Pyongyang Times* are run by the state news agency, while the daily *Rodong Sinmun* is produced by the Central Committee of the Worker’s Party of Korea. As these sources are entirely government-controlled, a careful reading of the articles and ideas expressed can offer some clues as to how the North Korean leadership views the strategic situation.

These media normally present a view of the US that assigns blame for virtually all of the military tensions since the Korean War. According to one recent KCNA article, the DPRK sees its denuclearization as impossible due to the US’ hostile policies: the US divided Korea after the Second World War, refused to establish diplomatic relations or even call the DPRK by its official name, intentionally chose to prolong the state of armistice, and defined its

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45 Ibid.
ultimate goal in 1953 as preventing the spread of communism to South Korea by turning it into a military ally.\textsuperscript{46}

The same article states that the US deliberately ruined the Geneva conference for a peaceful solution to the Korean War in 1954, restricted trade with the DPRK and imposed a myriad of sanctions, “cooked up” UN Security Council resolutions after DPRK peaceful satellite launches, practiced live shell firing at a DPRK flag in 2012, and advocated destroying statues of Kim Il-sung.\textsuperscript{47}

Officially, at least, the DPRK views its development of nuclear weapons as a means of legitimate self-defense in a region in which it is surrounded by larger countries with powerful friends, strong economies, much larger military budgets, and a history of intervention on the Korean Peninsula.\textsuperscript{48} In fact, the DPRK argues that US aggression is to blame for the North’s nuclear weapons program – the only reason it developed nuclear weapons was to keep the Korean Peninsula safe; a May 2013 article noted, “With the U.S. becoming evermore undisguised in its frantic attempt to ignite a nuclear war, if the DPRK had not have a powerful nuclear force, a thermonuclear war would have broken out on the Korean Peninsula.”\textsuperscript{49}

The DPRK’s treatment of Japan is shaped by Japan’s 1905-1945 occupation of Korea and past history of militarism; South Koreans also have a tendency to view Japan in a negative light. One DPRK state-run newspaper article noted, “The Japanese reactionaries are, however, getting evermore undisguised in their moves to seize Tok Islets [Dokdo] in a bid to stage a comeback to Korea, while distorting its past history of invasion and openly reviving militarism in all fabrics of society…. Their ulterior design is to establish a triangular military alliance with the U.S. and the south Korean puppet forces, take an active part in their war of aggression against the DPRK and thus regain Japan’s erstwhile status as a colonial ruler.”\textsuperscript{50}

The DPRK’s rhetoric has frequently been reported by outside media as more threatening that either the DPRK’s actions or its exact words really imply. It is often reported that the DPRK has directly threatened to attack the US, ROK, or Japan, but these quotations and references usually do not include the full sentence or paragraph from which the threat came. While the DPRK does make such threats, it is generally in the context of an “if” clause – as in, the DPRK will fight if the US/ROK initiate. For example, one DPRK state-run newspaper remarked on March 8, 2013, “The revolutionary armed forces of the DPRK, already put on a high alert, are waiting for an order for great advance for national reunification, determined to blast the strongholds of aggression with prompt and fatal retaliation, should the provocateurs [i.e., US and ROK] make even the slightest move.”\textsuperscript{51} At the same time, it is entirely uncertain

\textsuperscript{47} Ibid.
\textsuperscript{48} Ibid.
\textsuperscript{50} “Koreans Will Surely Force Japan to Pay for Its Past Crimes,” Korean Central News Agency, March 5, 2013.
what actions would count as “provocations,” one of many factors making an assessment of the unpredictable DPRK exceedingly difficult.

ROK

The ROK’s strategy and force posture are far more transparent than those of the DPRK. It has a publicized defense budget, openly debates national security issues, and issues regular defense white papers. The 2010 English-language Defense White Paper clearly declared that the DPRK and its military were enemies of the ROK as long as threats and provocations such as the Cheonan and Yeonpyeong Island attacks were continued. The paper also included defense structure and operational systems reform in order to increase advanced military capabilities.

Moreover, the paper showed photos and maps of Dokdo Island, supporting Seoul’s claims that the territory is indisputably Korean. The 2012 Defense White paper went further, describing Japan’s unjust territorial claims as a barrier to improving bilateral defense cooperation.

The ROK, China, and Russia

South Korea is also far more flexible in dealing with other states. In recent years, the ROK has been promoting military exchanges with China, such as mutual visits of aircraft and vessels. The relationship between the two countries was upgraded from a “full-scale cooperative partnership” to a “strategic cooperative partnership” in May 2008, with hotlines established between the Navies and Air Forces of the two countries that November. At the first annual ROK-PRC Defense Strategic Dialogue in July 2011, enhanced military exchanges were agreed to; a defense strategy dialogue has also been initiated.

At the 2012 ROK-PRC Strategic Dialogue, the two countries signed a Memorandum of Understanding (MOU) on national defense exchange and cooperation, in particular stipulating vice minister-level strategic dialogue, mutual visits by high-level military personnel, and director general-level defense policy working meetings on a regular basis, in addition to international peacekeeping operations, cooperation in humanitarian relief activities, and combined search and rescue operations.

The ROK and China also agreed to establish a hotline between the Defense Ministries to strengthen strategic communications; this was the third such hotline that China had established (the other two are with Russia and the US). The two countries also agreed to strengthen cooperation and exchange in military education and further expand defense exchanges.

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However, following the muted Chinese reaction to the *Cheonan* and Yeonpyeong Island incidents, relations between the two countries have in general become cooler. The China-ROK relationship is complicated in many areas the go well beyond DPRK-related issues.\(^{56}\)

Seoul's entanglements with China extend beyond the North Korean problem. China is unhappy with the current state of relations with South Korea, which it describes as "carrying 'dark currents' that can swamp the relationship at any time" and as "coming near a strategic crossroads." The two countries also face a wide range of complex bilateral issues—differing perspectives regarding history, norms, values, and the ROK-U.S. alliance, as well as growing trade dependency—none of which has an easy or straightforward solution. Mismanagement of these pending issues could cause rising ROK and Chinese expectations for their two heads of state and improved bilateral relations to backfire. Although it may help that Park [Geun-hye] is the first South Korean president to speak Chinese, what is really needed is a better contextual understanding of China.

The ROK and Russia have also been engaged in military exchanges, including of naval vessels and high military officials. In September 2008, the ROK-Russian bilateral relationship was upgraded to a “strategic cooperative partnership.” The two countries also agreed to cooperate in the areas of defense industry, military supplies, and military technology.\(^{57}\)

**The ROK and Japan**

The 2010 ROK Defense White Paper refers indirectly to Japan as a military ally: “Solidifying security ties with major Asia-Pacific alliances, the ROK, Japan, Australia, and the United States have been trying to establish a more effective multilateral security system within the region based on alliances.” There is a section in the report entitled “Exchange and Cooperation with Japan,” looking at the two countries’ abilities to work together to “resolve the North Korean nuclear issue and to ensure regional security and peace.”

ROK-Japan-US trilateral cooperation, Korea-Japan maritime search and rescue operations, and increased military forces combined training are also mentioned. While a proposed ROK-Japan intelligence sharing agreement fell through in July 2012 – it would have been the first military pact between the two countries – the fact that the two were even discussing such a measure shows the extent to which the relationship has become increasingly closer and cooperative.\(^{58}\) In mid-April 2013, the Japanese ambassador to Seoul said that Japan was prepared to sign the military intelligence pact with the ROK “at any time,” arguing that Japan and the ROK needed to increase military partnership in the face of the DPRK’s increased threats.\(^{59}\)

Nevertheless, the long history of tension between the two countries over Japan’s past occupation of Korea, and disputes over rights in the pacific still presents problems. The


\(^{59}\) “Japan ready to ink military pact with S. Korea ‘at any time,’” *Yonhap News*, April 17, 2013.
ROK’s President Park Guen-hye stated in an interview in the *Washington Post* on May 8, 2013 that,60

I remember eight years ago, when I had an interview with The Washington Post, that was also a time when the North Korean nuclear crisis was ongoing, and when the Japanese were also making comments about [disputed islands], thereby raising the temperature between Korea and Japan. Eight years later I’m very disappointed and frustrated to see that we haven’t made any progress. Japan and [South] Korea share many things in common — our shared values of democracy, freedom and a market economy — and there is a need for us to cooperate on North Korea and on economic issues as well as security issues. But the Japanese have been opening past wounds and have been letting them fester, and this applies not only to Korea but also to other neighboring countries…. This arrests our ability to really build momentum, so I hope that Japan reflects upon itself.

**The ROK and the US**

The ROK and the US are allies with a close relationship and a well-institutionalized military alliance. At a 2012 ROK-US Foreign and Defense Ministers’ Meeting, it was agreed to expand ROK-Japan-US security cooperation through the assistant secretary-level Defense Trilateral Talks (DTT). The cooperation will include humanitarian assistance, maritime security, and nuclear non-proliferation.61

At the October 2012 44th annual ROK-US Security Consultative Meeting, the two countries signed a ROK-US Counter-Provocation Plan, in which the two would establish a combined response system against DPRK provocations on the Korean peninsula. The ROK and the US also agreed to increase combined surveillance activities of the DPRK, develop enhanced deterrence strategies and response capabilities against DPRK asymmetric threats, and develop a “tailored bilateral defense strategy.” Furthermore, the two countries agreed that they needed to hold the ROK-US Extended Deterrence Table Top Exercise (TTX) annually, alongside senior-level seminars, and finalized the road map for the Extended Deterrence Policy Committee (EDPC) that provides the foundations for the development of the US’s extended deterrence commitment.62

In the wake of the DPRK’s third nuclear test, the US and ROK signed an updated contingency Counter-Provocation Plan in the case of small-scale DPRK attacks, such as those on Yeonpyeong in 2010. The plan gives the ROK the lead in responding to future provocations, with US support. The press statement released at the time did not provide much specific information, such as what exactly would constitute a provocation or when a provocation would turn into a war – at which point, the US Forces Korea (USFK) Commander would lead allied operations.63

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The ROK and the DPRK

The ROK has sought to establish better relations with the DPRK, with consistently uncertain results. Over the last half century, North Korea has engaged in over 2,660 military provocations against the South. This has not, however, prevented the ROK from taking repeated diplomatic and political initiatives.

Kim Dae-jung (President 1998-2002) adopted the “Sunshine Policy” in dealing with North Korea, emphasizing increased communication, assistance, and exchanges while delaying political settlement and reunification to the far future. His successor, Roh Moo-hyun (President 2003-2007) followed a similar plan, entitled the “Peace and Prosperity Policy.” These policies of rapprochement with the DPRK often required breaking – politically or rhetorically – with the US, resulting in increased anti-American sentiment and harming the US-ROK alliance.

During these two liberal presidencies, the ROK pursued large-scale economic engagement with the DPRK for a decade, believing that it had to convince the DPRK’s leadership that the external security environment was benign. Through economic engagement, the ROK attempted to both pacify the DPRK’s belligerence and initiate slow reform in the DPRK itself. In turn, these goals would avoid any collapse of the DPRK and a so-called “hard landing” unification scenario. When Kim Jong-il responded to the ROK’s unilateral offers of assistance, these two Presidents felt validated that their policies were working successfully. However, the DPRK was in reality simply accepting the freely-offered ROK assistance and propagandizing it domestically as “gifts” from the weaker ROK.

The ROK and DPRK had two summit meetings (both in the DPRK, one in 2000 and the second in 2007), which the ROK saw as evidence of transformative change in the DPRK, though it was later revealed that the ROK had paid the DPRK $200 million to secure acceptance of the first summit. During President Kim’s first year in office, the ROK gave $29 million in fertilizer, food, and humanitarian aid; by 2007, under President Roh, aid had reached $635 million.

The two countries also agreed to two major inter-Korean economic projects: the Kaesong Industrial Complex and the Kumgang Mountain tourism project; over 1.9 million South Korean tourists visited the latter before it was shut down in 2008. North Korea accepted these projects because they provided the regime with a large amount of cash and neither project had the potential to enlighten the North Korean people or promote forces for change.

After the first inter-Korean summit in 2000, there was also a series of ROK-DPRK military talks.

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66 Ibid., p. 148.
67 Ibid.
... including those between the respective defense ministers and working-level contacts. In the general
officers’ talks held on June 3-4, 2004, the two Koreas adopted and put into effect ‘an agreement on the
prevention of accidental clashes in the West Sea, suspension of propaganda broadcasting, and removal
of propaganda devices from the areas near the Military Demarcation Line (MDL).’ Accordingly, both
sides restrained their naval ships from possible confrontations, prohibited any unprovoked actions
against each other, ceased propaganda activities and removed all propaganda devices from the MDL
line.

Later, a working group meeting of the third round of general officers’ talks was held on July 20, 2005,
culminating in an agreement to establish correspondence offices to prevent accidental West Sea
clashes. The construction of these offices on August 13 enabled the two Koreas to make urgent calls
using radio or wireless communication. An agreement was also made to enable inter-Korean
communication between North and South Korean vessels, based on communication networks shared
among international merchant ships. Both sides also agreed to exchange information regarding ships
engaged in illegal fishing activities.

During the third and fourth round of general officers talks held on March 2-3 and May 16-18, 2006,
respectively, South Korea proposed to prevent confrontations and establish joint fishing grounds in the
West Sea. These talks, however, ended without result as the North insisted on drawing a new maritime
West Sea border. Later, in the seventh round of general officers’ talks held in December 2007, the two
Koreas adopted an agreement to provide military guarantee for passage, communication and customs
clearance. Of the military talks held since 2000, however, few have been effective in producing
agreement on matters directly relevant to the building of inter-Korean trust.

At the same time as both political and military talks were occurring, the DPRK engaged in
further military provocations.69

Around the 2000s, while economic cooperation between the two Koreas as well as South Korea’s
economic assistance to the North was in progress, the North carried out a series of provocations against
the South, including an infiltration of the South with its midget submarine, two nuclear tests (2006 and
2009), and three test firings of long-range missiles (1998, 2006 and 2009). Other examples include: the
Second Battle of Yeonpyeong in 2002, which was sparked by North Korean vessels that had intruded
the Northern Limit Line in the West Sea. At this time, the North fired at a South Korean patrol boat on
the day a match between South Korea and Turkey was played during the Japan-Korea World Cup; the
torpedo attack on the South Korean corvette Cheonan in March 2010, just after the resumption of
South Korea’s humanitarian assistance to the North, including rice and cement; and the artillery
shelling of Yeonpyeong Island in November 2010, just before Red Cross talks between the two Koreas
were scheduled to take place.

By the end of Roh Moo-hyun’s tenure, the majority of ROK citizens were criticizing these
engagement-oriented policies as being too naïve and resulting in a South Korea that was too
vulnerable to DPRK threats and provocations. The economic assistance was also criticized as
simply helping the DPRK regime, in particular the Kim family, increase its power and further
build up its military, threatening ROK security.70

Lee Myung-bak (President 2008-2012) came to office with a much more hardline policy
towards North Korea, stressing a pragmatic diplomacy that would not offer concessions to
the DPRK without anything in return. His “Denuclearization, Opening and 3000” initiative
focused on co-existence and co-prosperity and gave top priority to resolving the nuclear

69 Ibid., p. 145-6.
70 Eun-sook Chung, “Long-Stalled Six-Party Talks on North Korea’s Nuclear Program: Positions of Countries
issue, emphasizing the ROK’s goal of the DPRK abandoning its nuclear weaponization program. The policy promised ROK assistance in achieving a $3,000 GDP per capita in the DPRK once North Korea denuclearized and opened its economy. The North refused.\footnote{Ibid.}

At the same time, the ROK stated its readiness to decisively respond to military provocations and maintain a deterrence capability. President Lee also worked to strengthen the US alliance – during his tenure, alliance cooperation reached an all-time high – as well as ties with Moscow and Beijing, while also promoting US-Japan-ROK trilateral cooperation.\footnote{Richard Weitz, “Regional Powers Grapple with North Korea’s New Leader Kim Jong Un,” Korean Institute for Defense Analyses, p. 408.} President Lee also advocated the idea of “Global Korea,” raising the ROK’s international profile and the possibility of South Korea playing a larger role in international affairs.

However, after the Cheonan and Yeonpyeong Island attacks in 2010 (discussed in Chapter 4) in which the ROK military failed to respond effectively to DPRK provocations, South Korea switched to a new strategy, called “active deterrence” or “proactive deterrence.” This policy emphasized enhanced offensive capabilities in order to ensure deterrence, enabling the ROK military to immediately retaliate in the event of any further DPRK provocations. The ROK Army has deployed short-range missiles and other weapons systems to border areas in order to increase rapidity of response. At the same time, this also increases the potential for miscalculation or accidental escalation – for example, under the new strategic doctrine, ROK troops accidentally shot at an Asiana civilian airliner in 2012.\footnote{Ibid.}

In 2010 and 2011, Kim Jong-il indicated several times that he wanted to resume Six Party Talks, but the ROK insisted that the North apologize for the Yeonpyeong shelling and include enrichment activities in the proposed discussions. However, in January 2011 the ROK dropped the requirement of an official DPRK apology for the Cheonan and Yeonpyeong provocations, instead seeking assurances that the North would end its provocative actions and take responsible measures for the incidents. Still, the negotiations for high-level meetings collapsed fairly quickly.\footnote{“North Korea – Overview,” Nuclear Threat Initiative, accessed April 5, 2013. http://www.nti.org/country-profiles/north-korea/ .}

On September 3, 2012, the ROK offered to send humanitarian aid to the DPRK, which responded that it was ready to discuss the issue and asked what was being offered and how much. The ROK indicated that it could provide 10,000 tons of flour, three million packets of noodles, and medicine, and was willing to discuss further aid after the two sides met. The North rejected the offer –the DPRK rejected a similar offer in 2011 as also being too small – with the state-run news agency calling the “meager” offer “deeply insulting,” and noting that the ROK often rejected DPRK requests for grain, construction equipment, and concrete. ROK officials fear that any such aid would be used for the military. Under the Sunshine
Policy, the ROK used to send up to 500,000 tons of rice and 300,000 tons of fertilizer annually.\footnote{Choe Sang-hun, “North Korea Rejects Offer of Aid from South Korea,” \textit{New York Times}, September 12, 2012.}

\textbf{Park Geun-hye and ROK Policy towards the DPRK}

Park Geun-hye became the South Korean President on February 25, 2013. During her campaign, she asserted that she was willing to soften the ROK’s DPRK policy, desiring to steer a middle course between Lee’s hardline policy Roh’s engagement policies – a strong defense posture promising retaliation with the possibility of dialogue and “flexible engagement.”\footnote{Jane’s Intelligence Review, “Country risk watch – March,” IHS Jane’s, February 14, 2013; Choe Sang-hun, “South Korea’s New Leader Exhorts the North to Tread a ‘Path of Change,’” \textit{New York Times}, March 1, 2013.}

She adopted a campaign slogan of “trustpolitik,” emphasizing small steps in a process of trust- and confidence-building in inter-Korean relations and on the Peninsula. “Trustpolitik” would include a range of projects, such as cultural exchanges, increased economic cooperation, and helping the DPRK join international financial institutions.\footnote{Scott A. Snyder, “Prospects for the U.S.-Korea Alliance under Park and Obama,” Council on Foreign Relations, March 11, 2013.} Though she has said she will not give significant aid to the DPRK until it ends its nuclear program, she is willing to meet Kim Jong-un if doing so would improve bilateral ties.\footnote{“President-elect condemns a ‘threat to Korean Peninsula,’” \textit{Korea JoongAng Daily}, February 13, 2013; James M. Lindsay, “Hello, Park Geun-hye: President of South Korea,” Council on Foreign Relations, February 25, 2013.}

President Park has also indicated she would continue at last some aspects of former President Lee’s “Global Korea” policy, such as the ROK’s commitment to green growth and development assistance. Park has also proposed a US-China-ROK strategic dialogue on how to deal with the North.\footnote{Scott A. Snyder, “Prospects for the U.S.-Korea Alliance under Park and Obama,” Council on Foreign Relations, March 11, 2013.} Conversely, relations with Japan may be less congenial:\footnote{Jae-Ho Chung, “The New South Korean Administration’s Security Challenges: Back to the Future, Again?” Council on Foreign Relations, March 2013.

The new South Korean administration's Japan policy may also face difficulties, Park's good intentions toward a "grand reconciliation" notwithstanding. It has become increasingly difficult in recent years to distinguish a "realist Japan" from a "revisionist Japan," and there is an emerging South Korean perception that Japan's rightist drift is not merely the mishap of isolated and select politicians but rather a consistent trend of growing significance.

The DPRK, however, has moved in a very different direction. It conducted a nuclear test in the final days of the Lee Administration, sending a message emphasizing the negative consequences of Lee’s hardline policy. At the same time, the DPRK made it more difficult for the new Park Administration to be more flexible in its policies towards North Korea.\footnote{Jane’s Intelligence Review, “Country risk watch – March,” IHS Jane’s, February 14, 2013.}

Through the DPRK’s actions, President Park was forced to strongly denounce the DPRK’s third nuclear test, saying it undermined trust-building and posed a significant threat against
the Korean Peninsula and international peace. At the same time, Park indicated that such DPRK actions had been anticipated, and thus her approach to the DPRK would not significantly change – she would continue to try to separate humanitarian assistance from the broader political issues on the Peninsula.

In her inauguration speech, she stated that “North Korea’s recent nuclear test is a challenge to the survival and future of the Korean people, and there should be no mistake that the biggest victim will be none other than North Korea itself.” She urged the DPRK to abandon its nuclear ambitions, “instead of wasting its resources on nuclear and missile development and continuing to turn its back to the world in self-imposed isolation.”

President Park called for both a shift in the DPRK’s policies towards the ROK and increased Chinese efforts to restrain the DPRK in a May 2013 interview in the Washington Post:

…The reason we see the security posture in the region being strengthened is because of what North Korea has been doing, as North Korea escalates the level of threats and provocations…. The basis of peace in this area is to maintain a firm deterrence posture, especially with regard to North Korea. If North Korea were to choose to become a responsible member of the international community and desist from provocations… I’m sure we would not need to see the strengthening of military postures in the region.

I’ve proposed a trust-building process on the Korean Peninsula. We will never tolerate North Korea’s nuclear weapons and North Korea’s provocations. Its threats will not pay. At the same time, this trust-building process is about keeping open the window to dialogue with North Korea at all times. If it chooses the right path, there can also be consequences. … But what use would it be at this moment? As the Korean saying goes, it takes two hands to clap.

I wasn’t referring to a specific country; it’s more about history. It can be said that if territory constitutes the body, history constitutes the soul…. Even a very small fire can be greatly inflamed, so it is imperative that we have a hard-headed and correct understanding of history.

After President Xi Jinping took office in China we were able to see some changes, which President Obama also referred to as positive. I believe that China can exert more influence on [North] Korea, I think they can do more…In order for North Korea to change, and in order for the Korean Peninsula to enjoy greater peace, North Korea needs to choose the right path, and China should exert greater influence in inducing North Korea to do so.

When I meet with President Xi Jinping I look forward to engaging in very candid discussions with him on issues that encompass North Korea, its nuclear weapons, as well as peace and stability in Northeast Asia. I also hope to be able to engage in candid discussions with him about whether, if North Korea decides not to become a responsible member of the international community, and chooses not to take the right path, whether this current path that it is taking is sustainable. Is there a future there?

Of course, we can’t expect China to do everything, and the Chinese also say they can’t do everything. But I do believe there’s room for them to undertake more with respect to some material aspects. At the same time China has been able to achieve growth and development through reform and opening, and I

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82 “President-elect condemns a ‘threat to Korean Peninsula,’” Korea JoongAng Daily, February 13, 2013.
think this offers a very good model for North Korea to follow, and so they can perhaps strengthen their persuasion of Korea in this regard...North Korea is very heavily dependent on China.

South Korean popular attitudes have also shifted. One ROK post-election poll taken prior to the DPRK’s third nuclear test showed that the majority of South Koreans supported renewed dialogue with the DPRK and also favored providing humanitarian aid “regardless of the situation.” This was similar to South Korean attitudes following the 2006 nuclear test, after which there was little change in support for supplying humanitarian aid, and the 2009 nuclear test, after which polls showed an increase in support for additional humanitarian aid. However, a poll taken after the third nuclear test showed that while only 60% of South Koreans felt threatened by the DPRK’s test, 55% supported a response of sanctions, while only 37% supported dialogue.

While the same type of public opinion data is often not available for South Koreans’ perceptions of the DPRK after missile tests, there is some data accessible for the April and December 2012 tests. After the April 2012 launch, 72% of South Koreans saw the act as a clear provocation and 56% thought it would not change DPRK-ROK relations. However, in a survey assessing the most salient issues to the ROK public, while interest in the DPRK had jumped slightly following the death of Kim Jong-il in December 2011, rising 5.3% to 12.6%, there was a much more muted reaction to the April 2012 launch: interest in DPRK-ROK relations rose only 3.6%, reaching 14.8%. Although this did put it among the top three most important issues to South Koreans, interest in ROK-DPRK did not detract from the two most important issues (job creation and wealth redistribution); instead, interest in public education declined.

Similarly, after the DPRK’s December 2012 missile test, interest in the North-South relations actually declined very slightly, from 7.9% in November 2012 to 7.8% in January 2013. Some explanatory factors include the simultaneous ROK presidential election and the lack of DPRK threats directly following the launch. However, interest in ROK-DPRK relations rose to 25.7% in March 2013 due to the DPRK’s third nuclear test and increasingly bellicose rhetoric. The progression of the four issues most salient to the ROK public, from March 2012 to March 2013, can be seen in Figure I.3.

**Looking Towards the Future**

Finally, it is important to note that at least the public aspects of the ROK’s force posture and strategy have not yet addressed how the ROK will react it the DPRK goes on to create much larger nuclear forces, and to the changing balance of US and Chinese capabilities that will growing out of the US rebalancing to Asia and China’s shifts in strategy and ongoing military modernization.

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The ROK’s public strategies and defense white papers focus largely on past events and the present balance. Like Japan, however, the ROK must assess the ongoing changes US-Chinese balance and their level of cooperation versus competition as key factor in its own security. For all of the reason outlined in the following chapters, this may lead to a major expansion of ROK military efforts and possibly ROK long-range missile and nuclear programs.

Figure I.3: Most Salient Issues to the South Korean Public, March 2012 - March 2013

The US has remained firmly committed to the security of the ROK ever since the Korean War. Thomas Donilon, National Security Adviser to President Obama, stated in March 2013 that the overarching objective of the Obama Administration’s Asia policy was to “sustain a stable security environment and a regional order rooted in economic openness, peaceful resolution of disputes, and respect for universal rights of freedom.” The policy was based on several key considerations:

This reflected a recognition of the critical role that the United States has played in Asia for decades, providing the stabilizing foundation for the region’s unprecedented social and economic development. Beyond this, our guiding insight was that Asia’s future and the future of the United States are deeply and increasingly linked. Economically, Asia already accounts for more than one-quarter of global GDP. Over the next five years, nearly half of all growth outside the United States is expected to come from Asia. This growth is fueling powerful geopolitical forces that are reshaping the region: China’s ascent, Japan’s resilience, and the rise of a “Global Korea,” an eastward-looking India and Southeast Asian nations more interconnected and prosperous than ever before.

**The Koreas and the Rebalance of US Interests in Asia**

The US is making major cuts in its defense spending whose size and impact is not yet predictable. Current US policy calls for a rebalancing of US strategy in Asia composed of five strategic pillars: strengthening alliances, forging deeper partnerships with emerging powers, building a constructive relationship with China, strengthening regional institutions, and building an economic architecture to increase the benefits of trade and growth for countries in the Asia-Pacific region and the US – such as through the US-ROK FTA and the Trans-Pacific Partnership (TPP).

These policies all, however, require resources and most are not yet tied to specific implementation plans. Furthermore, Northeast Asia is currently in the midst of a period of significant transition, with a new DPRK leader at the end of 2011, a Japanese leadership change at the end of 2012, and leadership transitions in both the ROK and China in early 2013.

The US alliances with ROK and Japan do clearly remain the foundation of the US’ regional security and economic policies. Moreover, polls in both the ROK and Japan show approximately 80% support for the alliances with the US. Greater trilateral cooperation is envisioned as key to maintain security. Militarily – discussed in more detail later in this report – the rebalance involves:

… in the coming years a higher proportion of our military assets will be in the Pacific. Sixty percent of our naval fleet will be based in the Pacific by 2020. Our Air Force is also shifting its weight to the pacific over the next five years. We are adding capacity from both the Army and the Marines. The Pentagon is working to prioritize the Pacific Command for our most modern capabilities – including submarines, Fifth-Generation fighters such as F-22s and F-35s, and reconnaissance platforms. And we

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90 Thomas Donilon, National Security Adviser to President Obama, speech at Asia Society New York, March 11, 2013.
91 Ibid.
92 Ibid.
are working with allies to make rapid progress in expanding radar and missile defense systems to protect against the most immediate threat facing our allies and the entire region: the dangerous, destabilizing behavior of North Korea.

In terms of the China-US relationship, US strategy indicates that cooperation and competition will both continue, though US policy has consistently been “to improve the quality and quantity of our cooperation; promote healthy economic competition; and manage disagreements to ensure that U.S. interests are protected and that universal rights and values are respected…. the United States welcomes the rise of a peaceful, prosperous China.” In order to achieve these goals, communication channels must be improved and practical cooperation on important issues demonstrated.93

To that end, a deeper U.S.-China military-to-military dialogue is central to addressing many of the sources of insecurity and potential competition between us. This remains a necessary component of the new model we seek, and it is a critical deficiency in our current relationship. The Chinese military is modernizing its capabilities and expanding its presence in Asia, drawing our forces into closer contact and raising the risk that an accident or miscalculation could destabilize the broader relationship. We need open and reliable channels to address perceptions and tensions about our respective activities in the short-term and about our long-term presence and posture in the Western Pacific.

It is also critical that we strengthen the underpinnings of our extensive economic relationship, which is marked by increasing interdependence. We have been clear with Beijing that as China takes a seat at a growing number of international tables, it needs to assume responsibilities commensurate with its economic clout and national capabilities. As we engage with China’s new leaders, the United States will encourage them to move forward with the reforms outlined in the country’s twelfth Five Year Plan, including efforts to shift the country away from its dependence on exports toward a more balanced and sustainable consumer-oriented growth model. The United States will urge a further opening of the Chinese market and a leveling of the playing field. And the United States will seek to work together with China to promote international financial stability through the G-20 and to address global challenges such as climate change and energy security.

Another such issue is cyber-security, which has become a growing challenge to our economic relationship as well. Economies as large as the United States and China have a tremendous shared stake in ensuring that the Internet remains open, interoperable, secure, reliable, and stable. Both countries face risks when it comes to protecting personal data and communications, financial transactions, critical infrastructure, or the intellectual property and trade secrets that are so vital to innovation and economic growth.

It is in this last category that our concerns have moved to the forefront of our agenda. I am not talking about ordinary cybercrime or hacking. And, this is not solely a national security concern or a concern of the U.S. government. Increasingly, U.S. businesses are speaking out about their serious concerns about sophisticated, targeted theft of confidential business information and proprietary technologies through cyber intrusions emanating from China on an unprecedented scale. The international community cannot afford to tolerate such activity from any country. As the President said in the State of the Union, we will take action to protect our economy against cyber-threats.

From the President on down, this has become a key point of concern and discussion with China at all levels of our governments. And it will continue to be. The United States will do all it must to protect our national networks, critical infrastructure, and our valuable public and private sector property. But, specifically with respect to the issue of cyber-enabled theft, we seek three things from the Chinese side. First, we need a recognition of the urgency and scope of this problem and the risk it poses—to international trade, to the reputation of Chinese industry and to our overall relations. Second, Beijing

93 Ibid.
should take serious steps to investigate and put a stop to these activities. Finally, we need China to engage with us in a constructive direct dialogue to establish acceptable norms of behavior in cyberspace.

**The Military Aspects of the Rebalance**

The US has not announced its overall plans for the rebalance of its forces that affect the Korean balance, Northeast Asia, and Pacific. Even if it had, it is unclear that such plans would be fully funded, or would be stable in the face of the changes taking place in DPRK nuclear capabilities and every aspect of Chinese military forces.

The US Joint Chiefs of Staff (JCS) have, however, issued a number of documents explaining the changes being made in strategy and force posture in Asia since this became part of the new defense strategy issued by the DoD in late 2011. Deputy Secretary of Defense Ashton Carter described the rebalance to Asia in detail in a speech on April 8, 2013. He discussed that the rebalance involves an investment of time, energy, and intellectual capital, in the Asia-Pacific region, across the US government, and that “we’re not only rebalancing to the Asia Pacific, but also within the Asia Pacific, in recognition of Southeast Asia and South Asia to the region as a whole.” And, while the “rebalance to Asia is mostly a political and economic concept, not a military one,” there are some significant military components.\(^94\) This tracks with JCS Chairman General Martin Dempsey’s April 2013 remark that the US would now carry out an Asia-Pacific policy of “three mores:” more interest, more engagement, and more quality assets.\(^95\)

Militarily, the rebalance to Asia is composed of five pillars: force structure decisions, presence and posture, investments (in technology, weapons systems, and human capital), innovations in operational plans and tactics, and strengthening alliances and partnerships in the region. Particularly in terms of the first pillar, Carter noted that, as the US draws down from Afghanistan, the military will be releasing significant capabilities that will be redeployed to the Asia-Pacific.\(^96\)

For the Navy, naval surface combatants and eventually carriers, as well as naval intelligence, surveillance, and reconnaissance, and processing, exploitation and dissemination capabilities, will be moved to the Asia-Pacific region. Already, EP-3 signals reconnaissance aircraft have been moved from CENTCOM to PACOM, and soon CENTCOM will be releasing Firescout UAVs and several electronic surveillance aircraft from Afghanistan. P-3s will also be returned to PACOM. In addition, the Navy is adding a fourth forward-deployed naval force SSN to Guam.\(^97\)

Overall, the Navy is shifting its posture to the Asia-Pacific, with up to 60% of its naval assets assigned to the region by 2020. This shift will take place in three main ways. First, the US will move six of the 10 destroyers based in Spain for ballistic missile defense to the Asia-Pacific region, leaving four to protect the US’ European allies. Secondly, destroyers and

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\(^97\) Ibid.
amphibious ships that have conducted security cooperation and humanitarian assistance missions in South America, Africa and Europe will be replaced by new joint high-speed vessels and littoral combat ships under construction – freeing destroyers and amphibious ships to deploy to the Asia-Pacific. Thirdly, the Navy will generate more forward presence, such as the joint high-speed vessel littoral combat ships and mobile landing platforms that use rotating military or civilian crews.\(^98\)

The Air Force will also shift capacity from Afghanistan to the Asia-Pacific, including ISR assets like the MQ-9 Reaper, U-2, and Global Hawk. The Air Force will also allocate space, cyber, tactical aircraft, and bomber forces to the region – 60% of its overseas-based processes are already stationed there, including 60% of combat F-22s. More B-1s will be available from Afghanistan, augmenting the B-52s already on continuous rotational presence in the Asia-Pacific.\(^99\)

The Army has approximately 91,000 soldiers and civilians assigned to the Asia-Pacific, including the forward presence of eight active component Brigade Combat Teams, 12 batteries of Patriots, and many theater-enabling units. After a decade of using PACOM assets in CENTCOM, PACOM will regain control of the other 60,000 soldiers assigned to the Asia-Pacific. Army units assigned to PACOM will focus on PACOM-specific mission profiles – like bilateral training exercises. The Army is preferentially protecting the readiness and modernization of soldiers in the ROK. The Marines also have roughly 18,000 forward-deployed in the region, and is increasing infantry battalions (rotational); an EA-6 Prowler squadron and more heavy lift and attack helicopters will be added to the region as well.\(^100\)

Across the region, the US military will be modernizing and enhancing its forward presence, including by adding aviation capability in Japan, upgrading missile defense posture, and working to revise US-Japanese defense guidelines to meet the challenges of the 21st century. The US and Japan have an achieved important milestone in the effort to realign the Marine Corps presence in Okinawa, which helps build an operationally resilient and sustainable posture in Northeast Asia.\(^101\)

### Shaping an Integrated Response

In his April 2013 speech, Deputy Secretary of Defense Carter emphasized the need to have an internationally-integrated response in dealing with the DPRK. And, he stressed that the rebalance is “not aimed at anyone – no individual country or group of countries.” In closing, Carter argued that the US’ rebalance to Asia was sustainable and would continue for a variety of reasons.\(^102\)

The rebalance will continue, and in fact gain momentum for two reasons: First, U.S. interests in the region are enduring, and so also will be our political and economic presence. This presence is accompanied by values of democracy, freedom, human rights, civilian control of the military, and respect for the sovereignty of nations that America has long stood for, and that human beings welcome.

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98 Ibid.
99 Ibid.
100 Ibid.
101 Ibid.
102 Ibid.
and I think relate to. So our interest in staying a pivotal force in the region will, we believe, be reciprocated.

Second, we have the resources to accomplish the rebalance. Some who wish to question the rebalance to the Asia-Pacific theater point to the current, seemingly endless debate in Washington about the U.S. budget, and wonder whether all this can be accomplished.

I’m interested to hear this because I’m more accustomed to listening to people question why the U.S. spends more on defense than the next 16 largest militaries in the world combined. This statistic is true and won’t change much in coming years. It’s also worth noting that most of the rest of the money that the world spends on defense is spent by countries that are allies and friends of the United States. These levels of defense spending are a reflection of the amount of responsibility that the U.S. and its friends and allies share for providing peace and security.

You may also be wondering whether the sequester will change these facts in a significant way. It won’t, and here’s why: Sequester was never intended to be implemented and is very disruptive because it gives us very little managerial flexibility in where we take budget adjustments this year. But wherever we have flexibility, we are favoring and protecting the rebalance. We continue to review and revise our plans for executing the FY13 budget in the face of sequester, increased costs of the Afghanistan campaign, and the fact that we only recently got an appropriation. Back in January I gave direction about what is exempt from or protected from sequestration, and the Services and components are applying that guidance. It explicitly directs the protection, wherever possible, of activities related to the rebalance this year.

The main point is that the arbitrary cuts that sequester imposes under the Budget Control Act are temporary, lasting through October of this year. In other words, sequester is an artificial, self-inflicted political problem, not a structural problem. Hopefully, the turmoil and gridlock will end and the U.S. can get back to normal budgeting.

When it does, Congress and the President will decide what DoD’s budget will be in the years beyond fiscal year 2013. The President has been clear about holding defense spending steady in the long run or reducing it by a few percentage points, including especially by improving efficiency of defense spending. If the drastic cuts that began with sequester this year were extended for a decade, U.S. defense spending would be cut somewhere around ten percentage points. This is the range under debate today. None of these political scenarios changes the math I described earlier: the U.S. defense rebalance to the Asia-Pacific is not in jeopardy.

That said, there is obviously considerable uncertainty about where an overall budget agreement, which is needed to end the current turmoil, will lead. And what is clear to us in DoD is that we need to think and act ahead of this uncertainty, and not in reaction to it. Moreover, it’s not the budget but strategic necessity that requires us to examine and reexamine our defense in a fundamental way: strategically, we are turning a corner after ten years of war, and we need to master the security challenges that will define the future. And, as you know I believe deeply, we need to improve the way we spend the taxpayer’s defense dollar, always striving for what I’ve called Better Buying Power....

Finally, it is important to stress that the strength of our rebalance is not measured only by comparing defense budget levels. The end of the war in Iraq and the reduction in Afghanistan allow us to shift the great weight of effort from these wars to our stabilizing presence in the Asia-Pacific region. Next, this weight has accumulated over decades of U.S. defense spending, so you have to consider a nation’s defense investments over time. It takes decades to build a military capability of the kind the U.S. has.

And probably most importantly, another feature of the U.S. military today is that its operational experience is unrivaled, including such attributes as the ability to work constructively with partners, fuse intelligence and operations, to operate jointly among services, and to support forces with logistics – all of these skills honed in Iraq and Afghanistan. For these reasons – enduring values and increasing military power – the United States can and will succeed in rebalancing to the Asia-Pacific in the years to come.
Focusing on the Koreas

US military strategy towards the Koreas broadly reflects these policies, although the US has not yet defined what “rebalancing” means in any mid or long-term detail, and its strategy will have to adapt to both future UJS resources and DPRK and Chinese actions. In a 2010 report, US Forces Korea (USFK)remarked, “the Korean peninsula is the strategic lynchpin of Northeast Asia and is vital to America’s position in the region, as well as America’s security and prosperity.” The ROK-US alliance helps ensure regional stability and USFK is committed to strengthening the alliance, especially in terms of the Strategic Alliance 2015 plan.103

- Refining and improving our combined ROK-U.S. defense plans.
- Defining and developing new organizational structures required for the ROK to lead the war effort.
- Implementing more realistic exercises based on the North Korea of today and the future.
- Preparing for the transfer of wartime operational control to the ROK Joint Chiefs of Staff in December 2015.
- Consolidating U.S. military units within two enduring hubs as part of the Yongsan Relocation Program and Land Partnership Program.

The US national military strategy developed in 2011, and announced at the start of 2012, described the US strategy for Korea and Northeast Asia – and for shaping the Korean military balance – as follows:104

Though still underpinned by the US bilateral alliance system, Asia’s security architecture is becoming a more complex mix of formal and informal multilateral relationships and expanded bilateral security ties among states.

We expect to maintain a strong military presence in Northeast Asia for decades. We will work with the Japan Self-Defense Forces to improve their out-of-area operational capabilities as the nation adjusts its defense posture. The Republic of Korea has proven a steadfast ally supporting US security efforts around the world; our commitment to the Republic of Korea is unwavering as North Korea remains a provocative threat to regional stability. We will retain operational control over combined forces on the Korean peninsula through 2015 and provide assistance to South Korea as it expands its security responsibilities. We will continue to work with Japan and South Korea to help improve security ties between them, enhance military cooperation, and preserve regional stability.

US interests on the Korean Peninsula include denuclearization, preventing proliferation of nuclear and missile technology, the threat of DPRK nuclear weapons leading others – such as the ROK or Japan – to develop their own nuclear deterrent, deterring a DPRK attack against US allies, a reunified Korea under ROK control, and improving DPRK citizens’ quality of

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life.  

For many years, the US has worked to convince the DPRK to give up its nuclear weapons and ballistic missiles, with little success. According to a US analysis,

Since Ronald Reagan’s time in office, successive U.S. administrations have put forward the idea that if insecurity and relative deprivation drive North Korea’s obsession with nuclear weapons, then surely the answer is for the United States and neighboring countries to guarantee a peaceful peninsula, and provide money, food, and political recognition to the regime. This has been the basis of the agreements reached with North Korea in 1994 under Bill Clinton and in 2005 under George W. Bush.

From 1989 to 2010, U.S. presidents, their national security advisers, and secretaries of state have given written and verbal assurances of non-hostile intent and a willingness to engage to the North over 33 times. Pyongyang acknowledged, rejected, and ignored these assurances, all the while continuing with their nuclear and weapons programs. In fact, the record of U.S. engagement is pretty impressive. In addition to massive amounts of food, energy, and other economic assistance given over a period from 1994 to 2008, two former U.S. presidents (Clinton and Carter) have visited with the North Korean leadership to express U.S. good intentions, as have (in less formal contexts) the New York Philharmonic, Google Chairman Eric Schmidt, and of course Dennis Rodman.

Presidents Clinton, Bush, and Obama have each written personal letters directly to the North Korean leader about a willingness to make a deal. And when North Koreans have visited the United States, they have been hosted by everyone from Gov. Bill Richardson to Henry Kissinger, and been given the company of luminaries such as Paul Volker, Winston Lord, and Bob Hormats. Clearly, this charm offensive hasn’t worked. Signing a peace treaty in advance of denuclearization would recognize and legitimize Pyongyang’s nuclear status, leaving it little incentive to shed those weapons. North Koreans have said to me that a peace treaty is just a piece of paper; why would they give up their cherished nuclear program for that?

An Uncertain Degree of Strategic Patience

The Obama Administration has pursued a policy of “strategic patience” towards the DPRK, waiting for verifiable changes before making any large concessions. The US has repeatedly called for the DPRK to take concrete, irreversible denuclearization steps along the lines of the 2005 Six Party Talks Joint Statement, comply with international law (including UN Security Council Resolutions), stop provocative moves, and improve relations with its neighbors.

In particular, the US’ current policy towards the DPRK is based on close and expanded cooperation with the ROK and Japan as well as close coordination with China, a refusal to reward bad DPRK behavior such as by yielding to threats or accepting empty promises, reaffirming the US’ commitment to the defense of both its homeland and its allies, and encouraging the DPRK to choose a better path – if it is willing to negotiate and implement commitments in good faith, the US is willing to provide both food and economic development assistance. The Obama Administration has stated on many occasions that it will

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not accept the DPRK as a nuclear state or stand by while the DPRK seeks to develop nuclear-armed missiles that could threaten the US.  

While the Obama Administration has conveyed the potential for dialogue and assistance to the DPRK, overall Obama’s policies have actually resembled those of the Bush Administration: “demanding irreversible denuclearization; applying financial sanctions; carrying out military exercises; and demanding a North Korean return to, and reaffirmation of, the denuclearization commitments of the Six-Party Talks” are among the primary similarities.

At the same time, The US now operates in a far more constrained budget atmosphere. These issues are discussed in more detail in Chapters II and III, and Chapter IX. There is no way to predict their impact as yet, but the International Institute for Strategic Studies (IISS) is scarcely the only outside voice that argues that the US “rebalance towards Asia” has not yet been followed by many actions in terms of military capabilities shifting to the Asia-Pacific theater and that resources may drive the US as much as strategy:

For all the talk of the military rebalancing to Asia, the steps taken towards this in the FY2013 budget, issued on 13 February 2012, were modest. Troop numbers in Europe were slated to drop by 10,000 to about 70,000, while marines were to be deployed to Australia and Littoral Combat Ships to Singapore. In the Middle East, the number of troops deployed will be significantly below their peak level, but substantial assets remain in Kuwait and other locations such as Bahrain (US Fifth Fleet and NAVCENT HQ) and Qatar (home to a Combined Air Operations Center and a USAF Central Command forward-deployed headquarters). Since its themes had been foreshadowed in previous announcements, the main interest in the budget was in the detail of the many cuts proposed for the military and its equipment programmes. But the budget’s publication was the beginning rather than the end of the process: it shifted battles about specific reductions beyond the Pentagon hierarchy and into the political arena.

**The Chinese Perspective on US Strategy**

At the same time, Chinese views of the US approach to Asia can see the US in far more extreme – and different – terms. China does not issue official critiques of US military strategy and plans like those the US DoD issues on Chinese strategy and forces. At the same time, it does tightly control what its press is allowed to print, and the following quotes show that Chinese strategic patience with the US has limits that are important both in considering how China may view US policy towards the Koreas and Northeast Asia and as an introduction to the US analyses of China discussed in the following section:

- **Liaowang**, August 23, 2012: The strategic objective of the United States “is to ensure its leading status in the entire Asia pacific region, build a trans-Pacific order centered on the United States, and continue its Pacific dominance. And the key link in achieving this objective is to dismantle the East Asian regional corporation framework which has already taken shape….The key link here is to sow discord

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111 All quotes translated by World News Connection, NTIS, US Department of Commerce.
in the good neighborly, friendly, and cooperative relations between China and countries on its periphery.”

- *Renmin Ribao*, January 30, 2013: The United States “is boosting old military alliances, damaging the political foundation of East Asian peace, sharpening the territorial sovereignty contradictions between China and the countries around it, building a united front aimed at China, forcibly pushing the Trans-Pacific Strategic Economic Partnership, and disrupting the self-determined cooperation and regional integration process between the East Asian countries... in order for China to achieve strategic balance in the Asia Pacific region, it must greatly increase its military presence... [China] should give full play to the strategic role of Russia and DPRK.”

- *Renmin Ribao*, February 28, 2013: “America's overall goal is to secure the total control of the Eurasian Continent, and the purpose of clearing the perimeter is to pave the way for ultimately subduing China and Russia... this no longer is simply containment aimed at impeding expansion; rather, it is a way of choking aimed at controlling or even suffocating the other side... judging by the historical experience of the Cold War between the United States and the Soviet Union, containment will surely be accompanied by murder.”

- *Jiefangjun Bao* (a military journal), January 22, 2013: After a long critique of the United States, the article ended as follows: “We [China] should cast away that pacifism and romanticism, which will easily evolve into capitulationism under pressure and threat. We should make full struggle preparation and war preparation. Only by doing so can China maintain a longer period of peace and development.”

**China**

China does not formally allocate military forces for the defense of the DPRK and does not forward-deploy military forces in that country. It did, however, save the DPRK from total defeat in the Korean War, and it still sees the DPRK as a critical buffer ensuring that ROK and US forces remain away from its borders. Furthermore, no one can dismiss the possibility that Chinese forces might intervene if the DPRK was again threatened with defeat or any form of regime collapse that threatened to result in a US presence in the DPRK or deployment of ROK forces near the Chinese border.

China believes that maintaining the status quo on the Korean peninsula is beneficial to its national security and economic development. While China has voiced regret and condemnation over the DPRK’s nuclear tests and missile launches, it resists any UN Security Council resolutions that might destabilize the DPRK politically. China also sees an improvement in DPRK-ROK relations as the first step towards resolving issues on the Korean peninsula and believes that the DPRK and the US should follow the Leap Day Agreement – discussed later in this report – resolving their disputes through compromise and dialogue.

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At the same time, the balance in the Koreas and Northeast Asia is driven by the much broader changes taking place in the strategies and force postures of the United State and China. China has steadily improved its military capabilities for well over a decade and is increasingly projecting power throughout the East Asian region. These trends began along with China’s emergence as a major economic power, and have increasingly led to tension with the US – as well as a number of China’s neighbors.

In terms of the Koreas, China maintains, the “Sino-North Korean Mutual Aid and Cooperation Friendship Treaty” that it signed in 1961. The two countries have traditionally been described as “blood brothers” or “closer than lips and teeth,” although the PRC-DPRK relationship has been rocky over the past 60 years, and China has sought to moderate the DPRK’s behavior and move it towards economic reform based on the Chinese model. China does not formally allocate military forces for the defense of the DPRK and does not forward deploy military forces in that country. It also has recently stepped up its efforts persuade the DPRK to restrain its aggressiveness and nuclear and missiles efforts. China did, however, save the DPRK from total defeat in the Korean War, and it sees the DPRK as a critical buffer that ensure ROK and US forces remain away from its borders, as well as a counterbalance to Japan. No one can dismiss the possibility that Chinese forces might intervene if the DPRK again was threatened with defeat, or if any form of regime collapse threatened to create a US presence in the DPRK or deploy ROK forces near the Chinese border.

More broadly, US and Chinese and strategy regarding the Koreas cannot be separated from their broader strategic interests in Northeast Asia, in Asia as a whole and the Pacific. Whether the US chooses to formally state it or not, its “rebalancing” of its force posture and military modernization efforts in Asia is driven in large part by China’s military modernization and growing power projection capabilities. China in turn is doing far more than creating a “blue water” navy and modernizing key elements of its forces. Its strategy involves the creation of new joint warfare, power projection, and sea-air-missile-nuclear capabilities that affect any confrontation or conflict in the Koreas and northeast Asia at least as much as any struggle that affects Taiwan of US base and forces deeper in the Pacific up to the “second island chain.”

**Chinese Policies and White Papers**

The broader context for China’s treatment of the Koreas is set by its overall strategic priorities. Many of these were formalized in 2004, and a DoD analysis describes Chinese thinking at the time as follows: 117

> In 2004, former President Hu Jintao articulated a mission statement for the armed forces titled, the “Historic Missions of the Armed Forces in the New Period of the New Century.” These “new historic missions” focus primarily on adjustments in the leadership’s assessment of the international security environment and the expanding definition of national security. These missions were further codified in a 2007 amendment to the CCP Constitution. The missions, as currently defined, include:

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• Provide an important guarantee of strength for the party to consolidate its ruling position.
• Provide a strong security guarantee for safeguarding the period of strategic opportunity for national development.
• Provide a powerful strategic support for safeguarding national interests.
• Play an important role in safeguarding world peace and promoting common development.

According to official writings, the driving factors behind the articulation of these missions were: changes in China’s security situation, challenges and priorities regarding China’s national development, and a desire to realign the tasks of the PLA with the CCP’s objectives. Politburo member and CMC Vice Chairman Xu Caihou in 2005 asserted “the historic missions embody the new requirements imposed on the military by the Party’s historic tasks, accommodate new changes in our national development strategy, and conform to the new trends in global military development.” While these missions are not expected to replace the defense of China’s sovereignty in importance, implications for PLA modernization may be increased preparation for and participation in international peacekeeping and disaster relief operations, interaction with the international community that allows the PLA more opportunities to learn from other militaries, and greater efforts to improve PLA logistics and transport capabilities.

Over the past 10 years, China’s Defense White Papers have increased in transparency, describing in more detail the larger Chinese national security goals and strategy while also looking at force structure and missions. One CRS report summarized, “The overall purpose of the Defense White Paper seems to be to counter what Beijing calls the ‘China Threat Theory’ and to affirm that the PRC remains a peaceful power pursuing ‘Peaceful Development’ with a military that is ‘defensive in nature.’”

The 2010 White Paper

The 2010 White Paper emphasized China’s peaceful intentions, but did not include many specific details about military capabilities, especially the PLA’s future force and how it would be used to advance or defend China’s national interests.

China has now stood at a new historical point, and its future and destiny has never been more closely connected with those of the international community. In the face of shared opportunities and common challenges, China maintains its commitment to the new security concepts of mutual trust, mutual benefit, equality and coordination. By connecting the fundamental interests of the Chinese people with the common interests of other peoples around the globe, connecting China's development with that of the world, and connecting China's security with world peace, China strives to build, through its peaceful development, a harmonious world of lasting peace and common prosperity.

Looking into the second decade of the 21st century, China will continue to take advantage of this important period of strategic opportunities for national development, apply the Scientific Outlook on Development in depth, persevere on the path of peaceful development, pursue an independent foreign policy of peace and a national defense policy that is defensive in nature, map out both economic development and national defense in a unified manner and, in the process of building a society that is moderately affluent on a general basis, realize the unified goal of building a prosperous country and a strong military.

The 2010 White Paper differed from its predecessors in that it expressed confidence that China’s position relative to other world powers had significantly improved, highlighted the PLA’s growing focus on military operations other than war, and gave only incremental new information regarding the PLA’s doctrine, capabilities, and structure.\textsuperscript{120} As described in the paper, China sees the international security environment as increasingly complicated:\textsuperscript{121}

China is meanwhile confronted by more diverse and complex security challenges. China has vast territories and territorial seas. It is in a critical phase of the building of a moderately prosperous society in an all-round way. Therefore, it faces heavy demands in safeguarding national security.…. Pressure builds up in preserving China’s territorial integrity and maritime rights and interests. Non-traditional security concerns, such as existing terrorism threats, energy, resources, finance, information and natural disasters, are on the rise. Suspicion about China, interference and countering moves against China from the outside are on the increase.

…. In the face of the complex security environment, China will hold high the banner of peace, development and cooperation, adhere to the concepts of overall security, cooperative security and common security, advocate its new security concept based on mutual trust, mutual benefit, equality and cooperation, safeguard political, economic, military, social and information security in an all-round way, and endeavor to foster, together with other countries, an international security environment of peace, stability, equality, mutual trust, cooperation and win-win.

At the same time, the White Paper remarked that “the international balance of power is changing… Prospects for world multi-polarization are becoming clearer. The prevailing trend is towards reform in international systems…. Profound realignments have taken place in international relations.”\textsuperscript{122}

China’s defense goals and interests were stated as “safeguarding sovereignty, security, and interests of national development,” “maintaining social stability,” “accelerating military modernization,” and “maintaining world peace and stability.” In addition, the paper appeared to legitimize greater power projection both at home and abroad. The seven tasks under the “Deployment of the Armed Forces” section are:\textsuperscript{123}

\begin{enumerate}
\item Suffrage the borders, coastal and territorial air security
\item Maintain social stability
\item Participate in National Construction, Emergency Rescue, and Disaster Relief
\item Participate in UN Peacekeeping Operations
\item Conduct Escort operations in the Gulf of Aden and Waters off Somalia
\item Hold Military Exercises and Training with Other Countries
\item Participate in International Disaster Relief Operations
\end{enumerate}

Emphasis was on increased levels of joint operations, which would allow greater effectiveness in the use of missiles, counter-space capabilities, and naval, air, and


\textsuperscript{122} Ibid., p. 3.

amphibious-airborne strikes. Joint operations in these areas would be necessary for any anti-access/anti-denial capacity under development. The document also emphasized the importance of informationization to the Chinese military:124

In line with its strategic objective of building informationized armed forces and winning informationized wars, and with overall planning and phased implementation, the PLA is trying to break through major bottlenecks which hinder the building and improvement of combat effectiveness of systems. The fighting capabilities of the armed forces in conditions of informationization have been significantly raised.

A step-change development has been achieved in information infrastructure. The total length of the national defense optical fiber communication network has increased by a large margin, forming a new generation information transmission network with optical fiber communication as the mainstay and satellite and short-wave communications as assistance.

Significant progress has been made in building information systems for reconnaissance and intelligence, command and control, and battlefield environment awareness. Information systems have been widely applied in logistics and equipment support. A preliminary level has been achieved in interoperability among command and control systems, combat forces, and support systems, making order transmission, intelligence distribution, command and guidance more efficient and rapid.

Strategic planning, leadership and management of informationization have been strengthened, and relevant laws, regulations, standards, policies and systems further improved. A range of measures, such as assembly training and long-distance education, have been taken to disseminate knowledge on information and skills in applying it. Notable achievements have been made in the training of commanding officers for joint operations, management personnel for informationization, personnel specialized in information technology, and personnel for the operation and maintenance of new equipment. The complement of new-mode and high-caliber military personnel who can meet the needs of informationization has been steadily enlarged.

The 2010 White Paper also reiterated the standard Chinese non-first use policy and efforts for non-proliferation, supporting “complete prohibition and thorough destruction of nuclear weapons.” The document argued that,125

… [C]ountries possessing the largest nuclear arsenals bear special and primary responsibility for nuclear disarmament. They should further drastically reduce their nuclear arsenals in a verifiable, irreversible and legally-binding manner, so as to create the necessary conditions for the complete elimination of nuclear weapons. When conditions are appropriate, other nuclear-weapon states should also join in multilateral negotiations on nuclear disarmament. To attain the ultimate goal of complete and thorough nuclear disarmament, the international community should develop, at an appropriate time, a viable, long-term plan with different phases, including the conclusion of a convention on the complete prohibition of nuclear weapons.

China holds that, before the complete prohibition and thorough destruction of nuclear weapons, all nuclear-weapon states should abandon any nuclear deterrence policy based on first use of nuclear weapons, make an unequivocal commitment that under no circumstances will they use or threaten to use nuclear weapons against non-nuclear-weapon states or nuclear-weapon-free zones, and negotiate an international legal instrument in this regard. In the meantime, nuclear-weapon states should negotiate and conclude a treaty on no-first-use of nuclear weapons against each other.

125 Ibid., p. 34-36.
.... China has never evaded its obligations in nuclear disarmament and pursues an open, transparent and responsible nuclear policy. It has adhered to the policy of no-first-use of nuclear weapons at any time and in any circumstances, and made the unequivocal commitment that under no circumstances will it use or threaten to use nuclear weapons against non-nuclear-weapon states or nuclear-weapon-free zones. China has never deployed nuclear weapons in foreign territory and has always exercised the utmost restraint in the development of nuclear weapons, and has never participated in any form of nuclear arms race, nor will it ever do so. It will limit its nuclear capabilities to the minimum level required for national security.

.... China maintains that the global missile defense program will be detrimental to international strategic balance and stability, will undermine international and regional security, and will have a negative impact on the process of nuclear disarmament. China holds that no state should deploy overseas missile defense systems that have strategic missile defense capabilities or potential, or engage in any such international collaboration.

... China firmly opposes the proliferation of weapons of mass destruction (WMD) and their means of delivery, and consistently deals with non-proliferation issues in a highly responsible manner. China maintains that, in order to prevent proliferation at source, efforts should be made to foster a global and regional security environment featuring mutual trust and cooperation, and the root causes of WMD proliferation should be eliminated. It holds that non-proliferation issues should be resolved through political and diplomatic means. It holds that the authority, effectiveness and universality of the international non-proliferation regime should be upheld and enhanced. The international community should ensure fairness and prevent discrimination in international non-proliferation efforts, strike a balance between non-proliferation and the peaceful use of science and technology, and abandon double standards. China has joined all international treaties and international organizations in the field of non-proliferation, and supports the role played by the United Nations in this regard, and has conscientiously implemented any relevant resolutions of the UN Security Council.

At the same time, the 2010 White Paper mentioned North Korea and denuclearization several times, though without any direct pressure on North Korea regarding its uranium enrichment program, missile and nuclear tests, or 2010 attacks on South Korea. The 2006 White Paper did mention the DPRK’s nuclear and missile tests. The 2010 White paper referenced strengthened military relations and friendly exchanges with both the DPRK and ROK militaries:126

China advocates resolving the nuclear issue in the Korean Peninsula peacefully through dialogues and consultations, endeavoring to balance common concerns through holding six-party talks in order to realize the denuclearization on the Korean Peninsula and maintain peace and stability of the Korean Peninsula and the Northeast Asia. China, always considering the whole situation in the long run, painstakingly urges related countries to have more contacts and dialogues in order to create conditions for resuming six-party talks as early as possible.

The 2013 White Paper

China’s leaders stated that the country was undergoing a period of strategic opportunity through 2020 at the 18th National Congress of the Communist Party of China in November 2012, and they publically focused on domestic development in the context of a relatively peaceful international order. In general, it seemed as if Xi Jinping was concentrating more on

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126 Ibid., p. 36.
great power diplomacy than his predecessor, Hu Jintao.\textsuperscript{127} In practice, however, China was concentrating on both civil and military development.

China’s new leader, Xi Jinping, quickly began establishing himself as a strong military leader, going on high-profile visits to Navy, Air Force, Army, and Missile Command facilities during his first 100 days in office. He has also launched a campaign to enhance the armed forces’ ability to “fight and win wars,” while taking direct control of an interagency body that has overseen the escalation over islands claimed by both Japan and China.\textsuperscript{128}

China released a new 2013 Defense White Paper – \textit{The Diversified Employment of China’s Armed Forces} – on April 16, 2013. This white paper is different from its predecessors in several key ways. One is that the White Paper revealed the structure of each military branch – in terms of numbers of troops and officers as well as the organization of each branch, all of which will be discussed further in Chapter 4. Moreover, the Air Force, Navy, and domestic R&D investment are all emphasized in terms of capabilities and operational reach expansions.

The 2013 White Paper started by discussing China’s view of itself in the international arena and China’s place in it, emphasizing again the PRC’s commitment to peaceful development:\textsuperscript{129}

\begin{quote}
In today's world, peace and development are facing new opportunities and challenges. It is a historic mission entrusted by the era to people of all nations to firmly grasp the opportunities, jointly meet the challenges, cooperatively maintain security and collectively achieve development.

It is China's unshakable national commitment and strategic choice to take the road of peaceful development. China unswervingly pursues an independent foreign policy of peace and a national defense policy that is defensive in nature. China opposes any form of hegemonism or power politics, and does not interfere in the internal affairs of other countries. China will never seek hegemony or behave in a hegemonic manner, nor will it engage in military expansion. China advocates a new security concept featuring mutual trust, mutual benefit, equality and coordination, and pursues comprehensive security, common security and cooperative security.

It is a strategic task of China's modernization drive as well as a strong guarantee for China's peaceful development to build a strong national defense and powerful armed forces which are commensurate with China's international standing and meet the needs of its security and development interests. China's armed forces act to meet the new requirements of China's national development and security strategies, follow the theoretical guidance of the Scientific Outlook on Development, speed up the transformation of the generating mode of combat effectiveness, build a system of modern military forces with Chinese characteristics, enhance military strategic guidance and diversify the ways of employing armed forces as the times require. China's armed forces provide a security guarantee and strategic support for national development, and make due contributions to the maintenance of world peace and regional stability.
\end{quote}

The Paper also implicitly criticized the US’s increase presence in the Asia-Pacific as well as highlighting the increasing complication of international relations:\textsuperscript{130}

\begin{flushright}
\textsuperscript{127} Christopher Johnson, discussion at “Interpreting Xi Jinping’s First Trip Abroad: Glimpses of an Emerging Diplomatic Strategy?” CSIS, April 24, 2013.
\textsuperscript{129} Information Office of the State Council, \textit{The Diversified Employment of China’s Armed Forces}, The People’s Republic of China, April 2013, Preface.
\end{flushright}
There are signs of increasing hegemonism, power politics and neo-interventionism. Local turmoils occur frequently. Hot-spot issues keep cropping up. Traditional and non-traditional security challenges interweave and interact. Competition is intensifying in the international military field. International security issues are growing noticeably more abrupt, interrelated and comprehensive. The Asia-Pacific region has become an increasingly significant stage for world economic development and strategic interaction between major powers. The US is adjusting its Asia-Pacific security strategy, and the regional landscape is undergoing profound changes.

…. China still faces multiple and complicated security threats and challenges. The issues of subsistence and development security and the traditional and non-traditional threats to security are interwoven. Therefore, China has an arduous task to safeguard its national unification, territorial integrity and development interests. Some country has strengthened its Asia-Pacific military alliances, expanded its military presence in the region, and frequently makes the situation there tenser. On the issues concerning China's territorial sovereignty and maritime rights and interests, some neighboring countries are taking actions that complicate or exacerbate the situation…. Major powers are vigorously developing new and more sophisticated military technologies so as to ensure that they can maintain strategic superiorities in international competition in such areas as outer space and cyber space.

In such a situation, the PLA plans to “broaden their visions of national security strategy and military strategy, aim at winning local wars under the conditions of informationization, make active planning for the use of armed forces in peacetime, deal effectively with various security threats and accomplish diversified military tasks.”\(^\text{131}\) In particular, the PLA will adhere to the following fundamental principles and policies:\(^\text{132}\)

- Safeguarding national sovereignty, security and territorial integrity, and supporting the country's peaceful development.

- Aiming to win local wars under the conditions of informationization and expanding and intensifying military preparedness.

- Formulating the concept of comprehensive security and effectively conducting military operations other than war (MOOTW).

- Deepening security cooperation and fulfilling international obligations.

- Acting in accordance with laws, policies and disciplines.

The document also discussed the work of the PLA in supporting national economic and social development – such as building highways, railways, airports, water conservancy facilities, hydroelectric units, viaduct bridges – as well as work to preserve the environment, like controlling desertification, preserving wetlands, and afforesting barren hills. In these missions, the PLA and People’s Armed Police Force (PAPF) have, since 2011, contributed more than 15 million work days, been involved in more than 350 province-level construction projects, and planted more than 14 million trees.

The PLA and PAPF have also set up centers and undertaken projects to reduce poverty, solve domestic water and irrigation problems, and support cultural, educational, technological, scientific, and health undertakings. The two services have in addition undertaken disaster relief and emergency rescue operations – since 2011, the PLA and PAPF have rescued or

\(^{130}\) Ibid., Section I.

\(^{131}\) Ibid.

\(^{132}\) Ibid.
evacuated over 2.45 million people, transported 160,000 tons of goods to disaster areas, and participated in operations due to floods, earthquakes, fires, typhoons, and droughts. Over 370,000 servicepersons and 870,000 militiamen and reservists have been involved in this work.\textsuperscript{133}

The paper also stressed the PLA’s increasing ability to safeguard maritime rights and interests and protect overseas interests, which have become an integral component of China’s national interests. Security issues are increasingly prominent, involving overseas energy and resources, strategic sea lines of communication (SLOCs), and Chinese nationals and legal persons overseas. Vessel protection at sea, evacuation of Chinese nationals overseas, and emergency rescue have become important ways and means for the PLA to safeguard national interests and fulfill China's international obligations.

In a final key departure from previous papers, for the first time since China developed nuclear weapons 50 years ago, this White Paper contained no statement about “no-first use” of nuclear weapons.\textsuperscript{135} The document acknowledged that China would use nuclear weapons in an attack, but did not rule out their use in other circumstances as well.\textsuperscript{136}

The PLASAF [PLA Second Artillery Force] keeps an appropriate level of readiness in peacetime. It pursues the principles of combining peacetime needs with wartime needs, maintaining vigilance all the time and being ready to fight. It has formed a complete system for combat readiness and set up an integrated, functional, agile and efficient operational duty system to ensure rapid and effective responses to war threats and emergencies. If China comes under a nuclear threat, the nuclear missile force will act upon the orders of the CMC, go into a higher level of readiness, and get ready for a nuclear counterattack to deter the enemy from using nuclear weapons against China. If China comes under a nuclear attack, the nuclear missile force of the PLASAF will use nuclear missiles to launch a resolute counterattack either independently or together with the nuclear forces of other services. The conventional missile force is able to shift instantly from peacetime to wartime readiness, and conduct conventional medium- and long-range precision strikes.

**Emerging Priorities in Chinese Strategy**

The US Department of Defense issue an update to its own White paper on Chinese strategy and military developments in May 2013 called the *Annual Report to Congress: Military and Security Developments Involving the People’s Republic of China 2013*. The Department of Defense Chinese strategy as becoming more competitive and as involving related shifts in its military capabilities that could China far more of a peer competitor to the US, and steadily alter the balance in Northeast Asia and in the Koreas unless the US is successful both in rebalancing its forces in Asia and in creating more effective partnerships with the ROK and Japan.

The US report described China’s changing strategy and related shifts in its force posture as follows:\textsuperscript{137}

\textsuperscript{133} Ibid., Section IV.
\textsuperscript{134} Ibid.
\textsuperscript{136} Information Office of the State Council, *The Diversified Employment of China’s Armed Forces*, The People’s Republic of China, April 2013, Section III.
\textsuperscript{137} Department of Defense, *Annual Report to Congress: Military and Security Developments*
China’s leaders characterize the first two decades of the 21st century as a “strategic window of opportunity.” They assess that during this period, both domestic and international conditions will be conducive to expanding China’s “comprehensive national power,” a term that encapsulates all elements of state power, including economic capacity, military might, and diplomacy. China’s leaders anticipate that a successful expansion of comprehensive national power will serve China’s strategic objectives, which include: perpetuating Chinese Communist Party (CCP) rule, sustaining economic growth and development, maintaining domestic political stability, defending national sovereignty and territorial integrity, and securing China’s status as a great power. (p.15)

China’s leaders routinely emphasize the goal of reaching critical economic and military benchmarks by 2020. These benchmarks include successfully restructuring the economy to maintain growth and increase the quality of living of China’s citizens to promote stability; making major progress in military modernization; and attaining the capability to fight and win potential regional conflicts, including those related to Taiwan, protection of sea lines of communication (SLOCs), defense of territorial claims in the South China Sea and East China Sea, and the defense of western borders. Statements by Chinese leaders indicate that, in their view, the development of a modern military is necessary for China to achieve greater power status. These statements also indicate that the Chinese leadership views a modern military as a critical deterrent to prevent actions by outside powers that could damage Chinese interests, or to allow China to defend itself against such actions should deterrence fail.

…China regards stable relations with its neighbors and the United States as essential to its stability and development. China continues to see the United States as the dominant regional and global actor with the greatest potential to both support and, potentially, disrupt China’s rise. In addition, China remains concerned that should regional states come to view China as a threat, they might balance against China through unilateral military modernization or through coalitions, possibly with the United States. Many Chinese officials and the public see the U.S. rebalance to Asia as a reflection of “Cold War thinking” and as a way to contain China’s rise. (p. 15)

Despite its desire to project an image of a developing country engaged in a peaceful development strategy, China’s efforts to defend national sovereignty and territorial integrity (underpinned by growing economic and military capabilities) have occasionally manifested in assertive rhetoric and behavior that generate regional concerns about its intentions. Prominent examples of this include China’s response to Japan’s arrest of a PRC fishing trawler captain following a collision with Japanese coast guard vessels in 2010, its use of punitive trade policies as an instrument of coercion, its actions to shield North Korea from the international response to its sinking of the South Korean naval vessel, Cheonan, and its action to pressure Vietnam and the Philippines in the South China Sea and Japan in the East China Sea. Official statements and media during these situations indicate that China sees itself as responding to perceived threats to its national interests or provocations by outside actors. China’s lack of transparency surrounding its growing military capabilities and strategic decision-making has also increased concerns in the region about China’s intentions. Absent a move towards greater transparency, these concerns will likely intensify as the PLA modernization progresses (p. 16)

The DoD went on to cite several specific shifts in Chinese strategy that were having major impacts on US power projection capabilities as well as on ROK and Japanese deterrent and defense capabilities.138

Anti-Access/Area Denial (A2/AD). As part of its planning for military contingencies, China continues to develop measures to deter or counter third-party intervention, particularly by the United States. China’s approach to dealing with this challenge is manifested in a sustained effort to develop the capability to attack, at long ranges, military forces that might deploy or operate within the western


138 Ibid.
Pacific, which the DoD characterizes as “anti-access” and “area denial” (A2/AD) capabilities. China is pursuing a variety of air, sea, undersea, space and counter-space, and information warfare systems and operational concepts to achieve this capability, moving toward an array of overlapping, multilayered offensive capabilities extending from China’s coast into the western Pacific. China’s 2008 Defense White Paper asserts, for example, that one of the priorities for the development of China’s armed forces is to “increase the country’s capabilities to maintain maritime, space, and electromagnetic space security.”

An essential element, if not a fundamental prerequisite, of China’s emerging A2/AD regime is the ability to control and dominate the information spectrum in all dimensions of the modern battlespace. PLA authors often cite the need in modern warfare to control information, sometimes termed “information blockade” or “information dominance,” and to seize the initiative and gain an information advantage in the early phases of a campaign to achieve air and sea superiority.

China is improving information and operational security to protect its own information structures, and is also developing electronic and information warfare capabilities, including denial and deception, to defeat those of its adversaries. China’s “information blockade” likely envisions employment of military and non-military instruments of state power across the battlespace, including in cyberspace and outer space. China’s investments in advanced electronic warfare systems, counter-space weapons, and computer network operations (CNO) — combined with more traditional forms of control historically associated with the PLA and CCP systems, such as propaganda and denial through opacity, reflect the emphasis and priority China’s leaders place on building capability for information advantage. (p. 33)

In more traditional domains, China’s A2/AD focus appears oriented toward restricting or controlling access to China’s periphery, including the western Pacific. China’s current and projected force structure improvements, for example, will provide the PLA with systems that can engage adversary surface ships up to 1,000 nm from China’s coast. (p. 33)

China is also developing weapons for its entire military to project force further from its coast. Current and projected missile systems will allow the PLA to strike regional air bases, logistical facilities, and other ground-based infrastructure. Chinese military analysts have concluded that logistics and power projection are potential vulnerabilities in modern warfare, given the requirements for precision in coordinating transportation, communications, and logistics networks. China is fielding an array of conventionally armed ballistic missiles, ground- and air-launched land-attack cruise missiles, special operations forces, and cyber-warfare capabilities to hold targets at risk throughout the region. (p. 33)

**Territorial Disputes.** Senior Chinese officials have identified protecting China’s sovereignty and territorial integrity as a “core interest” and all officials repeatedly state China’s opposition to and willingness to respond to actions it perceives as challenging this core interest. In 2012, this was demonstrated by Chinese actions at Scarborough Reef in the South China Sea and the Senkaku Islands in the East China Sea. (p. 2-3)

The Chinese government maintains that its maritime rights extend to virtually the entire South China Sea and often illustrates this claim using a “nine-dash line” that encompasses much of the South China Sea area. At the same time, Beijing is ambiguous about the precise meaning of the nine-dash line; to date, China has not clarified the meaning of the nine-dash line or its legal basis. In April 2012, Chinese maritime law enforcement vessels and Philippine coast guard vessels engaged in a protracted standoff at Scarborough Reef, after the Philippine Navy attempted to conduct a fishing enforcement action against Chinese fishermen. (p. 2-3)

Although overt tensions between China and the Philippines subsided by year’s end, both sides continue to claim jurisdiction over the reef. Chinese law enforcement vessels have maintained an almost continuous presence ever since. (p. 2-3)

In November 2012, China also added a map which contained the nine-dash line to all of its new...
passports. This action elicited negative responses from other nations in the Asia-Pacific region. China’s increased reference in official government materials to the nine-dash line is a source of concern to its neighbors and other nations because, at a minimum, it creates an impression that China is not merely claiming all the land features within the nine-dash line, but it may also be claiming a special sovereign status of all the water and the sea-bed contained therein. (p. 2-3)

China claims sovereignty over the Senkaku Islands (what the Chinese refer to as the Diaoyu Islands) in the East China Sea, territory also claimed by Taiwan and Japan. In April 2012, the Governor of Tokyo announced plans to purchase three of the five islets from private Japanese owners. In response, in September 2012, the Government of Japan purchased the three islands. China protested the move and since that time has regularly sent maritime law enforcement ships (and, less often, aircraft) to patrol near the Senkakus to protect its claims; this has included regular Chinese maritime operations within 12nm of the islands. On September 25, China published a white paper entitled, “Diaoyu Dao, an ‘Inherent Territory’ of China.” In addition, in September 2012, China began using improperly drawn straight baseline claims around the Senkaku Islands, adding to its network of maritime claims inconsistent with international law. In December 2012, China submitted information to the U.N. Commission on the Limits of the Continental Shelf regarding China’s extended continental shelf in the East China Sea that includes the disputed islands. (p. 2-3)

…China’s use of force in territorial disputes has varied throughout its history. Some disputes led to war, such as China’s border conflicts with India in 1962 and Vietnam in 1979. A contested border with the former Soviet Union during the 1960s raised the possibility of nuclear war. In more recent cases, China has been willing to compromise with and even offer concessions to its neighbors. Since 1998, China has settled eleven land-based territorial disputes with six of its neighbors. Several disputes continue over exclusive economic zones (EEZ) and ownership of potentially rich, off-shore oil and gas deposits. (p. 21)

The East China Sea contains approximately seven trillion cubic feet of natural gas and up to 100 billion barrels of oil. Japan maintains that an equidistant line from each country involved should separate the EEZs, while China claims an extended continental shelf beyond the equidistant line to the Okinawa Trench (which almost reaches Japan’s shore). In early 2009, Japan accused China of violating a June 2008 agreement providing for joint exploration of oil and natural gas fields, and claimed that China unilaterally drilled beneath the demarcation line, extracting reserves from the Japanese side. China, Japan, and Taiwan continue to dispute possession of the nearby Senkaku Islands. (p. 22)

The South China Sea plays an important role in Northeast and Southeast Asian security considerations. Northeast Asia relies heavily on the flow of oil and commerce through South China Sea shipping lanes, including over 80 percent of the crude oil to Japan, South Korea, and Taiwan. China claims sovereignty over the Spratly and Paracel island groups and other land formations within its “nine-dash line” claim - claims disputed in whole or part by Brunei, the Philippines, Malaysia, Indonesia, and Vietnam. Taiwan, which occupies Itu Aba in the Spratly Islands, makes the same claims as the PRC. In 2009, China protested extended continental shelf claims in the South China Sea made by Malaysia and Vietnam; in its protest to the U.N. Commission, China included the ambiguous nine-dash line and reiterated that it has “indisputable sovereignty over the islands in the South China Sea and the adjacent waters and enjoys sovereign rights and jurisdiction over the relevant waters as well as the seabed and subsoil thereof.” (p.22)

Despite increased political and economic relations over the years between China and India, tensions remain along their shared 4,057 km border, most notably over Arunachal Pradesh (which China asserts is part of Tibet, and therefore of China), and over the Aksai Chin region at the western end of the Tibetan Plateau. Both countries in 2009 stepped up efforts to assert their claims. China tried to block a $2.9 billion loan to India from the Asian Development Bank, claiming part of the loan would have been used for water projects in Arunachal Pradesh. This represented the first time China sought to influence this dispute through a multilateral institution. The then-governor of Arunachal Pradesh announced that India would deploy more troops and fighter jets to the area. An Indian newspaper
reported that the number of Chinese border violations had risen from 180 in 2011 to more than 400 by September 2012. (p. 22)

**Counter-Space.** PLA strategists regard the ability to utilize space and deny adversaries access to space as central to enabling modern, informatized warfare. Although PLA doctrine does not appear to address space operations as a unique operational “campaign,” space operations form an integral component of other PLA campaigns and would serve a key role in enabling A2/AD operations. Publicly, China attempts to dispel any skepticism over its military intentions for space. In 2009, PLA Air Force Commander General Xu Qiliang publically retracted his earlier assertion that the militarization of space was a “historic inevitability” after President Hu Jintao swiftly contradicted him. General Xu Qiliang is now a Vice Chairman of the Central Military Commission and the second highest-ranking officer in the PLA. (p. 34)

The PLA is acquiring a range of technologies to improve China’s space and counter-space capabilities. China demonstrated a direct-ascent kinetic kill anti-satellite capability to low Earth orbit when it destroyed the defunct Chinese FY-1C weather satellite during a test in January 2007. Although Chinese defense academics often publish on counterspace threat technologies, no additional antisatellite programs have been publicly acknowledged. A PLA analysis of U.S. and coalition military operations reinforced the importance of operations in space to enable “informatized” warfare, claiming that “space is the commanding point for the information battlefield.” PLA writings emphasize the necessity of “destroying, damaging, and interfering with the enemy’s reconnaissance…and communications satellites,” suggesting that such systems, as well as navigation and early warning satellites, could be among the targets of attacks designed to “blind and deafen the enemy.” The same PLA analysis of U.S. and coalition military operations also states that “destroying or capturing satellites and other sensors…will deprive an opponent of initiative on the battlefield and [make it difficult] for them to bring their precision guided weapons into full play.” (p. 34)

**Military Information Operations.** Chinese writings have outlined the five key features at an operational level of a maturing Chinese information operations (IO) strategy. First, Chinese authors emphasize defense as the top priority and indicate that Computer Network Defense (CND) must be the highest priority in peacetime; Chinese doctrine suggests that “tactical counteroffensives” would only be considered if an adversary’s operations could not be countered. Second, IO is viewed as an unconventional warfare weapon, which must be established in the opening phase of the conflict and continue during all phases of war. Third, IO is characterized as a preemption weapon to be used under the rubric of achieving information dominance and controlling the electromagnetic spectrum. Fourth, IO is seen as a tool to permit China to fight and win an information campaign, precluding the need for conventional military action. Fifth, potential Chinese adversaries, in particular the United States, are seen as “information dependent.” (p. 9)

An IO campaign includes actions taken to seize and maintain campaign information superiority, unify command campaign information operational forces, carry out information warfare-related reconnaissance, and offensive and defensive information warfare methods. According to a PLA military manual, there are many types of supporting IO to campaigns including an island-landing campaign IO, blockade campaign IO, fire power attack campaign IO, border counterattack campaign IO, counter-landing campaign IO, and counter-airstrke campaign IO. These IO campaigns can be subdivided into joint campaign IO and combined arms campaign IO. Depending on the military services involved in the campaign, IO can be further divided into army campaign, navy, air force, and strategic missile force campaign IO. Their primary tasks are to protect the PLA’s campaign information systems, collect intelligence from enemy information systems, destroy enemy information systems, and weaken the enemy’s ability to acquire, transmit, process, and use information during war. (p.10)

The PLA continues to conduct frequent military exercises demonstrating advances in information technology and information integration of its military forces. China has performed integrated joint combat operations exercises showcasing intelligence acquisition, joint command, joint strike, and support operations, increasingly incorporated information technology and information integration into its annual training requirement. A number of annual exercise series, including the *Vanguard, Lianhe,*
and Joint Education series have increased required integration and full reliance on information technology for command of complex operations. In 2012, according to PLA newspapers, many military exercises banned paper maps and orders altogether. Also in 2012, there was an increasing emphasis on PLA command academies participating in joint exercises using command information technologies, which indicates proficiency on such platforms is now a requirement for graduation to higher command positions. (p. 11)

As the following chapters of this report make clear, these developments are reshaping the structure and character of virtually every aspect of Chinese forces, make it a far more effective military power in terms of both conventional and asymmetric warfare capabilities, and altering the balance of nuclear deterrence affecting the Koreas and the rest of the Pacific region.

**Chinese and the Koreas**

China’s strategy toward the Koreas is increasingly driven by its broader rivalry with the US over power and influence in Asia and the Pacific as well as by China’s concern that the US is rebalancing its posture in the Pacific to compete with Chinese military forces. China not very subtly referred to these concerns in its Defense White Paper issued on April 16, 2013, stating,\(^{139}\)

“Some country has strengthened its Asia-Pacific military alliances, expanded its military presence in the region, and frequently makes the situation tenser… [China] has an arduous task to safeguard its national unification, territorial integrity and development interests.”

The People’s Liberation Army (PLA) Daily issued a more blunt commentary that same day – echoing an earlier speech in March 2013 by China’s President Xi Jinping: “Currently, the world situation is undergoing its most profound and complex changes since the end of the cold war…Hostile Western forces have stepped up their strategy of imposing Westernization on our country and splitting it up, and they are doing their utmost to fence in and contain our country’s development.”\(^{140}\)

US DNI James R. Clapper discussed such Chinese actions as follows in his testimony to the US Senate Select Committee on Intelligence early 2013,\(^{141}\)

> During 2012, Beijing adopted strong, uncompromising positions in maritime territorial disputes with several of its neighbors. In each case, China sought to expand its control over the relevant territories and obstructed regional efforts to manage the disputes. Beijing’s regional activities appear to be, in part, a response to the US strategic rebalance toward Asia-Pacific, which Chinese leaders believe is aimed at undermining China’s position in the region. Globally, Beijing has both assisted and hindered US policy objectives on such issues as Iran, Syria, Afghanistan, and North Korea, and it continues to expand its economic influence and to try to parlay it into greater political influence.

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\(^{141}\) James R. Clapper, “Worldwide Threat Assessment of the US Intelligence Community,” Senate Select Committee on Intelligence, March 12, 2013, p. 21-22.
The leadership transition in Beijing continues to unfold as Chinese leaders grapple with a confluence of domestic problems—including lagging economic indicators, corruption, and pressure for political reform—that are fueling leadership fears about the potential for serious domestic unrest.

The leadership team that is confronting these internal challenges is also likely to maintain uncompromising positions on foreign policy issues, especially those involving maritime and territorial disputes in the South and East China Seas.

The DPRK is a critical buffer state for China, ensuring that US and South Korean forces are not on its border and acting as a counterbalance to Japan. China signed, and still maintains, the 1961 “Sino-North Korean Mutual Aid and Cooperation Friendship Treaty.” The two countries have traditionally been described as “blood brothers” or “closer than lips and teeth,” though the PRC-DPRK relationship has at times been rocky over the past 60 years, and China has sought to moderate the DPRK’s behavior and move it towards economic reform based on the Chinese model.142

The 1961 treaty is renewed automatically every 20 years and is only subject to change if both parties agree. It states that “the two parties undertake to adopt all measures to prevent aggression against either party by any state,” and that “in the event of one of the parties being subjected to armed attack by any state or several states together and thus being involved in a state of war, the other party shall immediately render military and other assistance by all means at its disposal.” This would not apply in the case of a DPRK attack on the ROK – only if the DPRK is attacked.143

**Economic Ties with the Korean Peninsula**

China is a major trading partner of the DPRK, although it is not clear how much the Chinese economy really benefits from such trade. Since normalization of relations in 1992, the PRC and ROK have been increasing trade and other exchanges. Although there was a period of tension after the Cheonan and Yeonpyeong incidents (discussed later in this report), the recent election of ROK President Park Geun-hye, who is fluent in Chinese, has led to a warming of relations.144

China accounted for 70%, or $5.6 billion, of the DPRK’s trade volume (a total of $8 billion) in 2011. This was an increase of 62% over 2010. In late 2012, the PRC reportedly agreed to investments in cross-border infrastructure and trade with the DPRK worth almost $1.3 billion – though there are reports that many Chinese businessmen are becoming disillusioned by the tough deals imposed by the DPRK, such as the demand that Chinese businesses in the North build their own roads and supply their own electricity.145

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142 Victor Cha, *The Impossible State*.
144 Michelle Florcruz, “China Agrees to Sanctions on North Korea, Shifts Focus To South Korea?,” *International Business Times*, March 5, 2013.
Combined, legal and illegal trade between the DPRK and PRC is approximately $10 billion annually. Furthermore, China has provided food and fuel aid to the DPRK for many years, fearing that the DPRK would collapse without this assistance. However, since normalization in 1992, Chinese trade with the ROK has increased exponentially: bilateral trade was $245 billion in 2012, 38 times higher than 20 years previously.  

China has also been increasing overall economic relations with the DPRK. In June 2012, 20,000 visas were issued to North Koreans to work in Jilin Province (North Koreans laborers also reportedly work in Russia and the Middle East), with the majority of their wages to be garnered by the DPRK government. Chinese companies have been investing in natural resource extraction in the DPRK, such as mining coal and rare earths – there is an estimated $6 trillion worth of DPRK mineral reserves. A recent $10 billion infrastructure project on the DPRK-Chinese border would improve Chinese access to the country for mining purposes, and China was alleged to have expanded investment in border areas in August 2012. As a January 2013 CRS report notes,

China and North Korea continue to develop their highly complementary trade and investment ties, though several contradictions hamper deeper engagement. North Korea needs foreign capital to improve its infrastructure, exploit natural resources, and create productive exporters, but the multitude of corrupt and self-serving actors within the North Korean system has led to poor results for Chinese investors. China is by far North Korea’s largest trading partner (57% of all trade in 2011), but North Korea fears dependence on China and exposure to subversive information from China’s relatively open society. Despite the obstacles, the two countries announced their intention to create or revamp several Special Economic Zones in northern North Korea to facilitate deeper economic linkages.

**Tensions with the DPRK**

China does seem to find some of North Korea’s actions and extreme rhetoric to be a liability, but China’s view of the US, Japan, and other Pacific powers means it also may feel it needs North Korea as buffer. The end result is a set of mixed policies and reactions.

As early as 1997, some Chinese government officials discussed the DPRK-China treaty’s military assistance clause as “a remnant of Cold War era thinking and no longer relevant to the current situation.” It was reported that the PRC proposed that the language be changed in 2002, but the DPRK refused. Other Chinese experts opposed emendation, arguing that the clause was a deterrent to DPRK nuclearization and US preemptive attack, as well as a guarantor of PRC leverage over the DPRK.  

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Since 2010, an increasing number of Chinese academics have been calling for China to reappraise its ties with the DPRK, especially because of the reputational and material costs to China. In the wake of the DPRK’s third nuclear test, one academic remarked, “The public does not want China to be the only friend of the North Korean government, and we’re not even recognized by North Korea as a friend... For the first time the Chinese government has felt the pressure of public opinion not to be too friendly with North Korea.” Another prominent political scientist wrote on the Foreign Policy website that it was time for China “to cut its losses and cut North Korea loose.”

In an early 2013 interview, former ROK President Lee Myung-bak said that the Chinese perception of the DPRK was changing, adding, “Since the middle of (former Chinese) President Hu Jintao’s term, Beijing has sent us the message that we shouldn’t consider China ‘too much on the North’s side.’ The leaders of South Korea and China have discussed that the Seoul-Washington alliance helps Seoul’s relationship with Beijing, rather than affect it.” These comments suggest that there have been or could be ROK-China and ROK-US talks regarding how to cope with an emergency situation in the DPRK.

In March 2013, a government advisory group called the Chinese People’s Political Consultative Conference debated whether to “keep or dump” and “fight or talk” with the DPRK. China has had other reasons to question the cost of China’s ties to the DPRK. Incidents like the May 8, 2012 13-day DPRK detention of 28 Chinese fishermen and their three boats are a case in point. The Chinese fishermen were taken captive three nautical miles inside Chinese waters and towed to the DPRK with a ransom demand of approximately $190,000. Inflamed “Netizens” in China’s blogosphere called on the government to cancel DPRK aid, renewing public debate in China over the nature of the DPRK-PRC relationship.

China seems to have been further irritated by the DPRK’s third nuclear test, which the DPRK undertook on an important Chinese holiday. While the state media has not called Kim Jong-un any unflattering names, editorials and commentators have reacted negatively; one editorial proclaimed, “When Pyongyang’s acts seriously violate China’s interests, we will by no means indulge it,” while another paper criticized the DPRK for violating UN resolutions against missile launches and nuclear testing. Chinese social media sites have seen a multitude of jokes, images, and derogatory names aimed at Kim Jong-un – such as “The Kid” and “Fatty, the Third.” While the Chinese government usually censors Internet comments that are...

too critical of or against PRC foreign and domestic policy, the insults to Kim Jong-un have not been erased.\footnote{Jane Perlez, “North Korean Leader, Young and Defiant, Strains Ties With Chinese,” \textit{New York Times}, April 13, 2013.}

\textbf{Chinese Efforts at “Denuclearization”}

These problems and costs may lead China to do more to influence the DPRK to decrease provocations and give up nuclear development. It is well known that China provides the bulk of food, fuel, and development aid to the DPRK. Since 2008, China has been the only regular source of assistance, providing an estimated 100,000 tons of food, 500,000 tons of oil (70\% of the DPRK’s fuel), and $20 million worth of goods annually. The PRC also often sends free aid shipments, though the contents and scale are not usually made public. One example was a December 2011 delivery of 500,000 tons of food and 250,000 tons of oil to assist in stabilizing the new DPRK regime.\footnote{Bonnie S. Glaser and Brittany Billingsley, \textit{Reordering Chinese Priorities on the Korean Peninsula}, CSIS, November 2012, p. 1-5, 18-19.} Without China’s assistance, the North Korean regime would be unlikely to last long.

Furthermore, a June 2012 UN report looking into the past several years of DPRK sanctions enforcement listed Chinese involvement in 21 of the 38 suspected breaches of sanctions addressing luxury items and weapons. In two of those instances, China was involved in the DPRK’s ballistic missile component and other unconventional weapons materials purchases or sales.\footnote{Ibid.}

China has long taken a “no war, no instability, no nukes” (不战、不乱、无核) position regarding the Koreas as well as desired to maintain the useful purpose the DPRK serves as a buffer state against the ROK. Also, in the event of a regime collapse or other large-scale unrest, China worries about a mass influx of refugees pouring into its northeastern provinces. In the context of the US’s rebalance towards Asia, the buffer provided by the DPRK could be increasingly important in Chinese strategic calculation.\footnote{Ibid., p. 1-5.}

China has consistently prioritized peace and stability over denuclearization and control of the DPRK, and is unwilling to put substantial pressure on the DPRK for fear of decreasing the stability of the current regime – despite China’s clear preference for a nuclear-free Korean Peninsula. CSIS’s Victor Cha calls this a “mutual hostage” relationship.\footnote{Bonnie S Glaser and Brittany Billingsley, \textit{Reordering Chinese Priorities on the Korean Peninsula}; Victor Cha, \textit{The Impossible State}, p. 317.}

One ROK scholar at Seoul National University has argued that there are three structural and perceptual obstacles that make any change in China’s DPRK policy unlikely or even impossible:\footnote{Jae-Ho Chung, “The New South Korean Administration’s Security Challenges: Back to the Future, Again?” Council on Foreign Relations, March 2013.}

First, Beijing predicts a difficult future for Sino-U.S. relations. Second, Beijing views U.S. alliances with South Korea and Japan as part of a U.S. strategy to contain China's rise. Third, the Korean
peninsula lacks a stable mechanism for peace. Since none of these obstacles is likely to be addressed in the near term, China's modus operandi regarding North Korea is likely to remain unchanged, rendering the regional situation similar to that of the past.

At the same time, some in China worry that the ROK, Japan, or even Taiwan could develop nuclear weapons due to growing DPRK threat. The increase in nuclear weapons states not sanctioned by the Nuclear Nonproliferation Treaty (NPT) could cause the NPT to collapse, creating more uncertainty in international security.163

Also, the DPRK could transfer nuclear materials, knowledge, or technology to another country or non-state actor, potentially detrimentally to Chinese security.164 Other Asia-Pacific countries could also be pushed towards the US, which would be contrary to Chinese regional interest and attempts to increase its soft power appeal.165 Internationally, China loses face and reputation by its support of the DPRK.

A potential US strike against the DPRK would also harm Chinese security interests. Or, if the ROK and US intervened in DPRK instability, the likely result would be a reunified peninsula under ROK control – giving South Korea control of the North’s weapons, and putting US soldiers at the Chinese border.166 To mitigate this Chinese fear, at least, former ROK President Lee Myung-bak has argued that the ROK should signal China through an NGO that, in the case of reunification due to a contingency in the DPRK, the US military would stay south of the DMZ.167

Indeed, after the increase in DPRK provocations over the course of the past decade, in particular nuclear and missile tests and the Cheonan and Yeonpyeong incidents, China’s continued support of the DPRK has led to strained relations with the US, ROK, and Japan – with the latter two countries strengthening their alliances with the US and bilateral coordination with each other as well as considering expansion of their own missile defense systems – and ultimately resulting in an increased risk of a regional arms race. China’s diplomatic shielding of the DPRK has weakened its claim to be an honest broker in the Six Party Talks and tarnished its international image, especially at the UN, while perhaps encouraging risky DPRK moves due to lack of Chinese punishment.168

China has realized, in the wake of the DPRK nuclear tests, that pressure on the DPRK is necessary to make progress towards denuclearization. The PRC also puts some pressure on the DPRK to assuage US demands that it use its leverage to greater effect. In early May 2013, China’s chief nuclear envoy told ROK diplomats that China will not accept the DPRK

164 Ibid.
165 Chuck Jones, former DoD and NSC official in Asian/Korean affairs, interview on February 14, 2013.
166 Bonnie S Glaser and Brittany Billingsley, Reordering Chinese Priorities on the Korean Peninsula, CSIS, November 2012, p. 2-3.
as a “nuclear-armed state,” and a consensus on this issue between the ROK, US, and China appears to have been reached.\footnote{“China will not accept N. Korea as a ‘nuclear-armed state’: official,” Yonhap News Agency, May 3, 2013.}

Chinese efforts taken to pressure the DPRK include:\footnote{Bonnie S Glaser and Brittany Billingsley, Reordering Chinese Priorities on the Korean Peninsula, CSIS, November 2012, p. 20-21.}

- Delaying aid shipments
- Raising the nuclear issue in many official exchanges, regardless of the primary issue at hand
- Special envoys with letters or messages to heed PRC warnings, at critical times
- Chinese leaders using more forceful language with DPRK leaders
- Chinese officials occasionally publically stating their frustrations with the DPRK
- Increasing news references to the differences between the two countries and Chinese actions in response to the DPRK’s destabilizing acts
- Discussion of the DPRK in multilateral settings, including those with the ROK and Japan, and voicing of opposition to DPRK provocations and nuclear ambitions
- Denials of DPRK requests for military aid
- Tightening of export control policies to restrict the sale of dual-use items to the DPRK.

Starting in 2003, China used incentives and rewards to gain DPRK participation in the Six Party Talks, while from 2006-2009, China switched to increased use of coercive measures to influence the DPRK. Since 2009, China has instead followed comprehensive engagement in an attempt to increase influence over the DPRK, enhancing high-level ties in a variety of areas and sectors. This has led to an increase in the economic instruments being used to influence DPRK behavior, with the primary goals of the DPRK engaging in policies that paralleled Chinese interests and curbing costly DPRK provocations.\footnote{Ibid., p. 28.}

North Korea was discussed at length during the early-June summit between Presidents Obama and Xi. It also reported that Chinese officials discussed using their economic and energy provision to the DPRK as leverage in DPRK provocations. American officials reported that the Chinese apparently agreed with the US that if the DPRK continues to develop nuclear weapons, the US will further increase its military presence in the Asia-Pacific region, while the ROK and Japan will be much more likely to develop their own weapons in advance – potentially further destabilizing the region.\footnote{David E. Sanger, “Obama and Xi Try to Avoid a Cold War Mentality,” New York Times, June 9, 2013.}

According to US National Security Advisor Tom Donilon, China and the US agreed that dealing with the DPRK’s nuclear arsenal was a promising issue for “enhanced cooperation.” The two agreed that they should work together to achieve denuclearization of the DPRK and
“that North Korea has to denuclearize, that neither country will accept North Korea as a nuclear-armed state.”\textsuperscript{173}

Much depends, however, on the broader interactions between the US and Chinese military strategies and force development plans that affect their overall security policies in Northeast Asia, the rest of Asia, and the Pacific. According to the Department of Defense report for 2013, China sees stable relations with its neighbors and the US as essential to stability and necessary for maximizing its current window of opportunity to expand and develop as a great power. At the same time, “China’s growing economic and military confidence and capabilities occasionally manifest in more assertive rhetoric and behavior when Beijing perceives threats to its national interests or feels compelled to respond to public expectations.”\textsuperscript{174}

China almost certainly has a mirror image view of the US. Whatever it may think of the DPRK, it may see the US rebalance to Asia as potentially as threatening as the US see the modernization of Chinese forces and the steady expansion of Chinese power projection and anti-access area denial (A2AD) capabilities. Once again, the choice each power makes between cooperation and competition is likely to be a key factor in shaping not only their capabilities in the Koreas and Northeast Asia, but the reactions and strategies of the ROK and Japan.

**Japan**

Japan sees the DPRK’s military build-up, political hostility, and North Korea’s nuclear programs as a direct threat to Japanese national security. The government holds that one key way to counteract this threat is through close cooperation with the ROK and the US, allowing for the strict implementation of bilateral and UN Security Council sanctions. At the same time, the Japanese government holds that the Six Party Talks should be continued in order to move forward with denuclearization of the DPRK.\textsuperscript{175}

As has been noted earlier, Japanese relations with the ROK are based on common strategic interests, but there are still tensions. At the same time, the DPRK serves as an ongoing threat that pushes both nations together. An analysis by the US CRS summarizes Japan’s policies towards the Koreas as follows:\textsuperscript{176}

> After a period of relatively warm ties and the promise of more effective security cooperation, Tokyo-Seoul ties appear to have cooled anew. Under the DPJ governments and the Lee Myungbak administration in Seoul, South Korea and Japan managed historical issues, cooperated in responding to North Korean provocations, and exchanged observers at military exercises. The two countries were on the verge of concluding two modest but significant bilateral security agreements on information

\begin{flushright} \textsuperscript{173} Jackie Calmes and Steven Lee Myers, “U.S. and China Move Closer on North Korea, but Not on Cyberespionage,” \textit{New York Times}, June 8, 2013.  
sharing and military acquisitions until an anti-Japanese outcry in South Korea scuttled the signing. The new governments in both capitals appear less likely to reach out to each other, dimming U.S. hopes for more sustained trilateral cooperation among the three democracies. Policy toward North Korea has been the one issue where regular trilateral consultation persists, and the February 2013 nuclear test by North Korea will provide an opportunity for the three capitals to coordinate their response.

…. In addition to the comfort women issue discussed above, the perennial issues of a territorial dispute between Japan and South Korea and Japanese history textbooks continue to periodically ruffle relations. A group of small islands in the Sea of Japan known as Dokdo in Korean and Takeshima in Japanese (referred to as the Liancourt Rocks by the United States) are administered by South Korea but claimed by Japan. Mentions of the claims in Japanese defense documents or by local prefectures routinely spark official criticism and public outcry in South Korea. Similarly, Seoul expresses disapproval of some of the history textbooks approved by Japan’s Ministry of Education that South Koreans claim diminish or whitewash Japan’s colonial-era atrocities.

Some of Abe’s cabinet appointments have raised concern among South Koreans. Minister of Education Hakubun Shimomura has criticized history textbook companies for being insufficiently patriotic by, among other items, giving undue deference to the concerns of China and South Korea in their presentation of Japan’s colonial past. Abe’s appointment of Shimomura appears to signal his intent to follow through on the LDP’s pre-election advocacy of reducing “self-torturing views of history” in education and of giving the central government greater authority over the content of history textbooks. Abe’s Cabinet also includes Internal Affairs Minister Yoshitaka Shindo and Minister for Administrative Reform Tomomi Inada, who have aggressively asserted Japanese territorial claims, including a well-publicized attempt to visit South Korea in 2011 to advocate for Japanese sovereignty over the Dokdo/Takeshima islets.

…Since 2009, Washington and Tokyo have been strongly united in their approach to North Korea. Although the U.S. and Japanese positions diverged in the later years of the Bush Administration, Pyongyang’s string of provocations in 2009-2010 forged a new consensus among Japan, South Korea, and the United States. North Korea’s provocations have helped to drive enhanced trilateral security cooperation between Washington, Tokyo, and Seoul. Japan also appeared to be at least somewhat in synch with the United States in late 2011 and early 2012 when the Obama Administration—with the blessing of the South Korean government—was negotiating agreements with North Korea over its nuclear and missile programs and food aid. North Korea’s 2012 missile launches and the February 2013 nuclear test are likely to drive closer cooperation among the three governments.

Tokyo has adopted a relatively hardline policy against North Korea and plays a leadership role at the United Nations in pushing for stronger punishment for the Pyongyang regime for its military provocations and human rights abuses. Japan has imposed a virtual embargo on all trade with North Korea. North Korea’s missile tests have demonstrated that a strike on Japan is well within range, spurring Japan to move forward on missile defense cooperation with the United States. In addition to Japan’s concern about Pyongyang’s weapons and delivery systems, the issue of several Japanese citizens abducted by North Korean agents in the 1970s and 1980s remains a top priority for Tokyo. Japan has pledged that it will not provide economic aid to North Korea without resolution of the abductee issue. The abductee issue remains an emotional topic in Japan.

In 2008, the Bush Administration’s decision to remove North Korea from the list of state sponsors of terrorism in exchange for North Korean concessions on its nuclear program dismayed Japanese officials, who had maintained that North Korea’s status on the list should be linked to the abduction issue. Although the abductions issue has lost potency in recent years, Abe came onto the political scene in the early 2000s as a fierce advocate for the abductees and their families and could dedicate attention to the issue.

Korea and Japanese Defense Policy
Japan released the National Defense Program Guidelines in 2010, intended to guide Japan’s defense policy for the next 10 years. The report was the first major update since 2004 and listed the following aspects of the changing security environment:177

1. Number of so-called “gray zone” disputes (confrontations over territory, sovereignty and economic interests that are not to escalate into wars) is on the increase.

2. A global shift in the balance of power has been brought about by the rise of emerging powers and the relative change of the U.S. influence.

3. Issues such as sustained access to cyberspace, in addition to international terrorism and piracy, have become global security challenges.

4. North Korea’s nuclear and missile issues are immediate and grave destabilizing factors to regional security.

5. Military modernization by China and its insufficient transparency are of concern for the regional and global community.

6. Russia’s military activities are increasingly robust.

7. A full-scale invasion against Japan is unlikely to occur today, but the security challenges and destabilizing factors Japan faces are diverse, complex and intertwined.

The document also establishes Japan’s three security objectives: “(1) to prevent and eliminate external threat[s] from reaching Japan; (2) to prevent threats from emerging by improving international security environment; and (3) to create global peace and stability and to secure human security,” to be established by internal capacity building, cooperation with allies, and “multilayered” international security cooperation.178 As described by the NTI,179

The [2010] NDPG introduced a major shift in post-World War II Japanese strategic thinking, replacing the "basic defense force concept" with a "dynamic defense force concept" that will embrace proactive and assertive rather than passive and reactive defense policies… In line with this approach, the new NDPG stipulated that Japan will continue to improve and develop missile defense capabilities in cooperation with the United States. Of significant note is the ongoing debate over whether, in conjunction with the further improvement of the missile defense system, Japan's decades-old self-imposed arms export ban should be eased.

The new NDPG were also undertaken in an international security environment with growing momentum—at least among some states—toward a world free of nuclear weapons. While the document's "dynamic defense force concept" and further emphasis on U.S.-Japan missile defense cooperation are proactive responses to intensifying regional security threats, the guidelines did not clearly reflect international efforts to reduce the role of nuclear weapons. Instead, the NDPG adopted the same line on extended nuclear deterrence as all past versions had, stating that, "As long as nuclear weapons exist, the extended deterrence provided by the United States with nuclear deterrent as a vital element, will be indispensable…” Issues surrounding Japan's position on nuclear disarmament and nonproliferation are left unresolved, reinforcing the continued tension between Japan's global pro-disarmament stance and its reliance on U.S. extended nuclear deterrence.

The 2010 Japanese Defense White Paper introduced the concept of a “Dynamic Defense Force” for the first time, a concept which involves the effective and flexible use of Japan’s Self-Defense Forces (SDF) against unspecific contingencies – apparently understood to be North Korea and China. In keeping with this shift, the White Paper called for a review of SDF deployment and looked to strengthen the US-Japan alliance. The 2012 Defense White Paper continued these plans, further promoting the Dynamic Defense Force concept.

Japan’s 2012 White Paper provided additional updates and discussed the concept of a Dynamic Defense Force in more detail:


The 2012 White Paper also described Japan’s security environment as “becoming increasingly harsh” despite deepening cultural and economic ties with regional neighbors. In the Forward, the Defense Minister writes,\footnote{Ibid., foreword.}

In North Korea, a new regime centered on Kim Jong-un was put in place in a short period of time, and the country pressed ahead with the launch of a missile, which it calls “Satellite”, in April this year. As well as continuing to boost its defense expenditure and broadly and rapidly modernizing its military forces, China is expanding and intensifying its activities in waters near Japan. Russia is stepping up the activities of its naval vessels and aircraft in its Far Eastern region.

Taking a broad overview of the international community as a whole, frequent regional conflicts and terrorism, as well as other asymmetric threats, inspire a great deal of fear among the public. Furthermore, the transfer and proliferation of weapons of mass destruction, such as nuclear, biological and chemical weapons, and the ballistic missiles that are their means of delivery, is becoming a major problem.

The 2012 White Paper discusses Japan’s strategy of increasing defense capabilities, strengthening the US-Japan alliance, “encouraging bilateral defense cooperation and exchange, starting with Australia and South Korea, which are our key partners in the Asia-Pacific region, [and] striv[ing] to promote relationships of mutual understanding and trust with China and Russia, which are our neighbors…,” increasing international peacekeeping activities, and developing a crisis management system “that facilitates a swift, accurate response, as well as strengthening intelligence functions, in order to ensure the safety of the country and the reassurance of the nation in regard to various internal and external risks, such as major earthquakes and missile launches by North Korea.”\footnote{Ibid.}

The same paper later warned, “Maintaining peace and stability on the Korean Peninsula is vital for the peace and stability of the entire East Asian region, to say nothing of Japan.” The document also comments,\footnote{Ibid., p. 14-16.}

North Korea’s nuclear issue has serious influence on Japan’s national security and it is also a critical problem for the entire international community in terms of non-proliferation of WMD. In particular, nuclear tests by North Korea, when considered in conjunction with North Korea’s reinforcement of its ballistic missile capability that could serve as the means of delivery of WMD, simply cannot be tolerated as they constitute a serious threat to the security of Japan and do considerable harm to the peace and stability of Northeast Asia and the international community.

As for ballistic missiles, North Korea seems to be conducting R&D for deploying existing ballistic missiles, extending the range and converting into solid fuel propulsion…. North Korea’s missile issue is, coupled with its nuclear issue, destabilizing factors for the entire international community and the Asia-Pacific region, and such developments are of great concern.

In terms of strategies to resolve the situation on the Korean peninsula, the White Paper notes,\footnote{Ibid., p. 16.}

While it is important for Japan, the United States, and the ROK to maintain close cooperation to resolve the North Korean nuclear problem, roles played by other countries like China and Russia (the
other participants in the Six-Party Talks), as well as such international institutions as the United Nations and the International Atomic Energy Agency (IAEA) are also important.

**Japan and the DPRK**

For the DPRK, historical grievances and propaganda – including Japan’s status as a former colonizer, an ally of the US, and a supporter of the ROK’s economic development – have resulted in extremely negative attitudes towards Japan. For Japan, the DPRK was low in the list of international priorities prior to 1998, when DPRK long-range ballistic missile tests overflew Japan – resulting in both the Japanese government and the general public realizing the seriousness of the threat.186

While relations with the DPRK were warming in the early 2000s, the 2002 revelation that the DPRK had kidnapped more than a dozen Japanese citizens from 1977-83 led to Japanese government and public outrage. While some of the abductees were allowed to return to Japan for a visit, the DPRK held their families hostage, (though the Japanese government declined to force them to return to the DPRK). Many Japanese are not convinced by the DPRK’s claims that most of the abductees are dead. In fact, when the remains of one abductee were returned to Japan, tests showed that the remains were not those of the abductee that the DPRK had claimed.187

The lack of further concessions on this issue has resulted in a hardening of Japanese public opinion towards the DPRK, with the government cutting almost all trade and ties, dropping food aid, and pressuring the US to do likewise. The DPRK, in return, has increased demands for Japanese colonial occupation reparations and removal of sanctions.

Normalization of relations between the two countries was part of the 2005 Six Party Joint Statement, but as both implementation of the agreement and the talks themselves have stalled, warmer relations between the two have not been realized. In addition, Japan has reduced support for the Six Party Talks process overall, as it has failed to denuclearize the DPRK and also does not address the DPRK’s ballistic missiles, which Japan sees as directly threatening its national security.188

In January 2013, Prime Minister Shinzo Abe’s party declared that Japan would increase military spending for the first time in 11 years, starting in April 2013. While this is in part due to the escalated confrontation with China over disputed islands, it is also in response to the DPRK’s December 2012 rocket launch over Japan’s southern islands.189

**Japan, China, and the ROK**

Japan, China, and the ROK have been increasing their formal cooperation in foreign policy, economy, trade, science, technology, and culture over the past ten years, with an

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institutionalized cooperation mechanism involving a Trilateral Summit Meeting, Secretariat, 18 ministerial meetings, and over 50 working-level mechanisms.\textsuperscript{190} As the International Crisis Group reported,\textsuperscript{191}

Japan and South Korea have recognised the need to increase military cooperation against the North Korean threat. After the attack on Yŏng’ŏng Island, defence ministers discussed two proposals. The General Security of Military Information Agreement would allow sharing of information on issues such as the North’s nuclear and missile programs. The Acquisition and Cross-Servicing Agreement (ACSA) would allow exchanges of logistical supplies and support. South Korean Defence Minister Kim Kwan-jin was to sign the agreements in Tokyo in May 2012, but the signing has been delayed due to a domestic backlash over military cooperation with Japan.

Despite the fact that Japan and China have been engaging in disputes over islands claimed by both, Japan’s Prime Minister Shinzo Abe remarked, “I have absolutely no intention to climb up the escalation ladder… For me, Japan’s relations with China stand out, as among the most important. I have never ceased to pursue what I called [a] ‘Mutually Beneficial Relationship Based on Common Strategic Interests’ with China. The doors are always open on my side for the Chinese leaders.” At the same time, due to Japan’s US alliance-first strategy, it is difficult for China to have a dialogue with Japan regarding the islands.\textsuperscript{192}

Along the same lines, there are similar disputes in the East Sea/Sea of Japan. A small set of islands known as the Liancourt Rocks (or, Takeshima by the Japanese and Dokdo by the Koreans), claimed by both countries, is administered by the ROK. In the summer of 2012, tensions between Japan and the ROK rose significantly after the ROK President at the time Lee Myung-bak, visited the islands, prompting Japan to increase its territorial claims assertions and attempts to take the issue to the International Court of Justice, all of which the ROK rejected.\textsuperscript{193}

Several bilateral meetings were also cancelled, and the atmosphere of high tension remained through late September, though tensions are still relatively elevated. Although the two countries continue to cooperate, especially with the US and especially regarding the DPRK, these islands and other issues have reduced the prospects for increasing trilateral US-ROK-Japan relations.

As is the case with the ROK, this raises the broader issue that at least the public aspects of the Japan’s strategy and force posture have not yet addressed how the Japan will react it the DPRK goes on to create much larger nuclear forces, and to the changing balance of US and Chinese capabilities that will growing out of the US rebalancing to Asia and China’s shifts in strategy and ongoing military modernization.

Like the ROK, Japan’s public strategies and defense white papers focus largely on past events and the present balance. Like Japan, however, the ROK must assess the ongoing

\textsuperscript{190} Chinese Government, \textit{China-Japan-ROK Cooperation (1999-2012)}.
\textsuperscript{192} Peter Drysdale, “Prime Minister Abe and Japan’s foreign policy choice,” \textit{East Asia Forum Weekly Digest}, March 11, 2013.
changes US-Chinese balance and their level of cooperation versus competition as key factor in its own security. For all of the reason outlined in the following chapters, this may lead to a major expansion of ROK military efforts and possibly ROK long-range missile and nuclear programs.

Russia

Russian policy towards North and South Korea is shaped largely by its broader relations with China, the US, and Japan. DNI James R. Clapper reported to the Senate in March 2013 that Russian domestic political developments and foreign policy were shaped by the following major considerations:

During the next year, Russia’s political system of managed democracy will come under greater strain as the Kremlin grapples with growing social discontent and a society that is increasingly in flux. Important sectors of the Russian public are frustrated with the country’s sluggish economy and are no longer content with a political system that lacks any real pluralism and suffers from poor and arbitrary governance and endemic corruption. All of these factors present Russian President Vladimir Putin with far greater challenges than any he faced during his two previous terms in office.

Putin’s return to the presidency in 2012 was intended to restore strength and vigor to a system that he believed had weakened under President Dmitriy Medvedev. Instead, antipathy over the Putin-Medvedev job swap touched off some of the largest political protests Russia has seen since the breakup of the Soviet Union. Despite these unprecedented protests, the Russian leadership has demonstrated firm resolve to preserve the system, while a disparate opposition movement struggles to become more cohesive, broaden its base, and build momentum. After initially tolerating demonstrations and offering a few political reforms in the hope of dividing the opposition, the Kremlin took a more aggressive approach, adopting measures to restrict opposition activities, such as targeting opposition figures for harassment and using legislative and judicial means to confront, intimidate, and arrest opponents. These actions have helped to thwart the opposition’s ability to build momentum and preserve the Kremlin’s control of the political system, but they have not addressed the sources of bitterness and dissatisfaction.

Russian foreign policy is unlikely to deviate significantly from its current course in the next year, but domestic political factors almost certainly will exert greater influence on foreign policy. Putin is sensitive to any US criticisms of Russian domestic political practices, which he perceives as meddling in Russia’s internal affairs. Nevertheless, he sees benefits in cooperating with the United States on certain issues.

Missile defense will remain a sensitive issue for Russia. Russian leaders are wary that in the long run US pursuit of a “missile shield” will result in systems that enable the United States to undercut Russia’s nuclear deterrent and retaliatory capabilities. Russian leaders also see aspects of US plans for missile defense in Europe as serious threats to their core national security interests. The Kremlin will continue to look to the United States and our NATO partners for guarantees that any system will not be directed at Russia.

Russia and the Korean Military Balance

Russia has maintained relatively close cooperation with the DPRK, holding summit meetings, releasing joint statements, and signing several agreements over the past decade. Although Russia did join the UN Security Council’s condemnation after the DPRK’s second nuclear test in 2009, Kim Jong-il visited Russia in August 2011, and the two countries agreed to a variety of construction projects and other cooperation. In general, Russia wishes to enhance its position as a mediator and increase its economic presence in the region.195

Russia’s latest Military Doctrine was published on February 5, 2010. The document did not discuss the Koreas per se, but it contained a perceived reduction in military and political threats while also referencing the use of military force in solving conflicts and an increase in military dangers in certain areas. Russia’s stated national interests are to develop partnerships with other states based on common interests, protect Russian interests, and promote the use of special armed forces formations to assist Russia’s economy.

Threats included in the 2010 Military Doctrine are a general deterioration in the international military-political system, the use of military force in states near Russia, other countries’ increased mobilizations, and the impeding of state and military command and control. Dangers listed mostly applied to the West, especially NATO, and again the expansion of foreign militaries located on or near Russia. Also discussed were missile defense systems and territorial claims.196

World development at the present stage is characterized by a weakening of ideological confrontation, a lowering of the level of economic, political, and military influence of certain states (groups of states) and alliances and an increase in the influence of other states with ambitions for all-embracing domination, multipolarity, and the globalization of diverse processes.

Many regional conflicts remain unresolved. There is a continuing tendency towards a strong-arm resolution of these conflicts, including in regions bordering on the Russian Federation. The existing international security architecture (system), including its international-legal mechanisms, does not ensure equal security for all states.

That said, despite the decline in the likelihood of a large-scale war involving the use of conventional means of attack and nuclear weapons being unleashed against the Russian Federation, in a number of areas military dangers to the Russian Federation are intensifying.

In contrast to the previous (2000) Military Doctrine, the 2010 version did not specifically refer to Russia as a democracy or remark upon the defensive character of the doctrine. Before it was released there were many reports that the document would discuss Russia’s possible preemptive use of nuclear weapons;197 however, the final version has almost exactly the same

language as the 2000 document, reaffirming the right to use nuclear weapons in response to a WMD or conventional weapons attack that threatens the existence of the state.198

Nuclear weapons will remain an important factor for preventing the outbreak of nuclear military conflicts and military conflicts involving the use of conventional means of attack (a large-scale war or regional war).

In the event of the outbreak of a military conflict involving the utilization of conventional means of attack (a large-scale war or regional war) and imperiling the very existence of the state, the possession of nuclear weapons may lead to such a military conflict developing into a nuclear military conflict.

…. In the context of the implementation by the Russia Federation of strategic deterrence measures of a forceful nature, provision is made for the utilization of precision weapons.

The Russian Federation reserves the right to utilize nuclear weapons in response to the utilization of nuclear and other types of weapons of mass destruction against it and (or) its allies, and also in the event of aggression against the Russian Federation involving the use of conventional weapons when the very existence of the state is under threat.

While the Korean peninsula was not mentioned in Russia’s 2010 Military Doctrine, the 2012 Japanese Defense White Paper commented more specifically on Russian and Korean relations:199

While relations between North Korea and Russia have become less close since the end of the Cold War, the two countries signed the Russia-North Korea Treaty on Neighborly Friendship and Cooperation in 200036. In August 2011, Kim Jong-il, Chairman of the National Defense Commission, visited Russia and Russia-North Korea summit was held for the first time in nine years. After this, there are moves toward strengthening of the relationship between Russia and North Korea. For example, they are advancing cooperation in gas-pipeline project and it has been reported that they agreed to implement joint exercise for search and rescue. Concerning North Korea’s nuclear problem, Russia along with China has expressed its support for the denuclearization of the Korean Peninsula and early resumption of the Six-Party Talks. Furthermore, recognizing that North Korea’s uranium enrichment program causes a serious concern, Russia calls on North Korea to take action toward rejoining to the Nuclear Non-Proliferation Treaty (NPT) and IAEA security arrangement.

**Mixed Security Policies**

Like China, Russia opposes the DPRK’s nuclear weapons development because this could cause the ROK, Japan, and other countries to develop their own nuclear capabilities and/or increase development of their missile defenses – both of which could be used against Russia. The country is also very interested in economic development of Northeast Asia, using the DPRK as a transit country for export, rail, and energy links to the ROK.200

In addition, Russia has worked towards strengthening its relationship with the DPRK. For example, Russia signed a military technology cooperation agreement with North Korea in 2001,201 and then-President Medvedev met in August 2011 with Kim Jong Il, who was

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198 Russian Government, *Russia’s 2010 Military Doctrine* [unofficial translation], February 5, 2010, sections II and III.
201 *Jane’s* noted that, “Due to the DPRK’s inability to pay cash, little has come from a programme announced in 2001 for Russian assistance to upgrade the KPA’s armour inventory.”
visiting Russia for the first time in nine years. At the same time, Russia generally supports the UN Security Council resolutions regarding DPRK nuclear and missile tests.²⁰²

Russia has been increasing its presence in the Asia-Pacific region and has joined a variety of regional frameworks. It has been a big supporter for the Six Party Talks, as the country otherwise has the weakest political, economic, and cultural links, among the six participants, to the Korean peninsula and East Asia. Russia’s leverage over the DPRK is much smaller than China’s, resulting in significant limitations of its plans for the region. Furthermore, Russia has realized that as long as the DPRK is pursuing nuclear weapons, its ambitious economic projects will remain unrealized.²⁰³

Within Russia there are a growing number of leaders and think tanks that view the DPRK negatively. For example, one prominent Russian think tank released a report analyzing DPRK collapse as a certainty and concluding that ROK-led Korean reunification would coincide with Russia’s national interest. This is in opposition to Russia’s official policy of equidistance between the two Koreas.

II. Korean and Northeast Asian Military Expenditures and Comparative Resources

It is not possible to make reliable comparisons of DPRK and ROK military expenditures using unclassified data. No government provides unclassified official comparisons based on its own intelligence data and net assessments, and neither the International Institute for Strategic Studies (IISS) nor the Stockholm International Peace Research Institute (SIPRI) make estimates for the DPRK. Estimates of Chinese military expenditures are highly controversial and raise major questions regarding the extent to which definitions of such estimates are comparable in terms of both what is included and prices. Moreover, there is no clear way to relate US military spending to the Korean balance, although US military capabilities play a major role in that balance.

In the past, the US Department of State (DoS) issued comparable unclassified estimates of military efforts and arms transfers based on US intelligence models that estimated the size of each military effort based on comparable prices. These reports have long been discontinued, however, and no think tank or NGO has the resources or access to intelligence to make such estimates on its own.

It is still possible, however, to make some broad comparisons of the economic bases and military expenditures of the primary countries that shape the Korean military balance, including the DPRK.

Comparing the Military Resources Shaping the Korean Balance

In spite of the uncertainties in the data, it is clear that the ROK has a far greater capacity to develop and support its forces than the DPRK. As Figure II.1 shows, the CIA estimated in April 2013 that the DPRK had a GDP that was worth roughly $40 billion in 2011 (ranking 103rd in the world), while the ROK’s 2012 GDP was worth some $1.62 trillion (ranking 13th in the world), roughly 40 times greater. It also estimated that the DPRK had a GDP per capita of $1,800 (ranking 197th in the world), while the ROK’s GDP per capita was $32,400 (ranking 40th in the world), 18 times greater. Over the past decade, the DPRK’s rankings in these key economic indicators have been decreasing, while those of the ROK have been steadily increasing.

Furthermore, the CIA estimated that the DPRK had a total population of 24.6 million in 2012, while the ROK’s population was 48.8 million, or more than 2.1 times that of the DPRK. It estimated the median age of the DPRK’s population at 33 years, and that of the ROK at 39 years. Finally it estimated that the DPRK had 6.5 million males available for military service and 207,737 young men entering military age each year, while the ROK had 204 CIA, “World Factbook, [North Korea]” and “World Factbook [South Korea],” updated February 5, 2013, accessed February 22, 2013. https://www.cia.gov/library/publications/the-world-factbook/geos/ks.html; https://www.cia.gov/library/publications/the-world-factbook/geos/ns.html. GDP measured in purchasing power parity terms.
13.2 million available males and 365,760 males entering military age. The length of military service for the ROK is approximately 2 years, while that of the DPRK is approximately 5-10.

All of these data show that the ROK has far more resources to use in supporting its national security structure than the DPRK and that overall trends will remain significantly in the ROK’s favor. The World Bank and UN make somewhat different estimates of the size of the ROLK and DPRK’s resources, but all agree that the ROK has a vastly larger economy, far better income distribution and personal wealth, and far more personnel that can be devoted to military service. The ROK’s disadvantages in this area are that its population has much higher expectations, it must pay far more for manpower, it must price military investment in market rather than command terms, and it is harder for the ROK to command popular sacrifices in the name of enhanced security.

Figure II.1: Comparisons of Key Country-Level Indicators

<table>
<thead>
<tr>
<th>Country</th>
<th>GDP206 (in SUS Trillion), (year)</th>
<th>GDP per capita ($US)</th>
<th>Total Population (millions), (year)</th>
<th>Median population age</th>
<th>Total Males available for military service (aged 16-49) (millions)</th>
<th>Males entering military age each year (millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>12.4 (2012)</td>
<td>9,100</td>
<td>1343.2 (2012)</td>
<td>35.9</td>
<td>385.8</td>
<td>10.4</td>
</tr>
<tr>
<td>Japan</td>
<td>4.6 (2012)</td>
<td>36,200</td>
<td>127.4 (2012)</td>
<td>45.5</td>
<td>27.3</td>
<td>.6</td>
</tr>
<tr>
<td>Russia</td>
<td>2.51 (2012)</td>
<td>17,700</td>
<td>142.5 (2012)</td>
<td>38.8</td>
<td>34.1</td>
<td>.7</td>
</tr>
<tr>
<td>US</td>
<td>15.7 (2012)</td>
<td>49.8</td>
<td>313.8 (2012)</td>
<td>37.1</td>
<td>73.3</td>
<td>2.2</td>
</tr>
<tr>
<td>DPRK</td>
<td>.04 (2011)</td>
<td>1,800</td>
<td>24.6 (2012)</td>
<td>33</td>
<td>6.5</td>
<td>.2</td>
</tr>
</tbody>
</table>


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205 Ibid.
206 Ibid.
Korean and East Asian Military Spending – Less the DPRK

In spite of the major problems in comparing military expenditures, it seems likely that the IISS is broadly correct in estimating that Asian nominal defense spending overtook NATO Europe’s spending in 2012. The IISS estimates Asian spending rising from $268.4 billion in 2011 to $287.4 billion, while NATO spending fell from $290.0 billion to $262.7 billion over the same period.

Asian spending also exceeded official European defense spending in 2012, including non-NATO countries. Excluding Australia and New Zealand, nominal defense spending in Asia rose from $148.1 billion in 2005 to $178.4 billion in 2007, a 9.8% average annual increase. Real defense spending in Asia rose by 2.44% in 2011 and 4.94% in 2012.207 The most the CIA provides in the military expenditures section of its World Factbook is an estimate that the ROK spends 2.7% of its GDP on defense, a statistic that dates back to 2006.208 The CIA presents no date or information for North Korea.209

Unfortunately, the numbers presented in open sources are often questionable and/or lack comparability, and data are often missing for the DPRK:

- **Figure II.2** depicts the IISS’s estimates of national defense spending as a percentage of GDP for 2008-2012.
- **Figure II.3** shows SIPRI’s estimates of the military expenditures of the countries involved on the Korean Peninsula as a percentage of GDP over 2000-2012.
- **Figure II.4** gives the IISS’s estimates of defense expenditures from 2007-2012.
- **Figure II.5** assesses SIPRI’s military expenditures data from 2000-2012.
- **Figure II.6** shows the IISS’s estimates of per-capita defense expenditures during 2007-2012.

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209 Ibid.
Figure II.2: IISS Estimate of National Defense Spending as a Percentage of GDP, 2008–2012

<table>
<thead>
<tr>
<th></th>
<th>US</th>
<th>Russia</th>
<th>ROK</th>
<th>DPRK</th>
<th>Japan</th>
<th>China</th>
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<tbody>
<tr>
<td>2008</td>
<td>4.88</td>
<td>2.52</td>
<td>2.59</td>
<td>0.95</td>
<td>1.32</td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>4.68</td>
<td>3.06</td>
<td>2.10</td>
<td>0.99</td>
<td>1.41</td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>4.76</td>
<td>2.84</td>
<td>2.48</td>
<td>1.00</td>
<td>1.30</td>
<td></td>
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<tr>
<td>2011</td>
<td>4.56</td>
<td>2.79</td>
<td>2.54</td>
<td>1.02</td>
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<td></td>
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<td>4.12</td>
<td>3.06</td>
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<td>0.99</td>
<td>1.24</td>
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Figure II.3: SIPRI Estimate of Military Expenditures as a Percentage of GDP, 2000–2012

Figure II.4: IISS Estimate of Northeast Asian Defense Expenditures, 2007–2012 (US$ billions)

Source: Based primarily on material in IISS, *The Military Balance 2009 and 2013*. Only 2009 data were available for North Korea.
Figure II.5: SIPRI Estimate of Northeast Asian Military Expenditures, 2000–2012 (in constant 2011 US$ billions)

Figure II.6: IISS Estimate of Northeast Asian Per Capita Defense Expenditures, 2007–2012 (US$)

<table>
<thead>
<tr>
<th>Year</th>
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<th>Japan</th>
<th>DPRK</th>
<th>ROK</th>
<th>Russia</th>
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<td>322</td>
<td></td>
<td>551</td>
<td>228</td>
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<td>45</td>
<td>362</td>
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<td>272</td>
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<td>426</td>
<td></td>
<td>515</td>
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<td>2241</td>
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<tr>
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<td>469</td>
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<td></td>
<td>593</td>
<td>420</td>
<td>2057</td>
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Source: Based primarily on material in IISS, *The Military Balance 2009* and 2013. Only 2009 data were available for North Korea.
**DPRK**

Even though the DPRK is clearly one of the most militarized countries in the world, the previous Figures have already shown how difficult it is to provide any analysis of the scope of its spending. Some trends, however, are clear.

* Militarizing a Crippled Economy

Regardless of the uncertainties in some of the data, it is clear that the DPRK’s limited financial resources are a key factor in assessing what types of strategies it may employ in the case of any escalation on the Peninsula. The CIA draws a sharp contrast between the economies of the DPRK and the ROK.\(^{210}\)

North Korea, one of the world’s most centrally directed and least open economies, faces chronic economic problems. Industrial capital stock is nearly beyond repair as a result of years of underinvestment, shortages of spare parts, and poor maintenance. Large-scale military spending draws off resources needed for investment and civilian consumption. Industrial and power output have stagnated for years at a fraction of pre-1990 levels. Frequent weather-related crop failures aggravated chronic food shortages caused by on-going systemic problems, including a lack of arable land, collective farming practices, poor soil quality, insufficient fertilization, and persistent shortages of tractors and fuel.

Large-scale international food aid deliveries have allowed the people of North Korea to escape widespread starvation since famine threatened in 1995, but the population continues to suffer from prolonged malnutrition and poor living conditions. Since 2002, the government has allowed private "farmers' markets" to begin selling a wider range of goods. It also permitted some private farming - on an experimental basis - in an effort to boost agricultural output.

In December 2009, North Korea carried out a redenomination of its currency, capping the amount of North Korean won that could be exchanged for the new notes, and limiting the exchange to a one-week window. A concurrent crackdown on markets and foreign currency use yielded severe shortages and inflation, forcing Pyongyang to ease the restrictions by February 2010.

In response to the sinking of the South Korean destroyer Cheonan and the shelling of Yeonpyeong Island, South Korea's government cut off most aid, trade, and bilateral cooperation activities, with the exception of operations at the Kaesong Industrial Complex. In 2012, KIM Jong Un's first year of leadership, the North displayed increased focus on the economy by renewing its commitment to special economic zones with China, negotiating a new payment structure to settle its $11 billion Soviet-era debt to Russia, and purportedly proposing new agricultural and industrial policies to boost domestic production.

The North Korean government often highlights its goal of becoming a "strong and prosperous" nation and attracting foreign investment, a key factor for improving the overall standard of living. Nevertheless, firm political control remains the government's overriding concern, which likely will inhibit fundamental reforms of North Korea's current economic system.

In terms of the DPRK’s capacity for military action, an IISS study notes,\(^ {211}\)

Although it is difficult to know North Korea’s precise intentions or aspirations, its forces are deployed along the DMZ in such a manner that they could support an invasion of South Korea. In particular, the percentage of North Korean forces deployed within 100km of the DMZ has significantly increased during the past two decades. Currently, North Korea deploys approximately 65% of its military units,

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\(^ {210}\) Ibid.

and up to 80% of its estimated aggregate firepower, within 100km of the DMZ. This inventory includes approximately 700,000 troops, 8,000 artillery systems and 2,000 tanks. Because of these forward deployments, North Korea could theoretically invade the South without recourse to further deployments and with relatively little warning time.

Thus, it has been argued that North Korea’s military strategy is designed around plans to launch an invasion of South Korea. At the same time, North Korea’s armed forces are also positioned in order to deter an attack, being deployed to deliver a pre-emptive strike against the South if Pyongyang believes that an attack is imminent or to retaliate with overwhelming force if the North is attacked. This posture is dictated by the doctrine that ‘attack is the best form of defence’, a formulation that defined Soviet forward deployments in East Germany during the Cold War. The mass forward deployment of North Korean forces also helps to strengthen domestic political support for Pyongyang’s ‘military first’ policy and heavy internal security apparatus.

**Guesstimating the DPRK’s Military Spending**

The DPRK does everything possible to disguise the level of its military effort, and this makes it difficult to find any unclassified estimates of the DPRK’s annual military spending. There are, however, some useful unclassified estimates. A report by Jon Grevatt in *Jane’s Defense Weekly* in 2009 provides some information, but must again be treated as a rough estimate:


The DPRK’s defense budget reached nearly USD 9 billion in 2009, around 15 times more than the official amount declared by Pyongyang, the [ROK] state-run Korea Institute of Defense Analyses (“KIDA”) has said in a report… The KIDA report—cited by the [ROK] state-funded Yonhap news agency on 18 January—said North Korea had previously announced a USD 570 million defense budget, although the real expenditure, calculated on an exchange rate based on Purchasing Power Parity (“PPP”) terms, was USD 8.77 billion… Yonhap quoted the report as saying, “In spite of its economy shrinking since the mid-2000s, North Korea has gradually increased its military spending.”

According to KIDA, official North Korea figures state that the defense budget increased to USD 570 million in 2009 from USD 540 million in 2008, USD 510 million in 2007 and USD 470 million in 2006, although these figures do not reflect PPP … Previous estimates have indicated that DPRK defense spending is equal to at least 15 per cent of [Gross Domestic Product] (“GDP”). In 2008 Pyongyang said it was allocating 15.8 percent of GDP on defense although it has not released any GDP figures for a number of years. In 2009 the US Department of State stated that the DPRK’s defense spending was more than 22 percent based on its estimate that the DPRK’s GDP in 2009 was USD 40 billion based on PPP… How much North Korea is allocating towards defense procurement is similarly contested but it is thought to be at least 40 per cent of its expenditure, with most of these finances directed at centrally controlled indigenous programs: a consequence of the DPRK’s impoverished economy and its international isolation.

213 Ibid.

The ROK’s state-run Korean Institute of Defense Analyses [KIDA] reported that the total gross national income of the DPRK in 2009 was approximately $25 billion, meaning that the DPRK spent about a third of its national income on its military.

The 2012 Japanese Defense White Paper noted that,

Although North Korea has been facing serious economic difficulties and has depended on the international community for food and other resources, the country seems to be maintaining and


enhancing its military capabilities and combat readiness by preferentially allocating resources to its military forces. North Korea deploys most of its armed forces along the DMZ. According to the official announcement at the Supreme People’s Assembly in April 2012, the proportion of the defense budget in FY2011’s national budget was 15.8%, but it is believed that this represents only a portion of real defense expenditures.

Again, it must be stressed that these numbers are little more than educated guesses, though they are almost certainly correct in indicating that the DPRK is willing to devote far more of its total economy to national security expenditures than the ROK. Given a DPRK GDP that experts estimate is around $40 billion and the size of the DPRK’s forces, it also seems likely that Western, ROK, and Japanese estimates that DPRK military spending is close to $9-11 billion are far more accurate than the DPRK’s official military budget of $1 billion.216

The DPRK’s Defense Industry

Although lacking a strong economy, the DPRK does maintain a significant defense industry, following the ideas of juche and songun described in Chapter 1. A recent ROK think tank analysis by Tak Sung Han provides an overview of the history and current status of this sector. The development of the defense industry started in the 1950s with the “preparation stage,” as the DPRK built or rebuilt factories and produced munitions and small arms with the help of the USSR and China. The 1960s saw the “foundation stage,” when the DPRK expanded its production base, initiating development and increased production of conventional firearms by copying Chinese and Soviet models. The “expansion stage” of the 1970s increased the emphasis on quality and modern technology, moving to indigenous production of many weapons types – such as tanks, self-propelled artillery, and combat vessels. Since the 1990s, the DPRK217 has maintained or increased the production level of its ammunitions, missiles, nuclear weapons, strategic materials, and other export-oriented products, and accelerated the technological development in spite of overall production reduction in the defense industry. As a result, North Korea has achieved the top-class level in certain military technologies including missiles, nuclear and bio-chemical weapons. Moreover, North Korea displays high-level military technologies in ammunitions, artilleries, and maneuvering equipment. Even though North Korea’s technological level in aircraft, communications, and electronics is quite low, there has been substantial progress in digital weapons and jamming devices.

The “sophisticated development stage” spanned the 1980s and 1990s, when the DPRK further improved quality and modern technology. During this period, North Korea developed and produced missiles, nuclear weapons, and aircraft. In the 2000s, the DPRK “accelerated its efforts to improve existing weapons systems, develop GPS jamming devices, and advance asymmetric weapons technologies such as missiles and nuclear weapons, rather than increasing the quantity of conventional weapons that have already reached a saturation point.”218

218 Ibid.
There are three primary economic sectors in the DPRK – civilian, military, and “royal.” The latter two receive national priority in manpower and resources. In particular, the defense industry is the foundation of the DPRK’s military power and identity, employing approximately 500,000 workers and accounting for 25-75% of the economy. While the DPRK’s defense industry operated at 80% of capacity in the 1980s, this fell to 38% in the early 1990s and 22% in the late 1990s. Over the past decade, operating capacity has recovered somewhat and currently stands at approximately 30%. Production peaked at $3-4 billion in the 1980s and is likely currently around $1-1.2 billion.\textsuperscript{219}

Since the 1990s, the DPRK’s economic development can be divided into three periods: “Arduous March” (1990-98), economic recovery (1999-2005), and now economic stagnation (2006-present). In each period, the DPRK tried to boost the defense industry despite economic hardship – as shown in Figure II.7. In spite of the -4.18% average economic growth rate over 1990-98, the DPRK still maintained a 30.5% defense industry operating rate, compounding and prolonging the country’s economic crisis. From 1999-2005, economic growth reached 2.74%, during which time the defense industry’s operation rate was 24.9%. From 2001-06, economic growth dropped to .05%, and the industry’s operating rate rose back to 30.9%.\textsuperscript{220}

\textsuperscript{219} Ibid.
\textsuperscript{220} Ibid.
ROK

The ROK makes a sharp contrast to the DPRK. It has become one of the most advanced economies in Asia and now has a technology base that, in some areas, rivals that of the most advanced economies in the world. As Figure II.1 has shown, the CIA estimates that the DPRK’s 2011 GDP was roughly $40 billion (103rd in the world), and the ROK’s 2012 GDP was 40 times higher, approximately $1.62 trillion (13th in the world). The DPRK had an estimated GDP per capita of $1,800 (197th in the world), while the ROK’s GDP per capita was 18 times higher, at $32,400 (40th in the world).221 While the DPRK was the more developed of the two for several decades after the Korean War, the ROK has now vastly outpaced its rigid, over-militarized rival.

Defense Economics

The ROK has, however, had to devote significant resources to defense spending and military modernization. The economy’s capacity to continue such development is essential for ROK preparedness in a potential conflict on the Peninsula. The CIA portrays South Korea’s economy in a far more positive light than that of the DPRK:222

South Korea over the past four decades has demonstrated incredible growth and global integration to become a high-tech industrialized economy. In the 1960s, GDP per capita was comparable with levels in the poorer countries of Africa and Asia. In 2004, South Korea joined the trillion dollar club of world economies, and currently is among the world's 20 largest economies. Initially, a system of close government and business ties, including directed credit and import restrictions, made this success possible.

The government promoted the import of raw materials and technology at the expense of consumer goods, and encouraged savings and investment over consumption. The Asian financial crisis of 1997-98 exposed longstanding weaknesses in South Korea's development model including high debt/equity ratios and massive short-term foreign borrowing. GDP plunged by 6.9% in 1998, and then recovered by 9% in 1999-2000.

Korea adopted numerous economic reforms following the crisis, including greater openness to foreign investment and imports. Growth moderated to about 4% annually between 2003 and 2007. With the global economic downturn in late 2008, South Korean GDP growth slowed to 0.3% in 2009. In the third quarter of 2009, the economy began to recover, in large part due to export growth, low interest rates, and an expansionary fiscal policy.

The US-South Korea Free Trade Agreement was ratified by both governments in 2011 and went into effect in March 2012. Throughout 2012 the economy experienced sluggish growth because of market slowdowns in the United States, China, and the Eurozone. The incoming administration in 2013, following the December 2012 presidential election, is likely to face the challenges of balancing heavy reliance on exports with developing domestic-oriented sectors, such as services. The South Korean economy's long term challenges include a rapidly aging population, inflexible labor market, and heavy reliance on exports - which comprise half of GDP.

Defense Spending and Defense Reform

Figure II.8 shows past ROK and Japanese estimates of ROK defense spending and annual growth rates over 2006-2010. Figure II.9 compares the data in the ROK’s 2013 defense budget to reporting on the overall ROK government budget and GDP from 2009-2013, showing spending by key category in the 2013 budget.

According to SIPRI, the ROK’s military expenditures in 2012 amounted to $31.5 billion, or approximately 2.7 percent of the country’s GDP, while the IISS reports government spending at $29.0 billion, or $593 per person.223 The ROK’s FY2012 defense budget showed an increase of approximately 5% over the previous year, the 13th consecutive year-on-year rise.224 The 2012 budget totaled 32.9 trillion won, accounting for 14.8% of the government budget and 2.4% of ROK GDP. This was the fourth largest national spending category, after

healthcare, welfare, and labor; general public administration; and education. The year-on-year increase amounted to 1,554.5 billion won, which is focused on troop operation expenses, maintenance of combat capability expenses, and defense capability improvement expenses.

The steadily rising levels of ROK defense spending reflect that fact the ROK is undergoing a defense reform project with an ultimate goal, according to the ROK Ministry of National Defense (MND) Deputy Ministry for Planning and Coordination, “to build a ‘slim but strong military.’” The government plans to maintain fiscal soundness in budgeting, seeing mid- and long-term defense spending as a percentage of GDP and as a percentage of the government budget remaining approximately the same. There still is not a great deal of unclassified commentary on the 2013 budget, but past commentary on the 2012 budget helps explain current trends and how they affect the balance. An analysis by Kim Kwang-woo, Deputy Minister for Planning and Coordination at the ROK MND, writing for the government-supported Korea Institute for Defense Analyses (KIDA), explained the 2012 budget’s force maintenance and force improvement projects in detail:

In order to foster a “combat-oriented” military, the Force Maintenance budget for the year 2012 prioritizes maximizing war-fighting capability by tightening military operation and watch systems on the front line and expanding scientific combat training equipment and personal combat equipment. It also focuses on improving the working and living conditions for military service members as well as boosting their morale and welfare by advancing military medical services and improving their living quarters. Consequently, the expenses for military uniforms, military service member health and welfare enhancement, military personnel management, and training and education show a rapid year-on-year increase of more than 10 percent.

The budget for dispatching ROK Forces overseas was set at KRW 22.6 billion, with 21.6 billion allotted for sending troops to multi-national forces (MNF) and 1 billion for PKO activities. The overseas deployments of the Cheonghae Unit (Somali Waters), the Danbi Unit (Haiti) and the Dongmyeong Unit (Lebanon), scheduled to end in late 2011, will continue their PKO activities with the ROK National Assembly approving a bill to extend the dispatch period for the three Units by one year until the end of 2012. As of January 1st, 2012, there are 1,448 Korean troops deployed in 18 areas of 15 countries.

Meanwhile, the cost for defense cost-sharing under the Special Measures Agreement on Defense Cost-sharing from 2009 to 2013 amounts to KRW 746.1 billion, taking into account past budget execution results and the estimated size of future spending.

The 2012 Force Improvement Programs (FIPs) budget prioritizes reinforcement of deterrence capabilities to actively cope with North Korean infiltration/local provocation as well as the threat of long-range artillery. Additionally, in preparation for the OPCON transition in 2015, the budget prioritizes on improving the command and control capacity of the ROK Joint Chiefs of Staff and strengthening core combat capabilities of each service. North Korea bombarded Yeonpyeong-do, an island within the territory of the Republic of Korea, on November 23, 2011. Since the YP-do shelling incident, the ROK Armed Forces have further fortified emergency shelters and protective facilities to ensure sustainability and survivability in the northwestern frontline islands.

To actively cope with various future threats, the ROK Armed Forces aim to secure strategic capabilities. Accordingly, projects for acquiring advanced fighter aircrafts, new submarines, and

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226 Ibid.
modernized destroyers are being planned. Along with projects to introduce new weapons systems, the ROK Forces are also improving existing ones. Performance improvement for the K1A1 tank, maritime patrol aircrafts, and KF-16 fighter jets are also underway.

Meanwhile, to prepare for the OPCON transition, the ROK Armed Forces are planning to newly develop or upgrade modeling & simulation systems and war-gaming simulation facilities, which are mainly led by the ROK Armed Forces, and expenses for such performance improvements are reflected in the 2012 defense budget. In a bid to develop ability to produce indigenous advanced weapons systems, the investment in defense R&D has been expanded to 7.0% of the total defense budget, up from 6.4% in the previous year.

Independent evaluations by groups like the IISS describe the trends in the ROK’s military spending as follows:227

Defence outlays over the next five to ten years will be driven by the need to meet threats from North Korea, modernisation imperatives, reducing the size of the armed forces, and moving to a ‘leaner’ and ‘smarter’ force. The armed forces’ ability to achieve the latter two objectives depends on balanced investments between the services, given the historic army lead. As Seoul prepares for the transfer of full OPCON in 2015, some analysts think that it may be called on to shoulder an increased portion of the defence burden shared with the US. Defence exports are one area of potential growth, though South Korean firms will have to compete in an era of reducing budgets.

The 2012 defence budget amounted to US$29bn or 14.8% of the central government budget and 2.5% of GDP. There is a growing consensus that defence spending should increase to at least 2.7% of GDP. The ‘Mid-Term Defense Plan 2013–17’ called for increased spending on capabilities including surface-to-surface missiles, stand-off precision-guided weapons and airborne electronic-attack systems. However, additional outlays will be constrained by annual growth rates that, due to the country’s maturing economy, will likely hover around 2–3%, as well as by calls for increased social-welfare spending by presidential election candidates.

Figure II.8: ROK Defense Budget and Annual Growth, 2006-2012

Korean Estimate in 2010


Japanese Estimate in 2012

Figure II.9: The ROK 2013 Defense Budget (KRW Billions)

Spending: 2009-2013

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<th>2011</th>
<th>2012</th>
<th>2013</th>
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<td>1,237,128</td>
<td>1,308,642</td>
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<td>201,283</td>
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<td>Defense Budget (Billion $)</td>
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<td>29,563 ($25.7)</td>
<td>31,403 ($27.3)</td>
<td>32,958 ($30.8)</td>
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<td>YoY Increase %</td>
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<td>As % of Government Budget</td>
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Break Out of Spending by Category

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<td>* Force Improvement Program</td>
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<td>* Force Maintenance</td>
<td>24,229.0</td>
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<td>- Food &amp; Clothing</td>
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<td>- Defense Informatization</td>
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<td>- Service Members Welfare</td>
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<td>- Logistics Support</td>
<td>4,233.0</td>
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<td>- Training &amp; Education</td>
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<td>- Installation Construction</td>
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<tr>
<td>- Others</td>
<td>1,983.5</td>
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</tbody>
</table>


US

The US is a key ally of both Korea and Japan and would become involved in any military conflict that occurred on the Korean Peninsula – as the increased US military equipment sent
to the region in March and April of 2013 in response to North Korean threats has shown. The US is, however, cutting its military expenditures as a response to the economic crisis that began in 2008 as well as cutting its forces in a post-Afghanistan and post-Iraq atmosphere of budget constraints and reduced spending.

Some US allies and regional partners are worried about the future US ability to maintain its current force levels and “rebalance” its military posture in Asia. US defense economics and military spending trends have become important not only as a measure of the force levels the US can commit to the Koreas and the Asia-Pacific region, but also as a measure of US capability to reassure its allies and deter potential enemies.

It is difficult to put these concerns in perspective, The US budget submission for FY2014 indicates that the US can fund effective forces for Asia and only a global basis. This does, however, require a far more efficient use of resources by the US Department of Defense, It also requires the Congress to support President Obama’s request for higher defense spending levels that are currently authorized by the acts shaping US legislation on sequestration and future US defense spending ceilings.

**Pressure on the US Economy: A CIA Assessment**

It is interesting to compare the CIA assessment of the US economy to the assessments of the other economies that shape the Korean balance.\(^228\)

The US has the largest and most technologically powerful economy in the world, with a per capita GDP of $49,800. In this market-oriented economy, private individuals and business firms make most of the decisions, and the federal and state governments buy needed goods and services predominantly in the private marketplace. US business firms enjoy greater flexibility than their counterparts in Western Europe and Japan in decisions to expand capital plant, to lay off surplus workers, and to develop new products. At the same time, they face higher barriers to enter their rivals’ home markets than foreign firms face entering US markets. US firms are at or near the forefront in technological advances, especially in computers and in medical, aerospace, and military equipment; their advantage has narrowed since the end of World War II.

The onrush of technology largely explains the gradual development of a "two-tier labor market" in which those at the bottom lack the education and the professional/technical skills of those at the top and, more and more, fail to get comparable pay raises, health insurance coverage, and other benefits. Since 1975, practically all the gains in household income have gone to the top 20% of households. Since 1996, dividends and capital gains have grown faster than wages or any other category of after-tax income. Imported oil accounts for nearly 55% of US consumption.

Crude oil prices doubled between 2001 and 2006, the year home prices peaked; higher gasoline prices ate into consumers' budgets and many individuals fell behind in their mortgage payments. Oil prices climbed another 50% between 2006 and 2008, and bank foreclosures more than doubled in the same period. Besides dampening the housing market, soaring oil prices caused a drop in the value of the dollar and a deterioration in the US merchandise trade deficit, which peaked at $840 billion in 2008. The sub-prime mortgage crisis, falling home prices, investment bank failures, tight credit, and the global economic downturn pushed the United States into a recession by mid-2008. GDP contracted until the third quarter of 2009, making this the deepest and longest downturn since the Great Depression.

To help stabilize financial markets, in October 2008 the US Congress established a $700 billion Troubled Asset Relief Program (TARP). The government used some of these funds to purchase equity in US banks and industrial corporations, much of which had been returned to the government by early 2011. In January 2009 the US Congress passed and President Barack OBAMA signed a bill providing an additional $787 billion fiscal stimulus to be used over 10 years - two-thirds on additional spending and one-third on tax cuts - to create jobs and to help the economy recover. In 2010 and 2011, the federal budget deficit reached nearly 9% of GDP.

In 2012 the federal government reduced the growth of spending and the deficit shrank to 7.6% of GDP. Wars in Iraq and Afghanistan required major shifts in national resources from civilian to military purposes and contributed to the growth of the budget deficit and public debt. Through 2011, the direct costs of the wars totaled nearly $900 billion, according to US government figures. US revenues from taxes and other sources are lower, as a percentage of GDP, than those of most other countries. In March 2010, President OBAMA signed into law the Patient Protection and Affordable Care Act, a health insurance reform that will extend coverage to an additional 32 million American citizens by 2016, through private health insurance for the general population and Medicaid for the impoverished.

Total spending on health care - public plus private - rose from 9.0% of GDP in 1980 to 17.9% in 2010. In July 2010, the president signed the DODD-FRANK Wall Street Reform and Consumer Protection Act, a law designed to promote financial stability by protecting consumers from financial abuses, ending taxpayer bailouts of financial firms, dealing with troubled banks that are “too big to fail,” and improving accountability and transparency in the financial system - in particular, by requiring certain financial derivatives to be traded in markets that are subject to government regulation and oversight.

In December 2012, the Federal Reserve Board announced plans to purchase $85 billion per month of mortgage-backed and Treasury securities in an effort to hold down long-term interest rates, and to keep short term rates near zero until unemployment drops to 6.5% from the December rate of 7.8%, or until inflation rises above 2.5%. Long-term problems include stagnation of wages for lower-income families, inadequate investment in deteriorating infrastructure, rapidly rising medical and pension costs of an aging population, energy shortages, and sizable current account and budget deficits - including significant budget shortages for state governments.

**Pressures on US Defense Spending through FY2013**

For several years, these pressures have led to cuts in US spending plans and led the US to rethink the best ways to reduce spending while maintaining a capable force. An IISS analysis which preceded both the sequestration of significant amounts of the US FY2013 defense budget in March 2013 and new defense cuts projected in the FY2014 defense budget request summarized the trends through mid-2012.229

US Army troop levels will decrease through 2018 from 570,000 to 490,000 regulars, and the Marines will contract from 202,000 to 182,000 regulars. Of the Army’s 45 Brigade Combat Teams (BCTs), eight will be disbanded, while the six Stryker BCTs will remain. Some Marine Corps and Army capabilities will receive slight funding increases – such as a growing UAV fleet, improved Army Special Forces and cyber capabilities, and an additional active combat aviation brigade (for a total of 13), other programs will decrease – such as one fewer Marine infantry regiment HQs (for a total of nine) and a loss of four regular infantry battalions. While the Marines will keep their large vessel fleet, procurement will be less than originally planned.230

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230 Ibid.
The US Navy plans on decommissioning two Whidbey Island-class dock landing ships and seven Ticonderoga-class cruisers early, in FY2013 and FY2014. Furthermore, several shipbuilding programs will be delayed, such as the second Ford-class aircraft carrier (delayed by two years), the Ohio-class submarine replacement (the SSBN(X), by two years), and the second America-class amphibious assault ship (by one year).231

For the Air Force,232 Purchasing plans for the F-35 were scaled down and decelerated, partly reflecting technical problems encountered in the aircraft’s development. The level of simultaneous development within the programme has magnified technical problems. The air force will take delivery of 166 F-35As by FY2017, rather than the previously planned 264. The navy will acquire 69 fewer F-35Bs and Cs over the FY2013–17 period than previously projected. It will instead purchase 41 F-35B short take-off and vertical landing aircraft and 37 F-35C carrier variants over this five-year period. The marines will proceed with plans to acquire the F-35B, which had previously been in question. Slowing delivery of the F-35 for the three services will save $15.1bn between 2013 and 2017.

However, as a result, up to 350 of the air force’s F-16s will be put through a life-extension programme. Air Mobility Command will see the decommissioning of 27 C-5A Galaxy strategic transport and 65 C-130H Hercules tactical transport aircraft, as well as all 38 planned C-27J Spartan intra-theatre-transport airlifters, reflecting the drawdowns in Iraq and Afghanistan, as well as the reduction in strength of the army and marines. The scrapping of 11 RC-26s, one E-8 JSTARS and 18 RQ-4 Block 30 Global Hawk UAVs will have an impact on intelligence, surveillance and reconnaissance fleets.

**Ongoing Cuts but Still Funding the World’s Largest Military Power**

The impact of such cuts and program changes should not be exaggerated if the Congress supports the funding levels laid out in President Obama’s FY2014 budget proposal and FY2014-FY2018 Future Year Defense Plan (FYDP). As Figure II.10 shows, the projected levels of US spending are still extremely high by global standards and by those of the other powers that shape the Korean balance. The FY2014 budget request also did not call for all the cuts called for in the sequestration legislation because the President sought to ease the pressure on defense spending through other measures like cuts in entitlement spending and additional tax revenues.233

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231 Ibid.
232 Ibid.

**More Effective Use of Resources ($19 billion)**
- Reduction in projected health care costs in response to slower growth in Private Sector Care program ($8.9 billion)
- Reduction in civilian payroll costs resulting from DoD-wide FY 2012 Civilian Workload Analysis effort ($0.6 billion)
- Reductions were made to Defense-wide travel and contracted advisory services, facilities maintenance, and personnel support to ensure compliance with the Executive Order on Promoting Efficient Spending ($0.2 billion).
- Reduction in FY 2014 civilian pay raise to 1 percent ($2.2 billion)
- Use less expensive boosters for the Air Force’s Evolved Expendable Launch Vehicle ($1.1 billion)
- Savings associated with multi-year procurement of C-130J ($0.5 billion)
Throughout this year’s budget review, key determinations were made to achieve even more efficiencies, to establish more effective procurement reforms, and to initiate a review of compensation practices. All of those areas are part of our budget plan to achieve the $487 billion in savings from 2012 through 2021 to comply with the spending caps in the Budget Control Act (BCA) of 2011.

The FY 2014 Base Budget provides $526.6 billion, a reduction of $0.9 billion from the FY 2013 annualized continuing resolution level of $527.5 billion, and is consistent with Administration-wide efforts to make tough program choices within current funding constraints. This budget adjusts programs that develop and procure military equipment, re-sizes ground forces, slows the growth of compensation and benefit programs, continues to make better use of Defense resources by reducing lower priority programs, and makes more disciplined use of defense dollars.

There is no way to predict the outcome. The US is now debating and revising every aspect of its strategy and defense plans as part of the far broader debate over US government spending that will take place regarding sequestration and the final shape of the FY2014 budget and outyear plans. Figure II.10 does, however, show the broad trends in US forces in the President’s budget submission for 2014.

- Leveling Mobility Air Force Flying Hour Program ($0.4 billion)
- Resets funding for logistics information technology sustainment ($0.2 billion)
- Other effectiveness initiatives ($4.9 billion)

*Weapons Programs Terminations and Restructuring ($13.7 billion)*
- Terminate Precision Tracking Space System ($1.7 billion)
- Restructure next generation Aegis missile ($2.1 billion)
- Delay procurement of Army’s Apache new build ($1.3 billion)
- Reduced procurement of the Army’s Light Utility Helicopter ($0.4 billion)
- Reduced requirement to field Army’s mid-tier networking vehicular radio ($0.2 billion)
- Revised acquisition strategy of organic unmanned aerial systems at Division level ($0.4 billion)
- Terminates development of redundant rotary-wing unmanned vertical takeoff and landing aircraft system ($0.3 billion)
- Reduce Standard Missile-6 procurement ($0.7 billion)
- Reduced cost growth of Joint Strike Fighter support ($0.7 billion)
- Reduce Marine Corps ammunition requirements ($0.6 billion)
- Reduced FA-18 legacy Hornet Shelf Life Extension Program ($0.6 billion)
- Terminate future Space Based Surveillance follow on satellite ($0.5 billion)
- Reduce excess investment funds for the C-17 related to production efficiencies and lower costs for many modifications ($0.2 billion)
- Reduced Special Operations Forces Ground Mobility Vehicle fleet ($0.2 billion)
- Expand functionality of Special Operations Forces manned Intelligence, Surveillance and Reconnaissance platforms ($0.2 billion)
- Other weapon program terminations or reductions ($3.6 billion)

*Military Construction Restructuring and Delays ($4.1 billion)*
- Requirements changes to multiple Department of Navy construction projects ($1.5 billion)
- Reduce construction projects throughout the Air Force ($2.2 billion)
- Programmatic reduction to Army military construction projects ($0.4 billion)

*Infrastructure Consolidation (-$2.4 billion)*
- Initial increased costs associated with FY 2015 Base Realignment and Closure in order to accomplish reductions in civilian workforce levels and garner multi-year savings in the future ($-2.4 billion).
Figure II.10: US Military Spending: FY2001-FY2018

Spending Trends: FY2000-FY2018

Total Spending: FY2001 to FY2014

<table>
<thead>
<tr>
<th>(Dollars in billions)</th>
<th>FY01</th>
<th>FY02</th>
<th>FY03</th>
<th>FY04</th>
<th>FY05</th>
<th>FY06</th>
<th>FY07</th>
<th>FY08</th>
<th>FY09</th>
<th>FY10</th>
<th>FY11</th>
<th>FY12</th>
<th>FY13</th>
<th>FY14</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base</td>
<td>287.4</td>
<td>328.2</td>
<td>364.9</td>
<td>376.5</td>
<td>400.1</td>
<td>410.6</td>
<td>431.5</td>
<td>479.0</td>
<td>513.2</td>
<td>527.9</td>
<td>528.2</td>
<td>529.9</td>
<td>527.5</td>
<td>526.6</td>
</tr>
<tr>
<td>OCO</td>
<td>22.9</td>
<td>16.9</td>
<td>72.5</td>
<td>90.8</td>
<td>75.6</td>
<td>115.8</td>
<td>166.3</td>
<td>186.9</td>
<td>145.7</td>
<td>162.4</td>
<td>158.8</td>
<td>115.1</td>
<td>87.2</td>
<td>88.5</td>
</tr>
<tr>
<td>Other</td>
<td>5.8</td>
<td>-</td>
<td>-</td>
<td>0.3</td>
<td>3.2</td>
<td>8.2</td>
<td>3.1</td>
<td>-</td>
<td>7.4</td>
<td>0.7</td>
<td>-</td>
<td>-</td>
<td>0.1</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>316.2</td>
<td>345.1</td>
<td>437.5</td>
<td>467.6</td>
<td>478.9</td>
<td>534.5</td>
<td>600.9</td>
<td>665.9</td>
<td>691.0</td>
<td>687.0</td>
<td>645.0</td>
<td>614.8</td>
<td>615.1</td>
<td></td>
</tr>
</tbody>
</table>

Numbers may not add due to rounding.

* Data are discretionary budget authority. FY 2001 through FY 2012 are actual levels. The FY 2014 OCO figure is a placeholder pending submission of a final OCO request.

Baseline (Less OCO) Spending: FY2014 to FY2018

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>FY 2013 PB</td>
<td>533.6</td>
<td>545.9</td>
<td>555.9</td>
<td>567.3</td>
<td>579.3</td>
<td>2,782.0</td>
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<tr>
<td>FY 2014 PB</td>
<td>526.6</td>
<td>540.8</td>
<td>551.4</td>
<td>560.0</td>
<td>568.6</td>
<td>2,747.4</td>
</tr>
<tr>
<td>Delta</td>
<td>-6.9</td>
<td>-5.1</td>
<td>-4.5</td>
<td>-7.3</td>
<td>-10.7</td>
<td>-34.6</td>
</tr>
<tr>
<td>Real Growth</td>
<td>-1.8%*</td>
<td>+1.3%</td>
<td>+0.2%</td>
<td>-0.3%</td>
<td>-0.5%</td>
<td>-0.2%**</td>
</tr>
</tbody>
</table>

* Real growth calculated from the FY 2013 enacted amount ($527.5 billion)
**Average annual real growth for FY 2014 – FY 2018.

Source: Adapted from OSD Comptroller, “FY2014 Budget Summary.”
China

China now dominates Asian military spending and is becoming the largest regional military power in terms of power projection as well as total forces. China maintains an alliance with and is a key material supporter of the DPRK. China would be a key player in shaping the pattern of any potential military escalation on the Korean Peninsula, – as it was in the Korean War.

Moreover, an assessment of China’s defense spending and modernization efforts show that it not only plans to radically improve virtually every relevant aspect of its conventional and asymmetric warfare capabilities that affect the Koreas, but every aspect of its sea-air-missile-nuclear capabilities that affect US power projection capabilities and potentially Japan’s willingness to support US action in defense of the ROK.

Critics of Chinese military spending and China’s lack of transparency often do not discuss the strategic context in which Chinese military modernization and growth is taking place. Chinese analysts themselves point to the surrounding environment and other countries’ military budgets as major drivers of defense spending; two leading analysts, Adam P. Liff and Andrew S. Erikson, point out that, 234

First, in Beijing’s view China faces numerous internal threats to stability ranging from secessionist movements in Tibet and Xinjiang to widespread – if localized – “mass incidents,” i.e. anti-government protests. While there is no open-source evidence of PLA involvement in PAP operations other than the March 2008 suppression in Lhasa, continued domestic security concerns necessarily affect military prioritization. Second, China has land borders with 14 nations – including four nuclear weapons states – and territorial disputes with two of them (primarily India, also Bhutan). Third, China retains maritime boundary or island disputes with all its maritime neighbours.

Thus, Beijing’s political relations with all major military powers in its neighbourhood are, at best, tepid. Combined with Taiwan’s unresolved status, this makes the Near Seas and their immediate approaches a critical area of strategic contention and assertion for China. Fourth, for these and other reasons, China has tense, albeit not unstable, political and military relations with the world’s sole superpower (the US), whose leaders will probably remain suspicious of China’s intentions as long as it retains an authoritarian political system. Despite increasingly global security interests of the kind often used to justify US defence policy (e.g. secure sea lanes of communication for safe passage of the resources and commerce) and sincere concerns about its external environment, China’s defence budget increases remain focused on irredentist but regional concerns, however controversial the means and desired ends of that approach may be to other states with interests in the region.

Still, China has not provided much meaningful transparency regarding its overall military spending or details of much of its military modernization. This makes it difficult to assess both China’s military capacity and how it influences the balance of forces in the Koreas and Northeast Asia.

Capacity for Military Efforts and Official Chinese Reporting

The abilities of a country to sustain a military, undertake modernization, and increase defense spending are all important variables when assessing the balance of potential forces on the

Korean Peninsula. The CIA describes China’s growing economic capacity to support its military forces as follows:235

Since the late 1970s China has moved from a closed, centrally planned system to a more market-oriented one that plays a major global role - in 2010 China became the world's largest exporter. Reforms began with the phasing out of collectivized agriculture, and expanded to include the gradual liberalization of prices, fiscal decentralization, increased autonomy for state enterprises, creation of a diversified banking system, development of stock markets, rapid growth of the private sector, and opening to foreign trade and investment.

China has implemented reforms in a gradualist fashion. In recent years, China has renewed its support for state-owned enterprises in sectors it considers important to "economic security," explicitly looking to foster globally competitive national champions. After keeping its currency tightly linked to the US dollar for years, in July 2005 China revalued its currency by 2.1% against the US dollar and moved to an exchange rate system that references a basket of currencies. From mid 2005 to late 2008 cumulative appreciation of the renminbi against the US dollar was more than 20%, but the exchange rate remained virtually pegged to the dollar from the onset of the global financial crisis until June 2010, when Beijing allowed resumption of a gradual appreciation.

The restructuring of the economy and resulting efficiency gains have contributed to a more than tenfold increase in GDP since 1978. Measured on a purchasing power parity (PPP) basis that adjusts for price differences, China in 2012 stood as the second-largest economy in the world after the US, having surpassed Japan in 2001. The dollar values of China's agricultural and industrial output each exceed those of the US; China is second to the US in the value of services it produces. Still, per capita income is below the world average.

The Chinese government faces numerous economic challenges, including: (a) reducing its high domestic savings rate and correspondingly low domestic demand; (b) sustaining adequate job growth for tens of millions of migrants and new entrants to the work force; (c) reducing corruption and other economic crimes; and (d) containing environmental damage and social strife related to the economy's rapid transformation. Economic development has progressed further in coastal provinces than in the interior, and by 2011 more than 250 million migrant workers and their dependents had relocated to urban areas to find work.

One consequence of population control policy is that China is now one of the most rapidly aging countries in the world. Deterioration in the environment - notably air pollution, soil erosion, and the steady fall of the water table, especially in the North - is another long-term problem. China continues to lose arable land because of erosion and economic development. The Chinese government is seeking to add energy production capacity from sources other than coal and oil, focusing on nuclear and alternative energy development.

In 2010-11, China faced high inflation resulting largely from its credit-fueled stimulus program. Some tightening measures appear to have controlled inflation, but GDP growth consequently slowed to under 8% for 2012. An economic slowdown in Europe contributed to China's, and is expected to further drag Chinese growth in 2013. Debt overhang from the stimulus program, particularly among local governments, and a property price bubble challenge policy makers currently. The government's 12th Five-Year Plan, adopted in March 2011, emphasizes continued economic reforms and the need to increase domestic consumption in order to make the economy less dependent on exports in the future. However, China has made only marginal progress toward these rebalancing goals.

Although historically the PRC has not often publically discussed its defense budgeting in depth, the 2010 Chinese Defense White Paper does address military spending:236

With the development of national economy and society, the increase of China's defense expenditure has been kept at a reasonable and appropriate level. China's GDP was RMB31,404.5 billion in 2008 and RMB34,090.3 billion in 2009. State financial expenditure was RMB 6,259.266 billion in 2008 and RMB7,629.993 billion in 2009, up 25.7 percent and 21.9 percent respectively over the previous year. China's defense expenditure was RMB417.876 billion in 2008 and RMB495.11 billion in 2009, up 17.5 percent and 18.5 percent respectively over the previous year. In recent years, the share of China's annual defense expenditure in its GDP has remained relatively steady, while that in overall state financial expenditure has been moderately decreased.

…. In 2010, confronted by the residual impact of the global financial crisis and other uncertainties, the tension between revenue and expenditure in China's finances persists. Giving priority to socially beneficial spending in agriculture, rural areas and farmers, as well as in education, science and technology, health, medical care and social security, China has increased its defense expenditure moderately as needed. China's defense budget for 2010 is RMB532.115 billion, up 7.5 percent over 2009. The growth rate of defense expenditure has decreased.

**US Analyses of Chinese Defense Budgets**

The US DoD has long questioned Chinese reporting on the size of its defense budgets, issuing higher estimates of the growth in Chinese military spending.

According to the DoD, China increased military spending by 12.7% in 2011; over the period from 2000-2010, China’s official military budget grew at an average of 12.1% in inflation-adjusted terms. At the same time, due to overall economic growth of 10.2% over the same period, the actual burden on the economy of the increased official defense budget appears to have been negligible.

There are a variety of problems when attempting to assess China’s actual defense spending. For one, China’s official military budget does not include major categories of defense-related expenditures, while including line items that are not usually included in other countries’ military budgets. In addition, China still maintains a semi-command economy and a lack of accounting transparency.

The DoD estimated that China’s actual military-related spending for 2010 was over $160 billion. The DoD estimated China’s actual military spending at $120-180 billion in 2011, compared to the official figure of $91.5 billion. China argues that its defense budget expands in parallel with its economic growth, and is not directed at any other country. One Chinese Vice Foreign Minister remarked, “Strengthening China’s defense capability will be conducive to further stability in the region and will be conducive to world peace.”

In his 2012 testimony before the Senate, DIA Director Ronald L. Burgess Jr. provided the following commentary on China’s reported defense spending:

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DIA estimates China spent as much as $183 billion on military-related goods and services in 2011, compared to the $93 billion Beijing reported in its official military budget. This budget omits major categories, but it does show spending increases for domestic military production and programs to improve professionalism and the quality of life for military personnel.

The Chinese Ministry of Finance retroactively announced that the 11.2% increase in the 2012 military budget had been “used to improve living and training conditions for our troops, support the military in promoting IT application, strengthen development of new- and high-technology weapons and equipment, and enhance the country’s modern military capabilities.”

However, the 2012 edition of the DoD report on Chinese Military Power noted that,\textsuperscript{240}

Chinese military investments … have led to the fielding of equipment and capabilities that support the PLA’s traditional set of core missions (such as defending China’s security, sovereignty and territorial integrity), and an expanding array of new missions at home and abroad.

On March 4, 2012, Beijing announced an 11.2 percent increase in its annual military budget to roughly $106 billion. This increase continues more than two decades of sustained annual increases in China’s announced military budget. Analysis of 2000-2011 data indicates China’s officially disclosed military budget grew at an average of 11.8 percent per year in inflation-adjusted terms over the period.

Estimating actual PLA military expenditures is difficult because of poor accounting transparency and China’s still incomplete transition from a command economy. Moreover, China’s published military budget does not include several major categories of expenditure, such as foreign procurement. Using 2011 prices and exchange rates, DoD estimates China’s total military-related spending for 2011 ranges between $120 billion and $180 billion.

According to the Twelfth National People’s Congress, the 2013 budget was to “be used to support efforts to improve the working and living conditions of officers and enlisted personnel, make the armed forces more mechanized and information-based, and safeguard national security.”\textsuperscript{241} In early March 2013, China released its 2013 national budget, forecasting a military expenditure of 720.2 billion yuan ($114.3 billion), a 10.7% increase. Official military spending in 2012 was approximately $106 billion, an 11.2% rise over 2011.

The 2013 edition of the DoD report drew similar conclusions about these figures as in previous years: \textsuperscript{242}

On March 5, 2013, Beijing announced a 10.7 percent increase in its annual military budget to $114 billion, continuing more than two decades of sustained annual defense spending increases. Analysis of data from 2003 through 2012 indicates China’s officially disclosed military budget grew at an average of 9.7 percent per year in inflation-adjusted terms over the period. China has the fiscal strength and political will to support defense spending growth at comparable levels, despite lowering its economic growth forecast in 2012 to 7.5 percent from 8 percent in 2011. Continued increases will support PLA modernization efforts and facilitate China’s move toward a more professional force. (p. 45)


Using 2012 prices and exchange rates, the DoD estimates that China’s total actual military-related expenditure for 2012 falls between $135 billion and $215 billion. However, it is difficult to estimate actual PLA military expenses due to China’s poor accounting transparency and incomplete transition from a command economy. China’s published military budget omits several major categories of expenditure, such as procurement of foreign weapons and equipment. (p. 45)

**Outside Assessments of Chinese Military Spending**

Outside experts also question China’s reporting. Figure II.11 shows the 2013 IISS’ analysis of China’s defense budget trends and estimates over 2009-2011. The IISS projected a possible future convergence with US spending under a variety of scenarios that could take place as early as 2022 or as late as 2050.\(^{243}\)

[... Official Chinese defence budget figures probably underestimate the true extent of Beijing’s defence spending. Although official figures include personnel, operations and equipment expenditure, it is widely held that other military-related expenditures are omitted – such as allocations for R&D and overseas weapons purchases. A fuller account of China’s true military-spending levels should also include funding allocated to the People’s Armed Police (PAP). [...] If estimates of these additional items are included, China’s defence spending rises by a factor of approximately 1.4–1.5 relative to officially published figures, to an estimated RMB883.3bn (US$136.7bn) using market exchange rates (MER). If these higher estimates of Chinese spending are projected into the future, convergence with US defence spending could occur as early as 2023 (if US FY13 proposed spending levels are accepted) or 2022 (if sequestration is instituted).

Of course, several factors might delay or even prevent such convergence. A lower trajectory of economic growth in China as the global economy slows, or a downshift in economic activity as the country attempts to move away from an export-oriented growth model, or economic turbulence as China attempts to modernise its fledgling financial markets and uncompetitive banking sector – these are all factors that could diminish economic growth, limiting the resources available for defence and, at the very least, delaying the date of convergence.

A US analysis by Adam P. Liff and Andrew S. Erikson reached somewhat different conclusions and provided the data on Chinese military spending shown in Figures II.12 and II.13. It also summarized the issues in measuring the trends in Chinese defense spending. In particular, while the official Chinese defense budget has nominally increased at an average annual rate that exceeds 10% since 1990, there are important qualifications when assessing real spending. One qualification is the rampant inflation in the country, which has decreased that real-world impact of what look like large budget increases. Calculating China’s defense budget at constant prices – and thus accounting for inflation effects – shows that China’s effective defense spending growth rate has been much lower.\(^{244}\)

The differences between the nominal (current price) and real (constant price) average annual growth rates are remarkable: 1.6 per cent vs. –3.2 per cent (1980–1989); 15.7 per cent vs. 7.8 per cent (1990–1999); 16.5 per cent vs. 12.5 per cent (2000–2009); and 10.4 per cent vs. 3.1 per cent over the 2010–2011 period. In other words, when calculated in real terms the average annual increases in the budget exceeded 10 per cent during only one of the ten-year periods in [see Figure II.12]: 2000–2009. This all suggests that unqualified statements along the lines of “China’s official defence budget has increased by double-digits since year 19XX,” while in most cases technically true in nominal terms, may exaggerate the real-world effects of these budget increases.


\(^{244}\) Adam P. Liff and Andrew S. Erikson, “Demystifying China’s Defence Spending: Less Mysterious in the Aggregate,” *China Quarterly*, March 2013, p. 4-5.
Furthermore, the PRC’s official defense budget growth has consistently been outpaced by even bigger increases in total national financial expenditures – both of which are roughly correlated with China’s large yearly GDP growth. The official defence budget’s proportion of state expenditures has still decreased from 9.5% in 1994 to 5.5% in 2011. Therefore, Chinese investment in its military forces has comprised a decreasing percentage of government spending, providing some support to official Chinese statements that China’s principal objective is economic development – and thus that defense modernization is subordinate to that goal.245

A Lack of Transparency

Western analysts sometimes criticize this lack of Chinese defense budget transparency and the exclusion of significant defense-related spending from the official budget, arguing that China underreports actual military spending intentionally. Adam P. Liff and Andrew S. Erikson provide an excellent summary of the issues involved; a list of things excluded from the official Chinese defense budget includes:246

- The budget of the 660,000-strong People’s Armed Police (PAP);
- Some domestic procurement and research and development expenses;
- Overseas purchases of major weapons and platforms;
- Contributions from regional and local governments;
- Extra-budgetary revenues and resources from a limited number of military commercial enterprises (such as hospitals, and strategic infrastructure);
- Militarily-relevant portions of China’s space programme;
- Central and local government defence mobilization funds;
- One-time entrance bonuses for college students;
- Authorized sales of land or excess food produced by some units;
- Personnel for motion pictures; and
- Donations of goods, services and money by local governments and enterprises to units and demobilized personnel.

One of the biggest exclusions from the official Chinese defense budget is the PAP; however, this force’s primary focus is domestic, with responsibilities like firefighting, border security, and natural disaster relief. In the event of a war, the PAP would support the PLA in local defense, but neither supports the other in domestic operations in peacetime. The PAP’s budget is categorized under public security expenditures, not national defense expenditures (where the PLA’s budget is located).247

Specific weapons and equipment procurement costs from domestic defense industries and defense-related R&D funds given to civilian defense contractors and PLA armament research institutions are also not publically released. This funding likely comes from

245 Ibid., p. 4-5.
246 Ibid., p. 7-8, 10.
247 Ibid.
several different parts of the government, such as the State Administration for Science, Technology, and Industry. Although much of PLA procurement is domestic, a significant cost-based percentage is imported – in particular, advanced weapons technology and some weapons platforms. The PRC both imports completed weapons systems and promotes foreign-assisted development, licensed production, and reverse engineering. It is believed that these exports are paid for from special accounts controlled by the State Council and thus are not part of the official defense budget. It seems likely that China will continue to rely on such imports for at least several more years due to continuing difficulties in developing key technologies.248

Chinese weapons exports, though small relative to its demographic and geographic size, have been increasing rapidly; from the 2002-2006 period to the 2007-2011 period, they rose 95%. SIPRI announced in early 2013 that China had become the 5th largest arms exporter by volume in the world.249

China’s defense budget also does not include provincial defense-related spending like military base operating costs. It is believed that this money comes from local governments and the Ministry of Civil Affairs. The former also contributes to militia and reserve expenses, including civilians working for some PLA departments. However, a 2010 government statistic showed that only 2.94% of defense expenditures were paid for by local governments, meaning that the exclusion of this spending from the official budget does not significantly affect the real spending numbers.250

Overall, these items and areas excluded from the official defense budget make guesstimating real Chinese defense spending relatively difficult; as Adam P. Liff and Andrew S. Erikson note,251

China’s general lack of transparency about how its official defence budget is calculated makes judging the validity of these Western criticisms very difficult. However, the potential significance of the above exclusions for assessing the size of China’s actual defence budget is suggested in three important studies conducted by the International Institute for Strategic Studies (IISS). In 2006, IISS estimated that including the costs of foreign weapons purchases, subsidies, R&D spending, new product expenditures, arms exports and PAP funding revealed a 72 per cent gap (in RMB terms) between China’s FY2005 official defence budget and “actual” (i.e. IISS-estimated) defence spending. In 2010, IISS estimated a roughly 39 per cent difference between the FY2008 official defence budget and “actual” (i.e. IISS-estimated) defence spending. In 2012, the estimated gap for the FY2010 budget was 41 per cent. It should be noted that, although large, the disparity between the official budget and IISS’s estimates declined significantly over the initial three-year period before stabilizing. As argued in the next section, this shrinking gap, which is consistent with similar trends in estimates by the US Department of Defense, suggests that in recent years an increasing percentage of “actual” PLA funding has been placed “on the books”; that is, officially reported figures increasingly reflect actual spending.

…. Although the exclusion of major items from China’s official defence budget is undoubtedly an issue of concern, less widely known is that the budget also includes some items that are not included in those of its Western counterparts. For example, the PLA still engages in some infrastructure construction projects, although many are designed to be dual-use and paid for from local and national

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248 Ibid.
249 Ibid.
250 Ibid.
251 Ibid.
non-defence funds. It provides some medical help to civilians in remote areas and provides some support to domestic security operations (e.g. during the 2008 Olympics). The PLA also engages in disaster relief, such as the dispatch of over 200,000 personnel in response to the 2008 Wenchuan earthquake – the largest deployment of Chinese armed forces since the 1979 war with Vietnam. There are legal provisions for it to be reimbursed for these operations, but the processes, delays and extent of such reimbursements remain unclear. In Western countries, such tasks are assigned primarily to non-military organizations. The PLA also provides perquisites for retired senior officers (offices, assistants, cars, drivers, cooks, caregivers, and special hospital facilities) that their better-salaried Western counterparts do not receive.

The Chinese Response

Chinese commentators respond to Western criticisms of PRC military transparency in three different ways:

1. Emphasize that there is no universal standard for military transparency;
2. Compare the current level of transparency favourably to even greater opacity previously; or
3. Contend that “the most fundamental and most important form of transparency” is the transparency of China’s strategic intentions, as opposed to the transparency of military capabilities or doctrine.

Western organizations and experts have tried to overcome this murky transparency by independently estimating “actual” defense spending – though many of these estimates are inconsistent for three primary reasons: (1) the difficulty of defining “defence spending”; (2) conversion of China’s RMB-denominated budget into US dollars, especially because of problems with the official exchange rates, application of PPP rates, and inflation and strengthening of the RMB since 2005 – meaning that conversions based on current exchange rates make recent budget increases look larger than they really are; and (3) the lack of transparency regarding the actual costs of individual items and which specific spending categories are already included in the official budget further complicates estimates of actual PLA military expenditures.

In 2009, the US Department of Defense estimated China’s “actual” FY2008 defence budget at US$105–150 billion: 1.8–2.6 times the official figure of US$57.2 billion (RMB417.8 billion) and 2.5–3.6 per cent of GDP. Meanwhile, the Stockholm International Peace Research Institute (SIPRI)’s estimate that year was much lower: US$84.9 billion – 1.48 times the officially released figure. The difference between SIPRI’s estimate and the upper bound of the Department of Defense’s estimate was US$65.1 billion, a difference larger than China’s entire official defence budget that year.

While significant defence-related spending is undoubtedly excluded from China’s official defence budget, some of the items included in foreign estimates of the “actual” figure are controversial. For example, some Western institutions include expenditures for the (domestically focused) PAP in their calculations, labeling it one of the largest extra-budgetary sources of defence spending. But they do so without offering explicit justification. This single line-item can inflate estimates of the budget by as much as one-fifth above the official figure. Take the 2010 figures as an example: adding only official PAP expenditures (RMB93.4 billion) to the official budget (RMB533.4 billion) results in an estimate of “actual” Chinese defence spending 18 per cent higher.

\[252\] Ibid., p. 12.
\[253\] Ibid., p. 15-17.
Furthermore, many other nations, including the US, also have defense-related spending that is outside of their official defense budgets.\(^{254}\)

For example, the US 051 (Department of Defense) budget excludes a significant amount of defense-related spending. In fact, one analysis of US “total defense-related spending” based on similar metrics to those regularly used by Western organizations to estimate China’s “actual” defense budget found a US$187 billion gap between the United States’ official FY2006 defense budget and what this group of American PLA experts calculated as “actual” US defense-related spending that year.

The parallels they draw are intriguing: China is criticized for excluding some funding for officer pensions from its official defence budget, yet the Department of Veterans Affairs’ entire budget, retirement costs paid by the Department of Treasury, and veterans’ re-employment and training programmes paid by the Department of Labor are not included in Department of Defense’s budget. China is criticized for excluding funding for its nuclear and strategic rocket programmes from its official defence budget, yet atomic energy activities related to defence are funded by the Department of Energy and fall outside the Department of Defense’s budget. Finally, China is criticized for excluding the PAP’s budget and various defence activities that are paid for by local governments from its official defence budget, yet neither the Department of Homeland Security budget nor state funding for some US National Guard functions is included in the Department of Defense’s budget… [I]t is important to also stress that while “actual” US defence spending is larger than the official figure, most other relevant spending is relatively transparent, and can be assembled by a knowledgeable analyst. This is significantly less true of China’s defence spending.

Therefore, when viewed in context, it appears that the PRC’s limited military transparency is unlikely to be an attempt by its leadership to obscure its strategic intentions. Other countries in the region with similar economic development levels – such as India, which is a similar size and is also growing quickly – have similar transparency in their military spending, meaning that China is not necessarily an exception in this regard.\(^{255}\)

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254 Ibid., p. 18-19.
255 Ibid.
### Figure II.11: Chinese Defence Budget Trends and IISS Estimates: 2009-2011

<table>
<thead>
<tr>
<th></th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chinese GDP (RMB, billions)</td>
<td>34,090</td>
<td>40,151</td>
<td>47,156</td>
</tr>
<tr>
<td>Chinese GDP Growth</td>
<td>9.2%</td>
<td>10.4%</td>
<td>9.2%</td>
</tr>
<tr>
<td>Official Defense Budget (RMB, billions)</td>
<td>495.1</td>
<td>533.3</td>
<td>583.0</td>
</tr>
<tr>
<td>Nominal Percentage Change</td>
<td>18.5%</td>
<td>7.7%</td>
<td>9.3%</td>
</tr>
<tr>
<td>Real Percentage Change</td>
<td>19.2%</td>
<td>1.8%</td>
<td>4.7%</td>
</tr>
<tr>
<td>Official Defense Budget as a Percentage of Total Outlays</td>
<td>6.5%</td>
<td>5.9%</td>
<td>5.3%</td>
</tr>
<tr>
<td>Official Defense Budget as a Percentage of GDP</td>
<td>1.45%</td>
<td>1.33%</td>
<td>1.24%</td>
</tr>
<tr>
<td>Total Estimated Defense Spending (RMB, billions)</td>
<td>671.8</td>
<td>753.4</td>
<td>883.3</td>
</tr>
<tr>
<td>Nominal Percentage Change</td>
<td>16.3%</td>
<td>12.1%</td>
<td>17.2%</td>
</tr>
<tr>
<td>Real Percentage Change</td>
<td>17.0%</td>
<td>6.0%</td>
<td>9.1%</td>
</tr>
<tr>
<td>Total Estimated Defense Spending as a Percentage of Total Outlays</td>
<td>8.8%</td>
<td>8.4%</td>
<td>8.1%</td>
</tr>
<tr>
<td>Total Estimated Defense Spending as a Percentage of GDP</td>
<td>1.97%</td>
<td>1.88%</td>
<td>1.87%</td>
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<tr>
<td>Official Defense Budget (USD, billions)</td>
<td>72.5</td>
<td>78.7</td>
<td>90.2</td>
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<tr>
<td>Total Estimated Defense Spending (USD, billions)</td>
<td>98.4</td>
<td>111.1</td>
<td>136.7</td>
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<tr>
<td>Total Estimated Defense Spending</td>
<td>6.83</td>
<td>6.78</td>
<td>6.46</td>
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### Figure II.12: PRC Defense Spending-related Comparative Statistics, 1980-2011

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>Defense budget growth rate...</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>... <em>At current prices</em></td>
<td>1.6%</td>
<td>15.7%</td>
<td>16.5%</td>
<td>10.4%</td>
</tr>
<tr>
<td>... <em>At constant prices</em> (base year of 1980)</td>
<td>-3.2%</td>
<td>7.8%</td>
<td>12.5%</td>
<td>3.1%</td>
</tr>
<tr>
<td>GDP growth rate</td>
<td>9.8%</td>
<td>10.0%</td>
<td>10.3%</td>
<td>9.8%</td>
</tr>
</tbody>
</table>
| State financial expenditures growth rate (aggregate – central and local)...
| ... *At current prices*       | 8.6%                       | 16.8%                      | 19.3%                      | 19.5%                       |
| ... *At constant prices* (base year of 1980) | 3.5%                     | 8.8%                       | 15.1%                      | 11.6%                       |

Figure II.13: PRC Official Defense Budget Annual Data, 2002-2012

<table>
<thead>
<tr>
<th>Year</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012*</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP growth rate at current prices</td>
<td>9.1%</td>
<td>10.0%</td>
<td>10.1%</td>
<td>11.3%</td>
<td>12.7%</td>
<td>14.2%</td>
<td>9.6%</td>
<td>9.2%</td>
<td>10.4%</td>
<td>9.2%</td>
<td>N/A</td>
</tr>
<tr>
<td>Defense budget (RMB billions)…</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>… At current prices</td>
<td>170.8</td>
<td>190.8</td>
<td>220.0</td>
<td>247.5</td>
<td>297.9</td>
<td>355.5</td>
<td>417.9</td>
<td>495.1</td>
<td>533.3</td>
<td>602.7</td>
<td>670.0</td>
</tr>
<tr>
<td>… At 2002 constant prices</td>
<td>170.8</td>
<td>186.0</td>
<td>200.6</td>
<td>217.1</td>
<td>251.8</td>
<td>279.1</td>
<td>304.4</td>
<td>362.9</td>
<td>366.6</td>
<td>385.3</td>
<td>N/A</td>
</tr>
<tr>
<td>… As % of GDP</td>
<td>1.42%</td>
<td>1.40%</td>
<td>1.38%</td>
<td>1.34%</td>
<td>1.34%</td>
<td>1.34%</td>
<td>1.33%</td>
<td>1.45%</td>
<td>1.33%</td>
<td>1.28%</td>
<td>N/A</td>
</tr>
<tr>
<td>Defense budget growth rate…</td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>… At current prices</td>
<td>18.4%</td>
<td>11.7%</td>
<td>15.3%</td>
<td>12.5%</td>
<td>20.4%</td>
<td>19.3%</td>
<td>17.6%</td>
<td>18.5%</td>
<td>7.7%</td>
<td>13.0%</td>
<td>11.2%</td>
</tr>
<tr>
<td>… At 2002 constant prices</td>
<td>18.5%</td>
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<td>14.0%</td>
<td>11.0%</td>
<td>17.2%</td>
<td>15.2%</td>
<td>12.8%</td>
<td>13.6%</td>
<td>5.3%</td>
<td>8.3%</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Note: 2012 defense budget is an estimated figure reported in Xinhua.


Chinese Arms Imports and Exports

The PRC both imports completed weapons systems and promotes foreign-assisted development, licensed production, and reverse engineering. It is believed that these exports are paid for from special accounts controlled by the State Council and thus are not part of the official defense budget. It seems likely that China will continue to rely on such imports for at least several more years due to continuing difficulties in developing key technologies.256

These are partly offset by exports, Chinese weapons exports, though small relative to its demographic and geographic size, have been increasing rapidly; from the 2002-2006 period to the 2007-2011 period, they rose 95%. SIPRI announced in early 2013 that China had become the 5th largest arms exporter by volume in the world.257

The US Department of Defense has estimated that from 2007 to 2011,258

China signed approximately $11 billion in agreements for conventional weapons systems worldwide, ranging from general purpose materiel to major weapons systems. In 2012 and the coming years, China’s arms exports will likely increase modestly as China’s domestic defense industry improves. Chinese defense firms are marketing and selling arms throughout the world with the bulk of their sales to Asia and the Middle East/North Africa. In 2012, China unveiled the Yi Long tactical unmanned aerial vehicle, which will probably be marketed to developing countries.

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256 Ibid., p. 7-8, 10.
257 Ibid.
Pakistan remains China’s primary customer for conventional weapons. China engages in both arms sales and defense industrial cooperation with Islamabad, including co-production of the JF-17 fighter aircraft, F-22P frigates with helicopters, K-8 jet trainers, F-7 fighter aircraft, early warning and control aircraft, tanks, air-to-air missiles, anti-ship cruise missiles, and cooperation on main battle tank production. (p. 52)

Sub-Saharan African countries view China as a provider of low-cost weapons with fewer political strings attached compared to other international arms suppliers. China uses arms sales as part of a multifaceted approach to promote trade, secure access to natural resources, and extend its influence in the region. (p. 52)

At the same time, the DoD states that China goes far beyond the normal character of arms imports.\textsuperscript{259}

China relies on foreign technology, acquisition of key dual-use components, and focused indigenous research and development (R&D) to advance military modernization. The Chinese utilize a large, well-organized network to facilitate collection of sensitive information and export-controlled technology from U.S. defense sources. Many of the organizations composing China’s military-industrial complex have both military and civilian research and development functions. This network of government-affiliated companies and research institutes often enables the PLA to access sensitive and dual-use technologies or knowledgeable experts under the guise of civilian research and development. The enterprises and institutes accomplish this through technology conferences and symposia, legitimate contracts and joint commercial ventures, partnerships with foreign firms, and joint development of specific technologies. In the case of key national security technologies, controlled equipment, and other materials not readily obtainable through commercial means or academia, China has utilized its intelligence services and employed other illicit approaches that involve violations of U.S. laws and export controls. (p. 12)

A high-priority for China’s advanced technology acquisition strategy is its Civil-Military Integration policy to develop an innovative dual-use technology and industrial base that serve both military and civilian requirements. China’s defense industry has benefited from integration with its expanding civilian economy and science and technology sectors, particularly sectors with access to foreign technology. Examples of technologies include: advanced aviation and aerospace (hot section technologies, avionics and flight controls), source code, traveling wave tubes, night vision devices, monolithic microwave integrated circuits, and information and cyber technologies. (p. 12)

Differentiating between civil and military end-use is very challenging in China due to opaque corporate structures, hidden asset ownership, and the connections of commercial personnel with the central government. Some commercial entities are affiliated with PLA research institutes, or have ties to and are subject to the control of government organizations such as the State-owned Assets Supervision and Administration Commission. (p. 12)

…China utilizes a large, well-organized network of enterprises, defense factories, affiliated research institutes, and computer network operations to facilitate the collection of sensitive information and export-controlled technology, as well as basic research and science that supports U.S. defense system modernization. Many of the organizations comprising China’s military-industrial complex have both military and civilian research and development functions. This network of government-affiliated companies and research institutes often enables the PLA to access sensitive and dual-use technologies or knowledgeable experts under the guise of civilian research and development. The enterprises and institutes accomplish this through technology conferences and symposia, legitimate contracts and joint commercial ventures, partnerships with foreign firms, and joint development of specific technologies. (p. 51)

As in previous years, China utilized its intelligence services and employed other illicit approaches that

\textsuperscript{259} Ibid.
involve violations of U.S. laws and export controls to obtain key national security technologies, controlled equipment, and other materials not readily obtainable through commercial means or academia. Based on investigations conducted by the law enforcement agencies of the Department of Defense, Department of Justice, Department of Homeland Security, and Department of Commerce, China continues to engage in activities designed to support military procurement and modernization. These include economic espionage, theft of trade secrets, export control violations, and technology transfer. (p. 51)

- In August 2010, Noshir Gowadia was convicted of providing China with classified U.S. defense technology. This assisted China in developing a low-signature cruise missile exhaust system capable of rendering a cruise missile resistant to detection by infrared missiles. (p. 51)

- In September 2010, Chi Tong Kuok was convicted for conspiracy to illegally export U.S. military encryption technology and smuggle it to Macau and Hong Kong. The relevant technology included encryption, communications equipment, and Global Positioning System (GPS) equipment used by U.S. and NATO forces. (p. 52)

- In September 2010, Xian Hongwei and Li Li were arrested in Hungary and later extradited to the United States for conspiring to procure thousands of radiation-hardened Programmable Read-Only Microchips, classified as defense items and used in satellite systems, for the China Aerospace and Technology Corporation. Both defendants pleaded guilty and were sentenced in September 2011 to two years in prison.

- In January 2012, Yang Bin was arrested in Bulgaria and later extradited to the United States based on a December 2011 criminal indictment related to the attempted export of military-grade accelerometers used in “smart” munitions, aircraft, and missiles.

- In July 2012, Zhang Zhaowei, a naturalized Canadian citizen, was arrested while entering the United States, based on a sealed January 2011 indictment alleging Zhang attempted to illegally acquire and export military gyroscopes used in unmanned aerial systems and for tactical missile guidance.

- In September 2012, Zhang Mingsuan was arrested in the United States and indicted after attempting to acquire up to two tons of aerospace-grade carbon fiber. In a recorded conversation, Zhang claimed he urgently needed the fiber in connection with a scheduled Chinese fighter plane test flight.

- In addition, multiple cases identified since 2009 involved individuals procuring and exporting export controlled items to China. These efforts included attempts to procure and export radiation-hardened programmable semiconductors and computer circuits used in satellites, restricted microwave amplifiers used in communications and radar equipment, export-restricted technical data, and thermal imaging cameras. There were also at least two cases in 2011 in which U.S. companies working on Department of Defense contracts subcontracted manufacturing work on small arms and replacement parts to Chinese companies in violation of the Arms Export Control Act. (p. 52)

- In March 2012, Hui Sheng Shen and Huan Ling Chang, both from Taiwan, were charged with conspiracy to violate the U.S. Arms Export Control Act after allegedly intending to acquire and pass sensitive U.S. defense technology to China. The pair planned to photograph the technology, delete the images, bring the memory cards back to China, and have a Chinese contact recover the images. (p. 12)

- In June 2012, Pratt & Whitney Canada (PWC), a subsidiary of U.S. aerospace firm and defense contractor United Technologies Corporation (UTC), pleaded guilty to illegally providing military software used in the development of China’s Z-10 military attack helicopter.

- UTC and two subsidiaries agreed to pay $75 million and were debarred from license privileges as part of a settlement with the U.S. Department of Justice and State Department.
PWC "knowingly and willfully" caused six versions of military electronic engine control software to be "illegally exported" from Hamilton Sundstrand in the United States to PWC in Canada and then to China for the Z-10, and made false and belated disclosures about these illegal exports.

In September 2012, Sixing Liu, aka “Steve Liu,” was convicted of violating the U.S. Arms Export Control Act and the International Traffic in Arms Regulations (ITAR) and possessing stolen trade secrets. Liu, a Chinese citizen, returned to China with electronic files containing details on the performance and design of guidance systems for missiles, rockets, target locators, and unmanned aerial vehicles. Liu developed critical military technology for a U.S. defense contractor and stole the documents to position himself for employment in China. (p. 13)

Japan

Japan has long treated military issues in terms of a purely defensive posture. Its constitution sharply limits the ways in which it can use military force, and it has kept military spending very low as a percentage of its economy. Yet, although Japan’s defense capabilities are limited by its constitution, Japan may amend the document to include some allowance for offensive capabilities – or loosen the definition of “defense” in practice. Japan’s proximity to the Peninsula (the DPRK launched a missile over Japan in 1998), alliance with the US, and growing cooperative relationship with the ROK show that Japan is increasingly involved in, and worried about, possible conflicts that involve the DPRK and ROK.

The Impact of the Japanese Economy

In the spring of 2013, the CIA summarized the state of Japan’s economy and ability to support military forces as follows:260

In the years following World War II, government-industry cooperation, a strong work ethic, mastery of high technology, and a comparatively small defense allocation (1% of GDP) helped Japan develop a technologically advanced economy. Two notable characteristics of the post-war economy were the close interlocking structures of manufacturers, suppliers, and distributors, known as keiretsu, and the guarantee of lifetime employment for a substantial portion of the urban labor force. Both features are now eroding under the dual pressures of global competition and domestic demographic change. Japan's industrial sector is heavily dependent on imported raw materials and fuels. A tiny agricultural sector is highly subsidized and protected, with crop yields among the highest in the world. Usually self-sufficient in rice, Japan imports about 60% of its food on a caloric basis. Japan maintains one of the world's largest fishing fleets and accounts for nearly 15% of the global catch.

For three decades, overall real economic growth had been spectacular - a 10% average in the 1960s, a 5% average in the 1970s, and a 4% average in the 1980s. Growth slowed markedly in the 1990s, averaging just 1.7%, largely because of the after effects of inefficient investment and an asset price bubble in the late 1980s that required a protracted period of time for firms to reduce excess debt, capital, and labor. Modest economic growth continued after 2000, but the economy has fallen into recession three times since 2008.

A sharp downturn in business investment and global demand for Japan's exports in late 2008 pushed Japan into recession. Government stimulus spending helped the economy recover in late 2009 and 2010, but the economy contracted again in 2011 as the massive 9.0 magnitude earthquake in March disrupted manufacturing. Recovery spending helped boost GDP in early 2012, but slower global economic growth began weakening Japan's export-oriented economy by mid-year. Electricity supplies

remain tight because Japan tentatively shut down almost all of its nuclear power plants after the Fukushima Daiichi nuclear reactors were crippled by the earthquake and resulting tsunami.

Newly-elected Prime Minister Shinzo ABE has declared the economy his government's top priority; he has pledged to reconsider his predecessor's plan to permanently close nuclear power plants and has said he will increase stimulus spending and press the Bank of Japan to loosen monetary policy. Measured on a purchasing power parity (PPP) basis that adjusts for price differences, Japan in 2012 stood as the fourth-largest economy in the world after second-place China, which surpassed Japan in 2001, and third-place India, which edged out Japan in 2012.

The new government will continue a longstanding debate on restructuring the economy and reining in Japan's huge government debt, which exceeds 200% of GDP. Persistent deflation, reliance on exports to drive growth, and an aging and shrinking population are other major long-term challenges for the economy.

**Japanese Defense Spending**

Japan can still, however, easily afford to make major improvements in its forces if it chooses to do so. Japanese defense spending has been kept at approximately 1% of GDP for quite some time, although Prime Minister Abe increased defense spending by 0.8% in early 2013, the first increase in 11 years – to 4.68 trillion yen ($51.7 billion), according to the Japanese Defense Ministry. Including funds for relocating US troops and assisting Okinawan residents (where 75% of US bases in Japan are located), the total defense budget will be 4.8 trillion yen. Furthermore, the Coast Guard budget will increase 1.9% to 176.5 billion yen, its first expansion in six years – primarily in response to increased tensions with China over disputed islands. Overall, military outlays account for approximately 5% of Japan’s budget. In comparison, social spending accounts for almost 30% and debt servicing requires almost a quarter of the budget.²⁶¹

Japanese defense spending for 2009-2013 is shown in Figure II.14. According to the IISS,²⁶²

...[T]he JSDF has only been able to make incremental investments in new capabilities for its ‘dynamic defence force’ concept. However, with the government promising to protect all of Japan’s seas and territories, the budget request announced in September 2012 does cover procurements relating to maritime security and the defence of outlying islands. The MSDF has requested ¥72.3bn (US$912m) for a new 5,000 tonne anti-submarine destroyer; it will buy one extra submarine, and has started procuring the Kawasaki P-1 maritime patrol aircraft.

The GSDF has announced plans to buy four amphibious assault vehicles (AAV), costing ¥2.5bn (US$32m) – an acquisition suggesting an attempt to generate an, albeit limited, amphibious assault capability, perhaps with an eye to any contingency on Japan’s outlying islands. That said, the advanced age of the equipment and the low numbers could instead indicate that the procurement is designed so that Japan can learn about amphibious operations. The MoD is further investing around ¥21bn (US$260m) in the creation of a 100-strong cyber defence force.


Russia

Russia shares a border with the DPRK and has a history of involvement on the Peninsula – not the least in supporting the DPRK during the Korean and Cold Wars. In the case of an escalation on the Peninsula, Russian capacity for military efforts could potentially be important for the ultimate resolution of any conflict. The CIA describes Russia’s current economic capacity to support its military efforts as follows:263

Russia has undergone significant changes since the collapse of the Soviet Union, moving from a globally-isolated, centrally-planned economy to a more market-based and globally-integrated economy. Economic reforms in the 1990s privatized most industry, with notable exceptions in the energy and defense-related sectors. The protection of property rights is still weak and the private sector remains subject to heavy state interference.

Russian industry is primarily split between globally-competitive commodity producers. In 2011, Russia became the world's leading oil producer, surpassing Saudi Arabia; Russia is the second-largest producer of natural gas; Russia holds the world's largest natural gas reserves, the second-largest coal reserves, and the eighth-largest crude oil reserves. Russia is also a top exporter of metals such as steel.

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and primary aluminum. Russia's reliance on commodity exports makes it vulnerable to boom and bust cycles that follow the volatile swings in global prices.

The government since 2007 has embarked on an ambitious program to reduce this dependency and build up the country's high technology sectors, but with few results so far. The economy had averaged 7% growth in the decade following the 1998 Russian financial crisis, resulting in a doubling of real disposable incomes and the emergence of a middle class. The Russian economy, however, was one of the hardest hit by the 2008-09 global economic crisis as oil prices plummeted and the foreign credits that Russian banks and firms relied on dried up.

According to the World Bank the government's anti-crisis package in 2008-09 amounted to roughly 6.7% of GDP. The economic decline bottomed out in mid-2009 and the economy began to grow in the third quarter of 2009. High oil prices buoyed Russian growth in 2011-12 and helped Russia reduce the budget deficit inherited from 2008-09. Russia has reduced unemployment to a record low and has lowered inflation below double digit rates. Russia joined the World Trade Organization in 2012, which will reduce trade barriers and help open foreign markets for Russian goods. At the same time, Russia has sought to cement economic ties with countries in the former Soviet space through a Customs Union with Belarus and Kazakhstan, and, in the next several years, through a new Russia-led economic bloc called the Eurasian Union.

Russia has had difficulty attracting capital and has suffered large capital outflows in the past several years, leading to official programs to improve Russia's international rankings for its investment climate. Russia's long-term challenges also include a shrinking workforce, intractable large- and small-scale corruption, and underinvestment in infrastructure.

**Russian Military Spending**

As is the case with China and North Korea, it is difficult to estimate the true cost of Russian military efforts since the state can manipulate many costs through its control over given sectors of the economy, and there is no easy way to compare the price of professional and conscript forces.

**Figure II.15** shows an IISS estimate of Russian military spending trends over 2005-2015, which is almost certainly correct in reflecting a high level of growth over the last decade – although there is no way to know its level of accuracy in terms of the given figure shown or its comparability to other countries.

Russian defense spending as a share of GDP has been increasing in recent years, due in large part to the implementation of an ambitions State Armaments Program 2011-2020. It was reported in one source that Russian military spending rose 16% in 2012.264

While the Russian military has not invested much in new equipment since the 1990s, the recent global financial crisis makes it hard for the military to carry out the necessary modernization. Contracts for the weapons systems called for in the Program have led to tension between the Ministry of Defense (MoD) and the defense industry due to the complexity of the process.

The MoD has instituted a policy that primary contractors may have a maximum rate of profit of 20%, while their suppliers cannot charge more than 1%. This rule has led to increased tensions. It was reported that almost all the major contracts through 2020 had been completed by late 2012. Although the 3-year draft budget had not been completed by late 2012,

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provisional details indicate that total military expenditure will be higher than 5% of GDP if military-related spending in other budget areas is considered, while the national defense share of GDP, without other budget chapters included, is likely to increase to almost 3.8%. The IISS also provided the following supporting assessment of Russia’s defense economics in 2013:

… [B]etween 2006 and 2008 spending under the budget heading ‘National Defence’ (essentially MoD outlays on personnel, operations, construction, procurement and R&D; the development and production of nuclear munitions; participation in peacekeeping operations; state programmes of ‘military-technical cooperation’; and allocations for maintaining the mobilisation preparedness of the economy) was held at approximately 2.5% of GDP. Following the brief war with Georgia in August 2008, far-reaching military reforms were launched and it was decided to speed up re-equipment of the forces. In 2009, when Russia was most severely affected by the global economic crisis, defence spending rose to more than 3% of GDP, then fell back to 2.8% in 2009 and 2010 as the economy began to recover. But with the start of the new ten-year state armaments programme, signed off by Medvedev on 31 December 2010, spending began to increase more rapidly.

The state armaments programme to 2020 was based on an optimistic pre-crisis forecast of annual GDP growth averaging more than 6%. Total spending under the programme is more than R20tr (US$$610bn), of which more than R19tr is for the armed forces under the MoD, the balance for other forces. Of the total funding, 31% is to be disbursed during the five years to 2015, 69% during 2015–20. Whereas the preceding armaments programme to 2015 allocated sizeable shares of funding to R&D and the modernisation and repair of existing arms, the current programme prioritises procurement of new weapons and other military hardware. There is also a parallel ten-year targeted federal programme to develop the defence industry, with total allocated funding to 2020 – not all from the budget – of R3t (more than US$$90bn). This is intended to improve production capacities deemed essential for the manufacture of a new generation of armaments….

Furthermore, Russia is working to rebuild the capacity of its defense industry for both domestic supply and international export. An IISS estimate of Russian arms procurement trends can be seen in Figure II.16, showing that Russia is both increasing its military capabilities in Asia and overall capacity to support its military efforts. Although the domestic defense industry is running into problems with investment, old equipment, worker shortage and skills, quality, reliability, and cost, the industry is working to solve these issues.

Some of the domestic defense industry’s new projects seem to have been successful (i.e., the Yars (RS-24/SS-X-29) ICBM and the Lainer (R-29RMU2) submarine-launched missile), while others have not gone as well. The Borei class strategic submarine’s new Bulava missile had not completed testing as of late 2012, meaning that the entry to service of the first two boats could be delayed to 2013. A fifth-generation fighter (T-50) prototype remains in development, though three aircraft are currently being tested; the third includes an active electronically-scanned array radar. The Air Force plans to procure 60 aircraft based on the T-50 over the 2016-2020 period. Russian domestic ability to design and produce UAVs is still uncertain; recently the country has twice bought Israeli UAVs to use for trials and Russia is now assembling them under license at a domestic factory. There are two projects to develop a

\[\text{265 IISS, Military Balance 2013, p. 205-6.}\]
\[\text{266 Ibid., p. 207-208.}\]
new strike UAV under development, with the government having announced that it would allocate R400 billion to these projects. 267

There is also a new T-95 main battle tank that is being developed, and its aim is to be ready for procurement after 2014. Russia is also investing in imported weapons systems such as “the Mistral amphibious assault vessel, the first of which is now under construction in France, and the Rys (Iveco LMV M65) armored vehicle, now being built at Voronezh under license, with an initial order for over 3,000.” At the same time, government policymakers have indicated that Russia does not have any intention of becoming a significant arms importer, instead increasing domestic development at the same time: 268

...[The] volume of new arms procurement, especially of aircraft, is now increasing steadily although still modest in scale. In 2011, the Federal Service for Military-Technical Cooperation, which oversees arms exports, reported record post-Soviet deliveries of US$13.2bn (compared to US$10.4bn in 2010) and has confidently forecast a similar volume of sales in 2012. However, these data need to be treated with some caution, as annual totals do not refer only to arms transfers. Thus, the Federal Service for Military-Technical Cooperation has revealed that the export of end-product weapons represents around 60% of the total, systems and components around 20%, and spares 10%, leaving another 10% for various military services. Recent developments suggest that a slowdown, or even contraction, of Russian arms sales is now possible. Major orders have been lost, for example air-defence systems to Libya and Iran, and new contracts with Syria must be in doubt, though new orders were announced with Iraq in 2012. Sales to Algeria, Venezuela and Vietnam have helped maintain overall export volumes....
Figure II.15: Russian National Defense Expenditure Trends, 2005-2015

<table>
<thead>
<tr>
<th>Year</th>
<th>GDP (R billion)</th>
<th>Real GDP Change (%)</th>
<th>National Defense Expenditure (R billion)</th>
<th>Percent Change in Real Defense Expenditure (%)</th>
<th>National Defense as a Percentage of GDP (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>21,610</td>
<td>6.4</td>
<td>581.14</td>
<td>13.3</td>
<td>2.69</td>
</tr>
<tr>
<td>2006</td>
<td>26,917</td>
<td>8.2</td>
<td>681.80</td>
<td>1.8</td>
<td>2.53</td>
</tr>
<tr>
<td>2007</td>
<td>33,248</td>
<td>8.5</td>
<td>831.88</td>
<td>7.2</td>
<td>2.50</td>
</tr>
<tr>
<td>2008</td>
<td>41,277</td>
<td>5.2</td>
<td>1040.86</td>
<td>6.0</td>
<td>2.52</td>
</tr>
<tr>
<td>2009</td>
<td>38,807</td>
<td>-7.1</td>
<td>1188.17</td>
<td>12.0</td>
<td>3.06</td>
</tr>
<tr>
<td>2010</td>
<td>45,173</td>
<td>4.2</td>
<td>1276.51</td>
<td>-3.6</td>
<td>2.83</td>
</tr>
<tr>
<td>2011</td>
<td>54,586</td>
<td>4.3</td>
<td>1515.96</td>
<td>2.4</td>
<td>2.78</td>
</tr>
<tr>
<td>2012</td>
<td>61,238</td>
<td>3.5</td>
<td>1864.15</td>
<td>13.4</td>
<td>3.04</td>
</tr>
<tr>
<td>2013</td>
<td>66,515</td>
<td>3.7</td>
<td>2345.70</td>
<td>20.2</td>
<td>3.53</td>
</tr>
<tr>
<td>2014</td>
<td>73,993</td>
<td>4.3</td>
<td>2771.60</td>
<td>10.7</td>
<td>3.75</td>
</tr>
<tr>
<td>2015</td>
<td>82,937</td>
<td>4.3</td>
<td>2864.70</td>
<td>-3.7</td>
<td>3.45</td>
</tr>
</tbody>
</table>


Figure II.16: Russian Arms Procurement (2010-2012) and Approximate State Armaments Program 2020 Objectives

<table>
<thead>
<tr>
<th></th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Planned</td>
<td>Actual</td>
<td>Planned</td>
<td>Actual</td>
</tr>
<tr>
<td>ICBMs</td>
<td>30</td>
<td>27</td>
<td>36</td>
<td>30</td>
</tr>
<tr>
<td>Military Satellites</td>
<td>11</td>
<td>6</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>Fixed-wing Aircraft</td>
<td>28</td>
<td>23</td>
<td>35</td>
<td>28</td>
</tr>
<tr>
<td>Helicopters</td>
<td>--</td>
<td>37</td>
<td>109</td>
<td>82</td>
</tr>
<tr>
<td>S-400 Air Defense Systems (Divisions)</td>
<td>--</td>
<td>--</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Strategic Nuclear Submarines</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Multi-role Nuclear Submarines</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Surface Combat Ships</td>
<td>--</td>
<td>0</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>Tanks</td>
<td>61</td>
<td>61</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Note: “--” indicates insufficient data
Source: IISS, Military Balance 2013, p. 207.
III. Military Modernization Trends

Military modernization efforts are a key variable when assessing the Korean Peninsula, and one where the shifting strategies and military efforts of the US and China play an increasingly important role. The modernization trends of all the countries involved in the region have great significance for what types of engagement could potentially be fought as well as what types of equipment and systems would be needed to counter any provocations by the DPRK – potentially including its allies. Conversely, the modernization of US allies’ militaries also affects the potential course of any engagement as well as how much and what types of capacities the US would need to commit to the region, both in times of peace and in times of tension.

There are serious limits to the unclassified data available for comparisons of Northeast Asian military modernization – especially for China and the DPRK. Unclassified sources do not include many smart munitions, they only cover a limited amount of other weaponry, and they do not reflect investments in logistics and transport. They also often do not include battle management, IS&I, or Command, Control, Communications, and Computer (C4) assets. These are becoming steadily more critical aspects of military modernization.

Later in this section, Figure III.1 to Figure III.5 show that the ROK has modernized more rapidly and with more advanced equipment than the DPRK, while Pyongyang has focused on force expansion. The ROK has almost achieved a massive lead in modern aircraft and surface-to-air missiles. The figures also show that the ROK has an effective plan for force modernization through 2020 – a plan it has upgraded since 2005. There is no unclassified DPRK equivalent.

**DPRK**

The DPRK has limited economic means to support modernization and force expansion. As previously discussed, the CIA estimated in April 2013 that the DPRK had a 2011 GDP of approximately $40 billion (103rd in the world), while the ROK’s 2012 GDP was approximately $1.62 trillion (13th), 40 times greater. The DPRK had an estimated GDP per capita of $1,800 (197th in the world), while the ROK’s GDP per capita was about $32,400 (40th), 18 times greater.269

This, however, has not stopped the regime from both force expansion and force modernization. The first annual DoD unclassified report on North Korean forces was issued in May 2013, describing the DPRK’s modernization programs as follows:270

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The Korean People’s Army (KPA) – an umbrella organization comprising ground, air, naval, missile, and special operations forces – ranks in personnel numbers as the fourth largest military in the world. Four to five percent of North Korea’s 24 million people serve on active duty, and a further 25-30 percent are assigned to a reserve or paramilitary unit and subject to wartime mobilization.

The KPA fields primarily legacy equipment, either produced in, or based on designs of, the Soviet Union and China, dating back to the 1950s, 60s and 70s, though a few systems are based on more modern technology.

…During military parades held in Pyongyang in October 2010 and April 2012, a number of new weapon systems were displayed for the first time, highlighting continued efforts to improve the military’s conventional capabilities, despite financial hardships.

**Ground.** The parades featured several newly identified North Korean tanks, artillery, and other armored vehicles. New infantry weapons have been displayed as well. The display of these systems shows that North Korea continues to produce, or at least upgrade, limited types and numbers of equipment.

**Air and Air Defense.** The North Korean Air Force (NKAF) operates a fleet of more than 1,300 aircraft, primarily legacy Soviet models. The NKAF’s most capable combat aircraft are its MiG-29s, procured from the Soviet Union in the late 1980s. North Korea’s most recent aircraft acquisition was in 1999 when it surreptitiously purchased used Kazakh MiG-21s.

As the NKAF’s aircraft continue to age, it increasingly relies on its ground-based air defenses and hiding or hardening of assets to counter air attacks. During the 2010 military parade, North Korea introduced a new vertical launched mobile surface-to-air missile launcher and accompanying radar. It bears external resemblance to the Russian S-300 and Chinese HQ-9.

**Naval.** The North Korean Navy (NKN) has displayed very limited modernization efforts, highlighted by upgrades to select surface ships and a continued program to construct small submarines. The submarine force, unsophisticated but durable, demonstrated its capabilities by covertly attacking and sinking the ROK warship *CHEONAN* with an indigenously produced submarine and torpedo.

**Special Operations.** In addition to the Special Operations Forces (SOF) wartime mission of deep strike infiltrations combined arms peninsular attack, SOF may also conduct limited asymmetric attacks for political aims.

**Ballistic Missile Force.** North Korea has an ambitious ballistic missile development program and has deployed mobile theater ballistic missiles (TBM) capable of reaching targets throughout the ROK, Japan, and the Pacific theater. North Korea continues to develop the TD-2, which could reach parts of the United States if configured as an intercontinental ballistic missile (ICBM) capable of carrying a nuclear payload. Developing a SLV contributes heavily to North Korea’s long-range ballistic missile development, since the two vehicles have many shared technologies. However, a space launch does not test a re-entry vehicle (RV), without which North Korea cannot deliver a weapon to target from an ICBM. Development also continues on a new solid-propellant short-range ballistic missile (SRBM).

North Korea showcased its TBM force in its October 2010 military parade in honor of the 65th anniversary of the KWP’s founding, including two missile systems shown publically for the first time: an intermediate-range ballistic missile (IRBM) and a version of the No Dong medium-range ballistic missile (MRBM) fitted with a cone-cylinder-flare payload. All of these systems, as well as what appeared to be a new road-mobile ICBM, were paraded in April 2012. This new mobile ICBM has not been flight tested.

These advances in ballistic missile delivery systems, coupled with developments in nuclear technology … are in line with North Korea’s stated objective of being able to strike the U.S. homeland. North Korea followed its February 12, 2013 nuclear test with a campaign of media releases and authoritative public announcements reaffirming its need to counter perceived U.S. “hostility” with nuclear-armed ICBMs. North Korea will move closer to this goal, as well as increase the threat it poses to U.S. forces
and Allies in the region, if it continues testing and devoting scarce regime resources to these programs. The pace of its progress will depend, in part, on how many resources it can dedicate to these efforts and how often it conducts tests.

**Cyberwarfare Capabilities.** North Korea probably has a military computer network operations (CNO) capability. Implicated in several cyber attacks ranging from computer network exploitation (CNE) to distributed denial of service (DDoS) attacks since 2009, the North Korean regime may view CNO as an appealing platform from which to collect intelligence.

- According to a ROK newspaper, Seoul’s Central Prosecutor’s office attributed to North Korea a CNO activity on the ROK’s National Agricultural Cooperative Federation (Nonghyup Bank) servers in April 2011. Through remote execution, actors rendered the bank’s online services inaccessible and deleted numerous files concerning customer bank accounts while removing all evidence of CNO activity in the bank’s servers.
- In the years spanning 2009-2011, North Korea was allegedly responsible for conducting a series of distributed denial of service (DDoS) attacks against ROK commercial, government and military websites, rendering them inaccessible.

Technical attribution of cyberspace operations remains challenging due to the internet’s decentralized architecture and inherent anonymity. Given North Korea’s bleak economic outlook, CNO may be seen as a cost-effective way to modernize some North Korean military capabilities. As a result of North Korea’s historical isolation from outside communications and influence, it is likely to employ Internet infrastructure from third-party nations.

Outside sources sometimes assess the DPRK’s modernization efforts more favorably. For example, *Jane’s World Armies* reports that the DPRK has initiated a wide range of efforts in reorganization, reequipping, forward deployment, restructuring, and upgrading of forces since 1995. Starting in 1998, the KPA slowly worked to mechanize its forces, in particular the artillery. Especially noteworthy are:

*[T]he production and deployment of small numbers of new tanks and long-range self-propelled artillery systems (240 mm and 300 mm multiple rocket launchers (MRL), 170 mm self-propelled guns, etc); the restructuring of two mechanised corps, one tank corps and one artillery corps into divisions; the expansion of existing light infantry units, the establishment of a number of mechanised/motorised light infantry brigades and the conversion of the Ballistic Missile Testing Guidance Bureau into the Strategic Rocket Forces Command.*

*Jane’s* notes one interesting KPA acquisition and possible production – lasers:

Since the 1990s, and possibly earlier, the KPA has employed both laser range-finding and laser-designating equipment. In March 2003, however, the KPA demonstrated a new capability, employing a Chinese manufactured ZM-87 antipersonnel laser against two US Army Apache helicopters flying along the southern side of the DMZ. While none of the crew members were injured, the ZM-87 is capable of causing serious injury to the human eye at 2-3 km and less serious injuries out to 10 km. It is unclear how, and when, the KPA acquired the ZM-87. It is unknown whether the DPRK is attempting to produce this or similar antipersonnel lasers. Defectors have identified the Mangyo Jewel Processing Factory, Man’gyongdae-ri, P’yon Yang-si, as a facility that produces lasers for precision-guided weapons. It is likewise unknown if the acquisition or production is the responsibility of the First Machine Industry Bureau, a component of the Second Academy of Natural Sciences, or the Nuclear-Chemical Defence Bureau.

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272 Ibid.
However, US experts feel that the DPRK is unable to undertake extensive military modernization due to a weak economy and easy access to modern foreign arms.\textsuperscript{273} North Korea’s large, forward-positioned military can attack South Korea with little or no strategic warning, but it suffers from logistic shortages, aging equipment, and poor training. It has attacked South Korean forces in/near disputed territories in the past and maintains the capability for further provocations. Pyongyang is making some efforts to upgrade conventional weapons, including modernizing certain aspects of its deployed missile forces – short-, medium-, and intermediate-range systems.

**Key Force Upgrades**

As such, the KPA has focused its resources on expanding and further developing its asymmetrical capabilities, including WMD, special operations forces, ballistic missiles, and electronic/information warfare. For the DPRK leadership, these capabilities can project a greater threat at a smaller cost than conventional capabilities. Asymmetric capabilities will be discussed further in the latter chapters of this report.\textsuperscript{274}

The DPRK has deliberately pursued an asymmetric strategy to enhance its long-range strike capability against civilian and military targets to compensate for declining conventional capabilities. Specific attention has been focused on self-propelled artillery, multiple rocket launchers, and ballistic missiles. More reliance has also been given to the Special Forces, tasked with stealthy infiltration of the ROK rear.\textsuperscript{275}

According to the 2010 ROK White Paper, DPRK Special Forces have been augmented to a 200,000 end-strength, up from 180,000 in 2008. The DPRK has scarcely, however, halted its efforts to increase its conventional forces. **Figure III.1** provides a summary of DPRK modernization trends based on IISS data. **Figures III.2 to III.5** show how DPRK equipment trends compare with those of the ROK. In virtually every case, the DPRK has been able to acquire more systems than the ROK, though scarcely of the same quality.

\textsuperscript{274} “Jane’s World Armies: Korea, North,” IHS Jane’s, updated October 18, 2012.
**Figure III.1: Key DPRK Equipment Modernization, 2000-2013**

### Army

<table>
<thead>
<tr>
<th>Type</th>
<th>2000</th>
<th>2013</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>MBTs</td>
<td>3,500</td>
<td>3,500+</td>
<td>IISS reported no changes in DPRK MBT holdings but the 2010 ROK White Paper noted the introduction of the <em>Pokpung-Ho</em> (Storm Tiger), believed to be modeled on the T-72</td>
</tr>
</tbody>
</table>

### Air Force (and Air Defense)

<table>
<thead>
<tr>
<th>Type</th>
<th>2000</th>
<th>2013</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAMs</td>
<td>45 SA-2</td>
<td>179+ SA-2</td>
<td>Major reported increase in DPRK SAM holdings</td>
</tr>
<tr>
<td></td>
<td>7 SA-3</td>
<td>133 SA-3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 SA-5</td>
<td>38 SA-5</td>
<td></td>
</tr>
<tr>
<td><strong>Combat Aircraft</strong></td>
<td><strong>16 MIG-29 <em>Fulcrum</em></strong></td>
<td><strong>18+ MIG-29A/S <em>Fulcrum</em></strong></td>
<td></td>
</tr>
<tr>
<td>Attack Helicopters</td>
<td></td>
<td>20 Mi-24 <em>Hind</em></td>
<td></td>
</tr>
</tbody>
</table>

### Navy

<table>
<thead>
<tr>
<th>Type</th>
<th>2000</th>
<th>2013</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Submarines</td>
<td>26 SSK PRC Type-031/FSU <em>Romeo</em></td>
<td>22 SSK PRC Type-031/FSU <em>Romeo</em></td>
<td>Aggregate decrease in total DPRK submarines with 4 SSKs either retired or not operational in 2013, increase in SSC and SSW (midget) submarines</td>
</tr>
<tr>
<td></td>
<td></td>
<td>28 SSC <em>Sang-O</em></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2+ SSC <em>Sang-O II</em></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>20+ SSW Yugo and <em>Yeono</em></td>
<td></td>
</tr>
</tbody>
</table>

Source: All figures unless otherwise noted are based primarily on material in IISS, *The Military Balance 2013.*
Figure III.2: ROK Estimates of DPRK Equipment Trends from 2004 to 2010

DPRK

<table>
<thead>
<tr>
<th>Equipment Type</th>
<th>2010</th>
<th>2008</th>
<th>2006</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tanks</td>
<td>4100</td>
<td>3900</td>
<td>3700</td>
<td>3700</td>
</tr>
<tr>
<td>Armored Vehicles</td>
<td>2100</td>
<td>2100</td>
<td>2100</td>
<td>2100</td>
</tr>
<tr>
<td>Field Artillery</td>
<td>8500</td>
<td>8500</td>
<td>8500</td>
<td>8500</td>
</tr>
<tr>
<td>MRLS</td>
<td>5100</td>
<td>5100</td>
<td>4800</td>
<td>5000</td>
</tr>
<tr>
<td>River Crossing</td>
<td>3000</td>
<td>3000</td>
<td>2200</td>
<td>2200</td>
</tr>
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</table>


ROK

<table>
<thead>
<tr>
<th>Equipment Type</th>
<th>2010</th>
<th>2008</th>
<th>2006</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tanks</td>
<td>2300</td>
<td>2300</td>
<td>2300</td>
<td>2300</td>
</tr>
<tr>
<td>Armored Vehicles</td>
<td>2500</td>
<td>2400</td>
<td>2500</td>
<td>2400</td>
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<tr>
<td>Artillery/MRLS</td>
<td>5200</td>
<td>5400</td>
<td>5300</td>
<td>5300</td>
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<tr>
<td>Guided Weapons</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>30</td>
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<tr>
<td>Helicopters</td>
<td>600</td>
<td>600</td>
<td>600</td>
<td>600</td>
</tr>
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Figure III.3: ROK Estimates of DPRK and ROK Navy Equipment Trends from 2004 to 2010

**DPRK**


<table>
<thead>
<tr>
<th>Year</th>
<th>Surface Combatants</th>
<th>Submarines</th>
<th>Landing Vessels</th>
<th>Mine Sweeping Boats</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>420</td>
<td>70</td>
<td>260</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>2008</td>
<td>420</td>
<td>70</td>
<td>260</td>
<td>30</td>
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<tr>
<td>2006</td>
<td>420</td>
<td>60</td>
<td>260</td>
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<tr>
<td>2004</td>
<td>430</td>
<td>70</td>
<td>260</td>
<td></td>
<td>30</td>
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</table>

**ROK**


<table>
<thead>
<tr>
<th>Year</th>
<th>Submarines</th>
<th>Combat Vessels</th>
<th>Support Vessels</th>
<th>Helicopters</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>10</td>
<td>140</td>
<td>20</td>
<td>50</td>
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<tr>
<td>2008</td>
<td>10</td>
<td>140</td>
<td>20</td>
<td>40</td>
</tr>
<tr>
<td>2006</td>
<td>10</td>
<td>120</td>
<td>40</td>
<td>50</td>
</tr>
<tr>
<td>2004</td>
<td>10</td>
<td>140</td>
<td>20</td>
<td>60</td>
</tr>
</tbody>
</table>
Figure III.4: ROK Estimates of DPRK and ROK Air Force Equipment Trends from 2004 to 2010

ROK

ROK

The ROK provides a great deal more data on its modernization, spending, and force development efforts. As a result, there are a wide range of useful South Korean and outside estimates of current trends.

**ROK Modernization Plans**

The ROK is committed to significant future defense reforms, especially in light of increased DPRK provocations over the past several years, and particularly in terms of military hardware. It has “obtained additional stealth air-to-surface missiles and advanced cluster bombs and is developing deep-penetrating ‘bunker-buster’ bombs capable of destroying fortified artillery in the event of a new shelling attack.” Furthermore, the Defense ministry requested approximately 2.5 trillion won (about $2.1 billion) over a five year period to improve missile capabilities.\(^{276}\) According to the IISS,\(^{277}\)

South Korea’s armed forces have to enhance deterrence, war-fighting and intelligence capabilities across the full range of contingencies vis-à-vis the North, while also taking into account the systematic military modernisation of key neighbouring powers.

Moreover, as the armed forces prepare for the transfer of OPCON, the South Korea–US Combined Forces Command has to be reconfigured. At the same time, Seoul’s military intelligence, C4ISR, network-centric warfare, and cyber-security capabilities all require upgrades.

*Jane’s* highlights some of the ROK’s recent modernization achievements and focuses:\(^{278}\)

Recent developments will improve overall ROKA operational effectiveness in the near term. These include converting infantry formations into mechanised forces with significantly enhanced mobility and firepower, improving tactical C3I and redesigning the cumbersome corps and division structure dating from the Korean War into more flexible division and brigade task forces based on newly empowered combined arms mechanised brigades. Other improvements include the introduction of new self-propelled howitzers, new main battle tanks (MBTs) and armoured infantry fighting vehicles (IFV) and a decision to introduce nearly 600 new attack, surveillance and utility helicopters.

Figure III.5 summarizes key equipment modernizations.

**A Series of Defense Reform Plans**

In 2005, the ROK introduced the National Defense Reform Plan 2020, which focused on modernizing the military structure and force size and expanding the civilian base for national defense. Conceived during the Sunshine Policy era, the key premise was that the increasing absence of a DPRK military war threat meant that a large number of ROK forces to balance this threat would not be needed. As described by USFK,\(^{279}\)


Three phases have been established that will allow for a quicker force that can operate more precisely in an ever-changing global environment. This includes a force that relies less on manpower and more on technology. This change in focus results in a shift from the fixed and slow moving force focused on threat-based situations to a rapidly deployable, capability-based force.

The current Defense Reform Plan 2020 includes downsizing of the military force, reducing the active components to 500,000 personnel and the reserve components to 1.5 million. These represent reductions in forces by 27 percent and 52 percent respectively. The expenses saved in personnel will be dedicated to develop a more technologically sophisticated force. By having already enhanced its ability to manufacture and produce weapons and equipment resulting from fulfilling the 1974 through 1981 Force Improvement Plan, the Korean government is able to use much of its military investments to enhance its industrial base and further establish a more self-reliant defense system.

The plan was amended in June 2009 with the “Defense Reform Basic Plan (2009-2020),” further refining the modernization and civilian base expansion goals while also reducing the previously-planned force strength reduction (from a projected 500,000 to 517,000) and introducing the possibility of preemptive strikes against DPRK missile and nuclear facilities. Figure III.6 portrays the Mid-Term Force Improvement Plan covering the first period of reform from 2011 to 2015, and Figure III.7 shows the relocation of ROK forces into a more condensed network of bases, to be completed by 2020.

The following measures were prioritized to prepare for DPRK threats:

1. Organize frontline troops in a manner that allows them to exercise their combat strength immediately after the outbreak of war to secure the security of the metropolitan region;
2. Boost surveillance/reconnaissance, precision strike, and interception capabilities in order to block and eliminate North Korea’s asymmetric threats in enemy areas to the utmost extent;
3. Secure strong reserve mobile power for each unit in order to counter enemies with a numerical advantage; and
4. Secure combat sustainability by stabilizing noncombat zones and nurturing elite reserve forces.

In late 2009, President Lee commissioned 15 experts to reexamine and redesign the ROK Defense Reform Plan due to the changing geostrategic environment. One year later, the Presidential Committee for Defense Reform submitted proposals for modifying 71 of the Defense Reform Plan projects. Based on these proposals, the Ministry of National Defense (MND) released an updated version, focusing on military structure and the defense management system, to be implemented in short-, mid-, and long-term projects. This plan, entitled Defense Reform Plan 307, also took into account the ROK experiences with recent DPRK provocations (Cheonan and Yeonpyeong) and President Lee approved it in March.

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In a report describing the changes envisioned by the plan, the MND foresaw a reinforcement of its troops and reforms in the chain-of-command. Three priority areas were identified: increasing the integrity of the ROK armed forces through military restructuring, ensuring active deterrence capabilities, and maximizing the efficiency of the national defense administration and force structure. Early warning and surveillance capabilities, including increasing the number of UAVs, were also emphasized. Furthermore, eight priority issues were identified:\footnote{Japanese Ministry of Defense, \textit{Defense of Japan 2012}, p. 24.}

(9) Reorganization of the armed forces’ chain-of-command
(10) Establishment of an island defense command for the northwest (Yellow Sea)
(11) Improvement of the national defense training structure
(12) Organization of a priority order for strengthening military power
(13) Response to North Korea’s special forces and cyber threats
(14) Enhancement of mental strength and assistance for educating national citizens about security
(15) Improvement of the national defense personnel management system
(16) Bettering the efficiency of the national budget

Previously, the ROK military strategy had “placed greater emphasis on deterring North Korea’s intention to provoke by mainly acquiring defensive capabilities,” also termed “defense by denial” – whenever the DPRK made a provocation, the ROK would try to contain the action and prevent further escalation, maintaining peace on the Korean Peninsula.\footnote{Kyu-dok Hong, “The ROK Announces its Defense Reform Basic Plan 2012-2030,” \textit{Korea Institute for Defense Analyses}, October 4, 2012; Rhee Sang-Woo, “From Defense to Deterrence: The Core of Defense Reform Plan 307,” CSIS, September 7, 2011.}

Conversely, the updated 2012-2030 Plan focused on enabling the South Korean military to retaliate immediately, proportionally, and in a focused way against the DPRK based on enhanced offensive capabilities – so that the DPRK would cease provocations. The ROK Minister of National Defense at the time stated, “[i]f the enemy attacks our people and territory, I will use force to punish the enemy to make sure it doesn’t even dare to think about it again. The enemy should be punished thoroughly until the source of hostility is eliminated.”\footnote{The minister is Kim Kwan-Jin; Kyu-dok Hong, “The ROK Announces its Defense Reform Basic Plan 2012-2030,” \textit{Korea Institute for Defense Analyses}, October 4, 2012.}
According to the ROK Deputy Minister for Defense Reform at the MND, the updated Plan “clearly reflects the guideline that a proactive deterrence, rather than a simple deterrence, is needed even during times of relative peace in order to deter North Korean provocations.” Credible intimidation to dissuade the adversary from even planning provocations is key. In particular, special combat units in the Army, Navy, and Air Force would be newly activated or reorganized in response to the asymmetric threats. Previously, the ROK had relied on three mutually reinforcing strategic pillars: forward active defence, defensive deterrence, and alliance with the US. However, force reorganization would increase proactive deterrence capacity.

In the case of the Army, the mountain brigade will be set up in response to the potential infiltration of the North Korean Special Operational Forces (SOF), which are currently estimated to number around 200,000 men. The Mountain brigade will be supplied with lightweight equipment and will operate in the mountainous region of the eastern front.

As for the Navy, the Submarine Command will be established as a part of the submarine modernization plan, by expanding the existing submarine group. Moreover, a next generation Korean destroyer, KDDX will be constructed and deployed after 2020. The size of this new destroyer will be between that of the currently operating 4,200-ton KDX-II and the Aegis Destroyer KDX-III, and will be assigned to a naval task force.

The Marine Corps will activate the Jeju Unit and become responsible for the integrated civil-government-military defense operations in the vicinity of Jeju Island in lieu of the Jeju Defense Command currently under the command of the Navy. Moreover, in order to reinforce the defense of the northwestern frontline Islands and to strengthen the Marines’ amphibious capabilities, the Marine Aviation Group equipped with amphibious maneuverability and attack helicopters will also be activated.

The priority of the Air Force is to first establish the Air Intelligence Group by the year 2017, which will be responsible for aerial reconnaissance and intelligence support. The Air Intelligence Group will operate reconnaissance aircraft, mid- to high-altitude unmanned aerial vehicles (UAVs), as well as intelligence acquisition equipment for imagery intelligence (IMINT) and electronic signals intelligence (ELINT). Furthermore, the Satellite Surveillance Control Squadron responsible for the surveillance of military and civilian satellites passing over the Korean peninsula is also planned to be established by the year 2019. The satellite reconnaissance and surveillance capabilities will not only provide greater air and space operations capabilities but will also help the ROK military to detect any potential threats against the ROK in advance, to prevent any contingencies and to increase the effect of their response.

Finally, the ROK military is reorganizing its force structure in preparation against North Korea’s SOF and cyberspace threats. The Ministry plans to reinforce rear area operation units and strengthen our homeland defense divisions. In order to improve their execution capabilities, the ROK military decides to upgrade rear area C2 & strike system. Furthermore, the ROK military is increasing the number of personnel allocated to the Cyber Command in response to asymmetric threats.

In order to better prepare for the rising cyber-security threat, cyber-warfare staffing was planned to increase by 1,000. The ROK also committed to improving force structure

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286 IISS, Military Balance 2013, p. 271.
capabilities to better respond to the DPRK’s missile threats, while also reorganizing the command and personnel structures.\footnote{287 Kyu-dok Hong, “The ROK Announces its Defense Reform Basic Plan 2012-2030,” \textit{Korea Institute for Defense Analyses}, October 4, 2012.}

In addition to the reorganization plan for field units, plans for the development and allocation of weapons systems have been developed in order to effectively respond to enemy attacks. The plans include development of ballistic missile capabilities, procurement of ballistic missile detection radars in response to North Korea’s ballistic missile threats, and development and deployment of mid-range surface-to-air missiles (M-SAMS) and long-range surface-to-air missiles (L-SAMS). Hereby, the capacity and competencies of the Missile Command will be significantly improved.

North Korea holds a higher strategic ground against South Korea in terms of missile and long-range artillery capabilities since it is currently assessed to be in possession of, and to have fielded mid-range Nodong (range: 1,300 km) and Musudan (range: 2,500 to 4,000 km) missiles, and to be developing a long-range missile, the Taepodong 2 (range: 6,000 km). Moreover, while there are some practical constraints on South Korea’s ability to exercise its proactive deterrence strategy in reality, North Korea can strike any place, anywhere in South Korea as it targets. Hence, the extension of South Korea’s missile range is imperative. Furthermore, acquiring deterrent capabilities to directly strike North Korean core facilities such as nuclear facilities and missile operating bases even during the armistice is of vital importance.

The ROK military intends to restructure its operational command structure. Under a new streamlined structure, the ROK military will unify its operational command and support by allowing the three Service Headquarters to directly participate in the operational chain of the ROK Chairman of the JCS. The purpose of restructuring operational command system lies in reducing inefficiency and ensuring more effective operational execution in any given theater. The Armed Forces Organization bill to realize such an idea was introduced to the National Assembly on September 24, 2012.

Under the proposed bill, the currently top-heavy command structure will be streamlined by integrating the Headquarters and Operations Command of individual Services. And, in turn, more personnel will be able to be assigned to the tactical units where they are most needed so that the ROK military can be transformed into a stronger warfighting force. A reduction in the overall number of flag officers is also planned. Such a reduction, however, is not intended to be a unilateral reduction. Rather, those areas more pertinent to actual combat operations will see an increase in the number of flag officers.

In anticipation of the effects of the low birth rate on the nation’s population growth as well as reduced budget and the changing battlefield environment, the personnel structure reform characterized by down-sized troops and increased number of non-commissioned officers (NCOs) will be implemented.

The overall manpower will be reduced from the current level of 636,000 to 522,000 service members by the year 2022. While the number of seamen, airmen, and marines will be maintained at the current level of 41,000, 65,000 and 28,000 respectively, that of the soldiers of the Army will be reduced in numbers from approximately 500,000 to 387,000. Moreover, the number of corps and divisions will also be reduced from eight to six and 42 to 28, respectively.

In order to guarantee that the reduction in the number of service members does not lead to any reduction of actual strength of the forces, the MND will acquire high-tech weaponry and equipment and progressively promote the officers and NCOs, mainly through expansion of the NCO’s recruitment volume. Accordingly, the average proportion of officers and NCOs in individual Services is expected to be increased from the current level of 29.4 percent to 42.5 percent by the year 2025. In addition, the completion of the increase in the number of female service members, which was previously planned for the year 2020, will be completed by the year 2017. Consequently, the average percentage of female officers and NCOs will increase up to 7 percent and 5 percent, respectively. Also, additional Military
Occupational Specialties (MOS) such as artillery, armor and air defense will be opened to female service members.

Meanwhile, in light of the changes in the military structure followed by the deactivation of the First and Third ROK Armies scheduled in 2015, a new operations execution system focusing on corps level units will be established. As for the battalion level, a special emphasis will be placed on strengthening the combat execution capabilities of infantry battalions responsible for frontline operations. Mid-range anti-tank guided weapons, dual-caliber air-burst assault rifles, and small UAVs will be provided to battalion level units. The number of officers and NCOs at the battalion level will also be increased from the current level of 90 to 152.

In order to carry out these reforms, the deputy minister estimated that the 2012-2016 defense budget would require 187.9 trillion won along with a continuation of the current annual budget increase rate of 6-8%, in total comprising 59.3 trillion won for force improvement programs with an annual estimated increase rate of 8.8% and 128.6 trillion won for operations and maintenance. The ROK also recently released the Mid-Term Defense Plan 2013-17, focusing specifically on measures to counter the DPRK’s growing nuclear, ballistic missile, cyber, and long-range artillery capabilities.²⁸⁸

The top priority lies in deploying the Hyunmu 2A SSM and the Hyunmu-3C cruise missiles after configuration tests are completed between 2012 and 2014. The ministry also stressed the need to deploy mid- and long-range surface-to-air missiles against North Korea’s growing ballistic-missile inventory; the so-called L-SAM programme (a Korean Patriot variant) is due to begin development in 2013, with an initial cost of some US$87m. In total, the ministry plans to spend some US$5.3bn up to 2016 in meeting current military threats from the North. Critics have said, however, that by focusing on countering near-term North Korean threats, South Korea has under-emphasised some emerging risks.

The mid-term defence plan also called for the general-purpose forces to be reduced from 636,000 to 520,000 by 2022, leaving 387,000 in the ground forces; 65,000 in the air force; 40,000 in the navy; and 28,000 Marines. By 2020, the army will reduce to eight corps and 37 divisions, and fall further to six corps and 28 divisions by 2030. Meanwhile, a Mountain Brigade will be created by 2020, together with extra ATGW units and short-range UAVs. The navy has announced a range of capability developments intended to better meet North Korean and regional contingencies and has said it will establish new marine, ground-defence and attack-helicopter units.

### Army

<table>
<thead>
<tr>
<th>Type</th>
<th>2000</th>
<th>2013</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Battle Tanks</td>
<td>800 Type-88 (K1)</td>
<td>1484 K1/K1A1</td>
<td>Armor holdings increased from about 2,130 to 2,410 by 2010 with an emphasis on shifting toward third-generation MBTs</td>
</tr>
<tr>
<td>APCs</td>
<td>300 Bv206</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Artillery</td>
<td>300 K-9 Thunder</td>
<td></td>
<td>Introduced in 2005, the K-9 self-propelled howitzer was designed to replace the aging M109A2 and significantly increase the ROK’s artillery capacity.</td>
</tr>
<tr>
<td>SAMs</td>
<td>110 MIM-23B I-HAWK</td>
<td>Chung Ma Pegasus (SP)</td>
<td>158 MIM-23B I-HAWK; 48 Patriot PAC-2</td>
</tr>
</tbody>
</table>

### Navy

<table>
<thead>
<tr>
<th>Type</th>
<th>2000</th>
<th>2013</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Submarines</td>
<td>3 KSS-1 Dolgorae</td>
<td>9 Chang Bogo</td>
<td>8 SSI Dolphins were phased out within this period</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 SSK Son Won-ill</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 KSS-1 Dolgorae</td>
<td></td>
</tr>
<tr>
<td>Destroyers</td>
<td>3 King Kwanggaeto</td>
<td>6 Chungmugong Yi Sun-Jhin KDX-II</td>
<td>To reach their goal to become a blue-water navy by 2020, the decade saw major developments with new lines of indigenous destroyers being deployed. Older surface ships appear to have been retired.</td>
</tr>
<tr>
<td></td>
<td>3 Kwang-Ju</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cruisers</td>
<td></td>
<td>2 Sejong KDX-III</td>
<td></td>
</tr>
<tr>
<td>Frigates</td>
<td>3 Gwanggaeto Daewang KDX-I</td>
<td>9 Ulsan</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>9 Gundoksuri</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>21 Po Hang</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>4 Dong Hae</td>
<td></td>
</tr>
<tr>
<td>Corvettes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Naval Aviation</td>
<td>23 combat capable fixed-wing aircraft (15 S-2Es, 8 P-3C Orion)</td>
<td>16 combat capable fixed-wing aircraft (8 P-3C Orion, 8 P-3CK Orion)</td>
<td>Decrease in total naval aviation. Fixed-wing holdings fell from 23 to 16 and armed helicopters from 47 to 24. ASW capabilities were however doubled, with further increases anticipated.</td>
</tr>
<tr>
<td></td>
<td>12 Lynx (ASW)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>24 Lynx MK99/MK99A (ASW)</td>
<td></td>
</tr>
</tbody>
</table>
### Air Force

<table>
<thead>
<tr>
<th>Type</th>
<th>2000</th>
<th>2013</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Combat Aircraft</td>
<td>88 KF-16C/D Fighting Falcon</td>
<td>60 F-15K Eagle</td>
<td>Aircraft numbers remained stable but the F-4s were phased out in favor of fourth-generation fighters</td>
</tr>
<tr>
<td></td>
<td>130 F-4D/E Phantom</td>
<td>164 KF-16C/D Fighting Falcon</td>
<td></td>
</tr>
<tr>
<td>REECE/ISR Aircraft</td>
<td>4 Hawker 800RA; 20 KO-1</td>
<td>17 RF-4C Phantom II</td>
<td></td>
</tr>
<tr>
<td>EW/ELINT/SIGINT</td>
<td>3 Searchers</td>
<td>Night Intruder</td>
<td></td>
</tr>
<tr>
<td>UAVs (ISR)</td>
<td></td>
<td>3 Searcher 100 Harpy</td>
<td></td>
</tr>
</tbody>
</table>

Source: All figures unless otherwise noted are based primarily on material in IISS, *The Military Balance 2013*.

#### Figure III.6: ROK Mid-term Force Improvement Plan

The MND will pursue a total of 293 force improvement projects from 2011 to 2015. It continues its 183 existing projects, including the K-2 tank project, next-generation landing ship project, and F-15 project, and sets about 110 new projects, including the Battalion Battle Command System and personnel landing craft project.

<table>
<thead>
<tr>
<th>Classification</th>
<th>Continuing Projects</th>
<th>New Projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surveillance, Reconnaissance, Command and Control</td>
<td>• Airborne Warning and Control System</td>
<td>• Harbor Surveillance System</td>
</tr>
<tr>
<td>Capabilities</td>
<td>• Ground Tactical C4I System</td>
<td>• Mobile Underwater Surveillance Sonar</td>
</tr>
<tr>
<td>Maneuver and Fire Capabilities</td>
<td>• K21 Infantry Fighting Vehicles</td>
<td>• Korean Utility Helicopter</td>
</tr>
<tr>
<td></td>
<td>• K-9 Self-propelled artillery</td>
<td>• Improving the performance of K-55 Self-propelled artillery</td>
</tr>
<tr>
<td>Marine and Landing Capabilities</td>
<td>• Kwanggaeto the Great III class destroyer [Aegis]</td>
<td>• The 2nd Minesweeper Project</td>
</tr>
<tr>
<td></td>
<td>• Jangbogo II class submarine</td>
<td>• Next-generation mine laying ship</td>
</tr>
<tr>
<td>Air Combat Capabilities</td>
<td>• F-15K Fighter</td>
<td>• Improving the performance of the C-130H</td>
</tr>
<tr>
<td></td>
<td>• Advanced Trainer (T-50)</td>
<td></td>
</tr>
<tr>
<td>Research and Development</td>
<td>Intermediate-altitude unmanned UAVs, division-level UAVs</td>
<td></td>
</tr>
</tbody>
</table>

At the end of 2009, South Korea began its plan to decrease the number of military installations. The plan entails a reduction from the current 1,900 to 700 by the year 2020 when the restructuring of the military will be completed in accordance with the defense reform.


**Key Force Upgrades**

In the last decade the ROK has been confronted with major choices and dilemmas, including reductions in manned US units on its territory, a greater desire for autonomy within the US-ROK alliance, and a hostile threat environment. These trends have pushed the ROK to increase its capabilities in areas previously overseen by US forces, notably in surveillance, reconnaissance, and early warning. In 2005 the ROK MND released “The Defense Reform 2020 Initiative,” which outlined the ROK strategy to create a slimmer and more “self-reliant” military focused on technological improvements.289

An estimate of the ROK’s modernization plans by Bruce Bennett of the RAND Corporation is shown in detail in Figure III.8. Some key goals in the “The Defense Reform 2020 Initiative,” included procuring advanced aircraft and transforming a largely coastal patrol force into a blue-water navy. The ROK has focused on modernizing the Navy and Air Force to establish an omnidirectional military posture able to deal with all types of threats. The Navy has introduced domestically-built destroyers, large transport ships, and submarines. The first mobile corps, with one Aegis-equipped vessel and six destroyers with plans for future expansion, was introduced in February 2010. The primary missions are to protect sea lanes, deter North Korea, and support the ROK’s external policies. Air Force promotion of domestic missile production is also likely.

Furthermore, the Air Force is working to field F-15K fighters and develop a next-generation fighter program that includes stealth capabilities, such as the KF-X fighter, a medium-sized two-engine aircraft similar to the Eurofighter Typhoon. The plane has been under study for 14 years and is still waiting for full-scale development authorization; if granted, it will likely be operational by the mid-2020s – though a foreign partner would be needed for production. The KF-X is planned to initially work alongside and then replace the KF-16, while domestic development and production will promote ROK defense industry advances and allow the ROK control over its configuration and systems.

The project is currently assessed by the government to cost approximately 6 trillion won ($5.5 billion), though KIDA argues it would be at least 10 trillion won to develop. Constructing 120 units would cost 8 trillion won, and 30-year operation costs would be $9 trillion. Experts for Jane’s believe that 220-676 plans could be exported if priced at approximately $70-90 million each, compared to Lockheed Martin’s F-16 ($70 million each) and the Boeng F/A-18E/F Super Hornet, the Eurofighter Typhoon, and the Dassault Rafale ($83-132 million each). Countries in South East Asia, the Middle East, and Latin America have been proposed as potential customers. There remain significant hurdles to the actual development of the plane, especially technological readiness.

DPRK hostilities in 2010 have also pushed ROK leaders to amend their reform plans to pursue a more aggressive strategy to guard against future DPRK hostilities. These have included increased militarization in the Yellow Sea to convert its five islands into “fortresses,” reducing the magnitude of the proposed troop cut to retain army manpower at 517,000 instead of 500,000, increasing anti-submarine warfare helicopters in the wake of the

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292 Ibid.
sinking of the *Cheonan*, and strategizing means to combat the DPRK’s irregular warfare tactics.\(^\text{296}\)

The ROK’s modernization plans grew in urgency in the wake of the DPRK’s November 2010 Yeonpyeong artillery attack. Some examples are noted below, while the attacks are discussed in more detail in Chapter 4:

- The ROK government sources indicated in January 2011 that they have pushed for expedited purchase of fifth generation stealth fighters by 2015 with a targeted introduction date of 2016–2020. Contenders include the Boeing F-15, Lockheed Martin’s F-35 Joint Strike Fighter, and EADS Eurofighters.\(^\text{297}\)
- Seoul has been lobbying for revisions to a bilateral accord that limits their ballistic missiles to a 300-kilometer range and 500kg payload (See Section 6).
- Growing reports that the ROK is interested in substantially increasing defense-related deals with Israel to buy drones, missiles, radars, and possibly missile defense systems,\(^\text{298}\) such as a $29 million deal with Israel’s Elbit systems in January 2011 to supply Airborne Electric Warfare (EW) Suites and Missile Warning Systems for the ROKAF CN-235 transport aircraft.\(^\text{299}\)
- The ROK MND announced in December 2010 that it would create a new Joint Forces Command to reform the top military command structure and increase operability between branches.\(^\text{300}\)

**Key Procurement Plans**

Reporting by *Jane’s* further highlights the ROK Army’s current procurement efforts, which focus on attempts to increase armored capabilities and the ability to conduct maneuver warfare.\(^\text{301}\)

**Main Battle Tanks (MBTs)**

- The Active Protection System (APS) that automatically detects and shoots down approaching rockets or missiles, developed for the indigenously-produced K-2 MBT, was announced in February 2012 to have been successfully developed. It is reported to take 3/10 of a second to detect, track, and fire counter-rockets.
- It appears that the K2 MBT will finally be ready for active service by 2013, including a 1500 HP engine by Doosan DST and a transmission by S&T Dynamics.

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In 2003, the K2 'Black Panther' Main Battle Tank’s development was initiated by a subsidiary of Hyundai Group. This tank will replace K1s and M48s.

- It utilizes “a German MTU 1500 hp Europowerpack engine, a 55-caliber 120 mm main gun with autoloader and the latest self-protection and targeting equipment, such as a laser detection system, anti-missile grenade launchers, reactive armour and an all-weather sensor package.” Its maximum speed is 70 km/hr, and it also has the ability to cross rivers as deep as 4.1 meters via a snorkel.

- The production line has been idle since 2010 while indigenously-developed components are prepared. It was announced that it would go back into production in 2012, using foreign components if necessary.

- The ROK had originally announced procurement of more than 500 K2 MBTs (for approximately $2.5 billion), but reduced the order to about 400 due to budget cuts. Further order reductions are possible.

Infantry Fighting Vehicles

- The ROK’s K21 Infantry Fighting Vehicle entered into service in late 2009 and has a planned final production of approximately 500 units.
  - The K21 cost approximately $96 million and took seven years to develop.
  - It has “a mounted, stabilised 40 mm L/70 Bofors automatic gun, a 7.62 mm machine gun and a launcher for anti-tank guided missiles. It has an advanced river-crossing capability, can carry three crew members and a squad of nine soldiers and travels at up to 70 km/h on land and 7.8 km/h in water.”

- It is the ROK’s first indigenously-produced IFV and will cost $1-3.5 million less than the M2 Bradley Fighting Vehicle.

Mine-Protected Ambush Vehicles (MRAPs)

- The ROK requested 10 MRAP All-Terrain Vehicles (M-ATVs) from the US in January 2010, though it is unknown if these have been delivered.

K9 Thunder [Artillery]

- After the Yeonpyeong Island attacks (see Chapter 4), the ROK MND was considering additional procurement – seeking an extra $228 million (264 billion won) in the 2011 defence budget – of Samsung Techwin 155 mm/52 cal K9 Thunder self-propelled howitzers. The budget had already contained almost twice that amount (485 billion won) for K9 purchases.

- The K9 is the primary ROK platform to offset the DPRK’s numerical advantage in artillery. The ROK requires more than 500 systems and at least 300 had been purchased by 2010; deliveries were scheduled to be finished by 2012, though the exact number purchased has not been revealed.

- In deployment, for approximately every three to six K9s, one K10 ammunition resupply vehicle is provided.

Mobile Artillery Vehicle System

- The ROK announced in early 2010 that it had started indigenous development of a mobile artillery vehicle system, looking specifically at making a 105 mm vehicle-mounted artillery system for the Army and potentially for export. It was indicated that Samsung Techwon –

302 Ibid.
developer and manufacturer of the K9 previously discussed – would likely play a part in this system.

**M270 Multiple Launch Rocket System (MLRS) [Artillery]**

- Hanwha was granted a licence in 2003 to domestically produce the Lockheed Martin 227 mm M270 MLRS rocket. Since 2005, approximately 4,000 missiles annually have been produced, worth around 600 billion won each year. The MLRS can also fire 300 km-range army tactical missile systems (ATACMS) that the ROK buys from the US. MLRS systems are assisting the ROK in OPCON transfer (discussed in Chapter 5), allowing the ROK to hit ground targets behind the DMZ.
- In April 2011, it was announced that a new multiple rocket launcher (MRL) was under development, with the initial prototype likely to be completed by 2013. It was projected to have an 80 km range and increase the ROK’s artillery capability.

**Air Defence**

- The ROK developed a MANPAD system in 2003 to replace its older MANPADs. The Chiron (aka the Singung or KP-SAM) was initially deployed in 2005, with approximately 2,000 in service.
- The ROK Air Force purchased 24 Patriot Advanced Capability-2 (PAC-2) surface-to-air missile systems from Germany in 2008 and an additional 24 in 2010. The ROK now has two Patriot battalions, each consisting of three firing batteries – each battery with eight launchers and a command center. The equipment – including the radars, missiles, ground-control equipment, and launchers – cost $1 billion. Upgrade kits were also ordered, and 64 missiles in total were upgraded from PAC-2 to GEM-T standard.

**Anti-Tank [Infantry]**

- The ROK’s LIGNex1 Co Ltd was contracted to indigenously develop a Medium Range Infantry Missile (MRIM), as reported in May 2011. Development is projected to be finished by 2013, with production by 2014 and the first units in service in 2015.
- The MRIM will be deployed with a firing post and a vehicle-mounted launcher, though it is designed to be shoulder-fired. It is being developed to be comparable with Rafael’s Spike and Raytheon’s Javelin.

**Battlefield Missiles [Infantry]**

- By September 2011, the ROK had purchased Spike non line-of-sight (NLOS) battlefield missiles from Israel's Rafael; they will likely be deployed on Baengnyeong and Yeonpyeong islands in fixed positions to be used against coastal artillery positions, though they can also be used from ground vehicles, surface ships, or helicopters. Up to 67 could have been in service by the end of 2011.

**Small Arms [Infantry]**

- The K11 rifle entered service in mid-2010 and is capable of firing 20mm high-explosive grenades – utilizing a laser tracking system – and 5.56 mm rounds using a single trigger. The rifles cost approximately $16,000 each and the ROK Army is expected to provide each 10- or 12-man squad with two K11s.

**C4ISR [Infantry]**

- Delivery of six Saab Artillery Hunting Radar (ARTHUR) Weapon Locating Radar systems, costing $120 million, likely started in 2010. The system can, within seconds, find firing artillery weapons – such as DPRK long range artillery – and send the data through command and control systems.
Korean Attack Helicopter [Army Aviation]

- A July 2011 contract was awarded for the initial development phase of a 4-ton attack helicopter as part of the ROK’s plans to deploy 200 indigenously-produced attack helicopters. The production contract is likely to be awarded in 2013, and the ROK has announced it requires 207 attack helicopters by 2020.

- The ROK is also going to order 36 additional heavy-attack AH-X helicopters. It announced in May 2012 that it was deciding between the AH-64D, AH-1Z and the Turkish T129 (AW729). The estimated cost of the aircraft and associated parts, training, and support was $2.6-3.6 billion, though the ROK had initially planned only $800 million in expenditures.

- In 2010, the prototype KAI Surion Korean Utility Helicopter was unveiled, with delivery from 2011. It was approved for combat in mid-2012, and by the end of that year six had been delivered to the Army. By 2020, more than 200 of these helicopters are planned to be deployed. Other variants – such as medevac, maritime, and combat search and rescue – are also being developed. It is crewed by two pilots and two gunners, and can transport 11 troops and their equipment.

Bi Ho [Anti-Aircraft]

- The ROK army contracted with Doosan to develop a newer version of the self-propelled Bi Ho (Flying Tiger) twin 30 mm anti-aircraft gun – planned to be fitted with the Chiron (Singung) (New Bow) surface-to-air missile – likely in mid-2010.

Modernization and Military Effectiveness

The specifics of the ROK military will be discussed in more detail in Chapter 4, although the ROK military is less than half as large as the DPRK’s when assessing force structure, personnel, and major equipment holdings, the equipment itself is significantly more technologically advanced. The two countries have quantitatively comparable naval and air forces, though the ROK’s are much superior.

The ROK’s primary shortcomings are in precision munitions, biological and chemical defense, communications and control, and command. Due to a constrained budgetary atmosphere, the ROK has had to cut or delay several modernization programs. The IISS analyzes the impact of modernization on the ROK’s forces as follows,303

South Korea’s army consists of 11 corps, with 52 divisions and 20 brigades. They can deploy some 2,300 main battle tanks, 2,500 armoured personnel carriers and light tanks, 4,500 heavy-calibre artillery pieces, 6,000 mortars, an estimated 600 air defence guns, over 1,000 surface-to-air missiles, and about a dozen shortrange surface-to-surface missiles. Usually, 12 army divisions are deployed along the DMZ in heavily fortified positions. The South Korean air force has 538 combat aircraft and 117 attack helicopters. Meanwhile, the South Korean navy includes 39 principal surface combatants, 20 submarines, 84 patrol and coastal combatants, 15 mine warfare ships, 12 amphibious vessels, and 60 naval combat aircraft. South Korea’s defence expenditure is several times more than that of North Korea. In 2002, as at average annual exchange rates, South Korea’s defence budget amounted to $13.2bn. However, this figure needs to be balanced as manpower costs in the South are greater.

… South Korea’s ground combat weapon capabilities are rated higher than those of North Korea because of South Korea’s qualitative edge. By the same measure, its air capabilities, when factoring in attack helicopters, are also superior – totaling about 2.5 F-16 wing equivalents. With the acquisition of the US Army Tactical Missile System (ATACMS) Block 1-A, due in service this year, South Korea’s

armed forces will increase their capabilities significantly. The missile system has a range of 300km and can target command and communications facilities, intelligence assets, and missile launching sites.

**Figure III.8. Defense Reform 2020 (2005) Plans for ROK Modernization**

### Comparison of the ROK Army, 2004 versus 2020

<table>
<thead>
<tr>
<th>Force Type</th>
<th>2004</th>
<th>Reduced</th>
<th>Sustained</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Army active-duty personnel</strong></td>
<td>560,000</td>
<td>370,000</td>
<td>390,000-400,000</td>
</tr>
<tr>
<td><strong>Forward ground forces</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Top echelons</td>
<td>2 armies, 8 corps</td>
<td>1 command, 6 corps</td>
<td></td>
</tr>
<tr>
<td>Active divisions</td>
<td>5 mechanized, 17 infantry</td>
<td>3 mechanized, 10 motorized</td>
<td>5 mechanized, 8 motorized</td>
</tr>
<tr>
<td>Reserve divisions</td>
<td>6 HRDs, 9 MRDs</td>
<td>5 HRDs [+4 MRDs]</td>
<td></td>
</tr>
<tr>
<td>Heavy brigades</td>
<td>4 armor</td>
<td>3 armor, 1 mechanized</td>
<td></td>
</tr>
<tr>
<td>Light brigades</td>
<td>3 infantry</td>
<td>4 security</td>
<td></td>
</tr>
<tr>
<td><strong>Rear ground forces</strong></td>
<td>7 HRDs, 3 MRDs</td>
<td>6 HRDs</td>
<td></td>
</tr>
<tr>
<td>Divisions</td>
<td>3 commandos</td>
<td>1 commando</td>
<td></td>
</tr>
<tr>
<td>Reserve personnel</td>
<td>3,000,000</td>
<td>1,500,000</td>
<td></td>
</tr>
<tr>
<td>Tanks</td>
<td>2,300</td>
<td>1,700</td>
<td>2,300</td>
</tr>
<tr>
<td>Armor vehicles</td>
<td>2,400</td>
<td>1,900</td>
<td>2,400</td>
</tr>
<tr>
<td>Artillery/multiple rocket launchers</td>
<td>5,300</td>
<td>3,700</td>
<td>5,300</td>
</tr>
<tr>
<td>Missiles</td>
<td>30</td>
<td>~50?</td>
<td></td>
</tr>
<tr>
<td>Helicopters</td>
<td>600</td>
<td>400?</td>
<td>600?</td>
</tr>
</tbody>
</table>


## Comparison of the ROK Navy and Marine Corps, 2004 versus 2020

<table>
<thead>
<tr>
<th>Force Type</th>
<th>2004</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Navy/Marine Corps personnel</td>
<td>67,000</td>
<td>64,000</td>
</tr>
<tr>
<td><strong>Surface Combatants</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Destroyers</td>
<td>3 KDX I, 2 KDX II</td>
<td>3 KDX I, 6 KDX II, 6 KDX III</td>
</tr>
<tr>
<td>Frigates</td>
<td>9 Ulsan</td>
<td>17 FFX</td>
</tr>
<tr>
<td>Corvettes</td>
<td>28</td>
<td>0</td>
</tr>
<tr>
<td>Patrol</td>
<td>82</td>
<td>40 PKM-X</td>
</tr>
<tr>
<td><strong>Submarines</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KSS-3</td>
<td>0</td>
<td>9?</td>
</tr>
<tr>
<td>KSS-2 (Type 214)</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>Type 209</td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td>Mini-sub (KSS-1)</td>
<td>11</td>
<td>0</td>
</tr>
<tr>
<td><strong>Mine warfare</strong></td>
<td>17</td>
<td>10?</td>
</tr>
<tr>
<td><strong>Amphibious ships</strong></td>
<td>4 LSTH, 4 LST</td>
<td>5 LPD, 7? LSTH</td>
</tr>
<tr>
<td><strong>Major support ships</strong></td>
<td>6</td>
<td>8?</td>
</tr>
<tr>
<td><strong>Aircraft</strong></td>
<td>8 P-3C, 8 S-2A, 5 Caravan</td>
<td>16 P-3C, 5 Caravan</td>
</tr>
<tr>
<td><strong>Navy helicopters</strong></td>
<td>30 Lynx</td>
<td>30 Lynx, 8 Mine Hunter, 60 KHP?</td>
</tr>
<tr>
<td><strong>Marine divisions</strong></td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td><strong>Marine brigades/regiments</strong></td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td><strong>Tanks</strong></td>
<td>60 K-1</td>
<td>60 K-1A1</td>
</tr>
<tr>
<td>Other armor</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Artillery</td>
<td>150</td>
<td>150</td>
</tr>
<tr>
<td><strong>Helicopters</strong></td>
<td>6 SA-316</td>
<td>60 KHP?</td>
</tr>
</tbody>
</table>


Comparison of the ROK Navy and Marine Corps, 2004 versus 2020

<table>
<thead>
<tr>
<th>Force Type</th>
<th>2004</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air Force personnel</td>
<td>64,000</td>
<td>65,000</td>
</tr>
<tr>
<td>Fighter aircraft</td>
<td>0 high end</td>
<td>60 KF-15, 60 KF-X</td>
</tr>
<tr>
<td></td>
<td>150 F-16</td>
<td>170 KF-16</td>
</tr>
<tr>
<td></td>
<td>380 F-4, F-5, A-37</td>
<td>130 A-50?</td>
</tr>
<tr>
<td>Forward air control</td>
<td>30 O-1, O-2</td>
<td>20 KO-1</td>
</tr>
<tr>
<td>Reconnaissance</td>
<td>27 RF-4C, RF-5, Hawker</td>
<td>24 RKF-16, Hawker</td>
</tr>
<tr>
<td>Search and rescue</td>
<td>6 CH-47, 3 AS-232</td>
<td>7 Ka-32</td>
</tr>
<tr>
<td>Airborne early warning and control</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>(AWACS)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tankers</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Training aircraft</td>
<td>18 Hawk, 30 T-38, 15 T-41, 54 F-5, 25 T-33, 55 KT-1</td>
<td>90 KT-50, 80 KT-1</td>
</tr>
<tr>
<td>Transport helicopters</td>
<td>3 UH-60</td>
<td>?</td>
</tr>
<tr>
<td>UAVs</td>
<td>3 Searcher, 100 Harpy</td>
<td>More numerous, diverse</td>
</tr>
<tr>
<td>Air defenses</td>
<td>200 Nike, 110 I-Hawk</td>
<td>SAM-X, M-SAM</td>
</tr>
</tbody>
</table>


Other Estimates of Modernization Trends and Spending

The IISS discusses the broad trends in ROK modernization spending. In particular, the ROK MND has assessed some areas of defence capability and policy as needing special attention:304

- Improve C4ISR capabilities
- Enhance the ‘jointness’ of the armed forces
- Plan for the 2015 OPCON transfer (discussed in Chapter 6)
- Continue to follow the Basic Defense Reform Plan 2012-30 (discussed earlier in this chapter)
  - Upgrade military command-and-control structures
  - Increase R&D spending by 7%
  - Build up information-security and cyber-warfare capacity
- Streamline procurement and undertake other reforms to save $400 million annually during the 2013-17 Mid-Term Defense Program

In addition, improved processes and standards, manpower and organization restructuring, outsourcing, and better financial efficiency should also help save money.

- The 2012 military budget was split into 70% for force maintenance and 30% for force modernization; by 2017, modernization should increase to 33% of the budget.

In terms of procurement, the ROK’s short-term goal is to increase deterrence against the DPRK’s long-range artillery and ballistic missile capabilities. To do this, the ROK plans to develop medium- and longer-range SAMs, while also introducing a cruise missile (the Hyunmu-3C) and a surface-to-surface missile (the Hyunmu-2A). The Navy is working to provide more integrated capabilities by 2020 – especially in the areas of surface, submarine, and naval-aviation capacities – and will develop six new destroyers (KDX-11A). The Navy also plans to create a Submarine Command by 2015 and increase procurement of Type-214 submarines.305

The ROK Air Force plans to increase surveillance systems significantly, especially after the OPCON transfer in 2015 (discussed further in Chapter 6) – such as by developing electronic- and signals-intelligence systems, medium- and high-altitude UAVs, an airborne early-warning unit in 2017 and a satellite surveillance control center in 2019. Air Force modernization is primarily oriented towards the FX-3 fighter replacement program – costing approximately $7.6 billion; 40 aircraft will be delivered starting in 2016. The announced candidates were the Eurofighter Typhoon, Lockheed Martin’s F-35, and Boeing’s F-15SE. The ROK also wants to replace its F-4s and F-16s.306

There was news in early April 2013 that the US was selling 60 F-35s to the ROK for $10.8 billion and 60 F-15s for $2.4 billion – although actual delivery of the F-35s would not take place until many years in the future, as there are a total of 2,400 on order and only about 50 have been delivered.307 It was also reported on April 17, 2013 that the ROK Army, in order to modernize its aging helicopter fleet, had agreed to a $1.6 billion contract with Boeing for 36 AH-64E Apache Guardian attack helicopters to be delivered by 2018, accompanied by related logistical support and training.308 In early May 2013 the US Congress agreed to sell four Global Hawk spy UAVs to the ROK – eight years after they were requested – though it is uncertain if the ROK still wants the equipment.309 On the FX-3, the IISS notes,310

However, air-force modernisation is dominated by the FX-3 fighter replacement programme. This is the armed forces’ largest procurement programme, with a budget of some US$7.6bn for a total of 40 combat aircraft, to be introduced from 2016. Seoul is seeking to replace its ageing F-16s as well as its older F-4s. Reportedly, the latter are virtually inoperable. The three contenders for the FX-3 are Boeing’s F-15SE, Lockheed Martin’s F-35, and the Eurofighter Typhoon. The Defense Acquisition Program Administration (DAPA) has insisted that war-fighting capabilities, cost and maintenance efficiency, associated technology transfers, and interoperability will be the key criteria in the final

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305 Ibid.
306 Ibid.
decision. The original plan was for DAPA and the ministry to decide the winner by the end of October 2012 – a deadline that was not met.

A South Korean analysis of these trends by Paek Jaeok of the Korea Institute for Defense Analyses states,\(^{311}\) In 2012, investment priorities [see Figures III.9 and III.10] associated with defense capability improvement expenditure are “securing core combat capability against the possibility of provocations form the North, the transfer of wartime operational control to the ROK in 2014, and bolstering defense R&D.”

In 2012, new procurement programs include Geomdoksuri-B (PKX-B) special warfare support ships/special infiltration boats; next-generation figure planes (F-X); large-sided attack helicopters (AH-X); production of Korean-type maneuver helicopters in large quantities; offshore operation helicopters; surveillance unmanned aerial vehicles (UAVs); Cheolmae-II (mid-range surface-to-air missiles); multi-purpose precision guided cluster bombs; and GPS-guided bomb-2. New R&D programs involve wheeled combat vehicles; ground tactical data link (KVMF); and 2.75-inch guided rockets. New performance improvement programs include K1A1 tank, KJCCS, and Cheolmae-II performance improvement. These new programs are targeted as investment priorities for defense capability improvement in 2012.

Securing core combat capability [see Figure III.11] against the possibility of provocation from the North and the transfer of wartime operational control to the ROK.

“Core combat capability against the possibility of provocation from the North” refers to the early detection of enemy’s surprise attacks, advanced surveillance and reconnaissance capability, and precision strike capability against the origin of attack.

As to readiness against the north’s local provocations, the ROK puts priority on enhancement of combat capability (e.g. anti-artillery radars, sound-based target detection equipment, K-9 self-propelled guns, small-sized mid-range GPS-guided bombs, etc) in the northwestern islands close to the North, and the overall reinforcement of tactical units.

The Army will bolster its infantry battalions by equipping troops with advanced equipment such as single-eye night vision goggles, individual firearms with sighting telescopes, K-11 rifles, etc.

The Navy will focus on expanding and improving its coastal operations thought increased use of Geomdoksuri-A, special warfare support ships/special infiltration boats, offshore helicopters, detection radar placed on patrol boats/convoy ships.

The Air Force will prioritize enhancement of precision strike capability with the use of small-sized mid-range GPS-guided bombs, mid-range GPS-guided kits, JDAM, JASSM, etc. The military’s primary tactical response of coping with the threat of the north’s long-range artillery is by reinforcing its identification/detection capability (e.g. anti-artillery radar, sound-based detection equipment, division-level UAVs), command/control readiness, and counter-strike ability (K-9 self-propelled guns, multi rocket launchers, JDAM, etc).

The transfer of wartime operational control to the ROK scheduled for 2015 necessitates the refinement of certain core command, tactical and logistic capabilities in order to adequately prepare for ROK-led all-theater-level operations, including the ability for surveillance, reconnaissance and early warning, operation of a command/control system for all theater operations, precision strike, and continued provision of support (particularly wartime ammunition). The C4I (Command Control, Communications, Computer and Intelligence) system currently stands in place for the operational linkage between the ROK military and the USFK.

Accordingly, the country will seek to reinforce surveillance, reconnaissance and early warning ability encompassing the entire Korean Peninsula with the expanded use of AWACs aircrafts, ballistic guided missiles, early warning and long-range radar, the ability to collect image-based information from neighboring countries, including the North (through multi-purpose utility satellites, mid- and HUAVs, corps-level UAVs), and the ability to collect three dimensional signal-based information.

For adequate provision of support, all-theater operational command/control requires a proper system allowing for timely command, control and decision which will be facilitated through performance improvement of the Allied Korea Joint Command and Control System (AKJCCS) and KJCCS, as well as a robust infrastructure communications system for real-time information dissemination [supported through the Military Satellite Communications System and the Joint Tactical Data Link System (JTDLS)].

The ability to strike core positions in the North with precision strike capability will be enhanced with the use of laser-guided bombs (GBU-2$), GPS-guided bombs (JDAM), bombs for destroying underground facilities (GBU-28), long-range guided missiles (JASSM), and mid-range GPS-guided kits, along with the system for carrying such weapons (KDX-II/III, KSS-II, F-15K, F-X). Finally, the country aims to maintain at least 30 days worth of wartime ammunition, for continued provision of support.

In 2012, the defense R&D budget amounts at 2,321.0 billion won, up 12.8% over the preceding year…. [see Figure III.12] Investment priorities in defense R&D systems development are aimed at the following six areas: surveillance/reconnaissance, command/control, information/electronic warfare, precision strike, new/special guided weapon capability, and infrastructure combat capability. Investment priorities in core technology development are placed on the following eight areas: sensors, information/communication, control/electronic, chemical-biological-radioactive warfare, and materials….

In reviewing the investment priorities for the 2012 defense budget, the factors shown to exert the most crucial impact on defense budget operation and allocation are: maintaining a proper ratio of officers and NCOs; the timely securing of combat capability against the possibility of provocation from the North and in preparation for the transfer of wartime operational control to the ROK in 2015; and the efficient promotion of defense R&D. These are also tasks to be carried out under the Basic Defense Reform Plan.

…. [T]he mid-term (2012-2016) investment for improvement of defense capability is focused on how to cope with the North’s local provocations and asymmetrical threats as well as the return of wartime operational control to the ROK in 2015. The South should first reinforce its command/control and precision strike systems to secure core military capability prior to the return of the wartime operational control by securing sufficient defensive capability improvement expenditure….
**Figure III.9: Investment Priorities Related to Improvement of Defense Capabilities (KRW Billions or Percent)**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL</td>
<td>47,581</td>
<td>100</td>
<td>+10.9</td>
<td>60,752</td>
<td>100</td>
<td>+7.5</td>
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<tr>
<td>Surveillance/Reconnaissance</td>
<td>2,044</td>
<td>4.3</td>
<td>-57.7</td>
<td>2,094</td>
<td>3.4</td>
<td>+6.7</td>
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<tr>
<td>Precision Strike and New/Special Guided Weapons</td>
<td>6,063</td>
<td>12.7</td>
<td>-26.6</td>
<td>5,153</td>
<td>8.5</td>
<td>-8.2</td>
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<tr>
<td>Firepower/Ammunition</td>
<td>5,795</td>
<td>12.2</td>
<td>-20.1</td>
<td>8,486</td>
<td>14.0</td>
<td>+5.7</td>
</tr>
<tr>
<td>Maneuverable Combat Capability</td>
<td>4,788</td>
<td>10.1</td>
<td>-15.6</td>
<td>5,974</td>
<td>9.8</td>
<td>+2.0</td>
</tr>
<tr>
<td>Defense R&amp;D</td>
<td>9,190</td>
<td>19.3</td>
<td>-13.8</td>
<td>13,737</td>
<td>22.6</td>
<td>-10.1</td>
</tr>
<tr>
<td>Ships</td>
<td>7,924</td>
<td>16.7</td>
<td>+9.8</td>
<td>9,251</td>
<td>15.2</td>
<td>+0.8</td>
</tr>
<tr>
<td>Airplanes</td>
<td>9,129</td>
<td>19.2</td>
<td>+0.8</td>
<td>13,789</td>
<td>22.7</td>
<td>-17.2</td>
</tr>
<tr>
<td>Command/Control/Communication</td>
<td>1,742</td>
<td>3.7</td>
<td>+16.2</td>
<td>1,289</td>
<td>2.1</td>
<td>-62.4</td>
</tr>
</tbody>
</table>


**Figure III.10: 2012 Defense Capability Improvement Expenditure (KRW Hundred Millions or Percent)**

<table>
<thead>
<tr>
<th>Description</th>
<th>2011 Budget</th>
<th>2012 Government Proposal</th>
<th>2012 Budget</th>
<th>Increase/Decrease (amount)</th>
<th>Line item percentage of increased/decreased amount</th>
<th>Number of relevant programs</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL</td>
<td>96,935</td>
<td>101,350</td>
<td>98,938</td>
<td>2,003</td>
<td>2.1</td>
<td>216</td>
</tr>
<tr>
<td>Command, Control, and Communication</td>
<td>625</td>
<td>384</td>
<td>369</td>
<td>-256</td>
<td>-41</td>
<td>5</td>
</tr>
<tr>
<td>Maneuver Combat Capability</td>
<td>9,719</td>
<td>10,990</td>
<td>10,772</td>
<td>+1,053</td>
<td>+10.8</td>
<td>21</td>
</tr>
<tr>
<td>Ships</td>
<td>17,336</td>
<td>17,941</td>
<td>16,665</td>
<td>-681</td>
<td>-3.9</td>
<td>17</td>
</tr>
<tr>
<td>Airplanes</td>
<td>14,749</td>
<td>15,951</td>
<td>15,951</td>
<td>+1,202</td>
<td>+8.2</td>
<td>13</td>
</tr>
<tr>
<td>Firepower and Ammunition</td>
<td>14,145</td>
<td>14,261</td>
<td>14,561</td>
<td>+416</td>
<td>+2.9</td>
<td>8</td>
</tr>
<tr>
<td>Surveillance</td>
<td>6,862</td>
<td>5,474</td>
<td>5,148</td>
<td>-1,714</td>
<td>-25.0</td>
<td>12</td>
</tr>
</tbody>
</table>

312 Increase/decrease is for the 2007-2011 period, while the amount and share are for the 2006-2011 period.

313 With “other” included, the total of shares would equal 100%.
The Evolving Military Balance in the Korean Peninsula and Northeast Asia

<table>
<thead>
<tr>
<th>Category</th>
<th>2011</th>
<th>2012</th>
<th>Change</th>
<th>Percentage Change</th>
<th>Number of Employees</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Precision Strike/New Special Guided weapons</strong></td>
<td>8,872</td>
<td>7,453</td>
<td>-1,841</td>
<td>-20.7%</td>
<td>23</td>
</tr>
<tr>
<td><strong>Defense R&amp;D</strong></td>
<td>17,216</td>
<td>18,248</td>
<td>+1,063</td>
<td>+6.2%</td>
<td>64</td>
</tr>
<tr>
<td><strong>Performance Improvement</strong></td>
<td>6,289</td>
<td>9,410</td>
<td>+2,639</td>
<td>+41.9%</td>
<td>30</td>
</tr>
<tr>
<td><strong>Other</strong></td>
<td>1,122</td>
<td>1,238</td>
<td>+122</td>
<td>+10.8%</td>
<td>23</td>
</tr>
</tbody>
</table>

## Figure III.11: 2012 Defense Budget and Combat Capability Operation Expenditures (KRW hundred millions or Percent)

<table>
<thead>
<tr>
<th>Description</th>
<th>2011 budget</th>
<th>2012 Government Proposal</th>
<th>2012 Budget</th>
<th>Increase/Decrease (amount)</th>
<th>Percentage increase/decrease</th>
</tr>
</thead>
<tbody>
<tr>
<td>Defense Budget</td>
<td>314,031</td>
<td>331,552</td>
<td>329,576</td>
<td>15,545</td>
<td>+ 5.0</td>
</tr>
<tr>
<td>* Combat Capability Operation</td>
<td>217,096</td>
<td>230,202</td>
<td>230,638</td>
<td>13,542</td>
<td>+ 6.2</td>
</tr>
<tr>
<td>-- Troop Operation</td>
<td>128,185</td>
<td>134,674</td>
<td>134,923</td>
<td>6,738</td>
<td>+ 5.3</td>
</tr>
<tr>
<td>- Personnel expense (including legal reserve)</td>
<td>111,725</td>
<td>117,579</td>
<td>117,579</td>
<td>5,854</td>
<td>+ 5.2</td>
</tr>
<tr>
<td>- Food</td>
<td>13,237</td>
<td>13,486</td>
<td>13,735</td>
<td>498</td>
<td>+ 3.8</td>
</tr>
<tr>
<td>- Clothing</td>
<td>3,223</td>
<td>3,609</td>
<td>3,609</td>
<td>386</td>
<td>+ 12.0</td>
</tr>
<tr>
<td>-- Maintaining Combat Capability</td>
<td>88,911</td>
<td>95,528</td>
<td>95,715</td>
<td>6,804</td>
<td>+ 7.7</td>
</tr>
<tr>
<td>- Defense-related Informatization</td>
<td>4,726</td>
<td>5,008</td>
<td>5,006</td>
<td>280</td>
<td>+ 5.9</td>
</tr>
<tr>
<td>- Enhancement of Servicemen’s Health and Welfare</td>
<td>2,159</td>
<td>2,450</td>
<td>2,478</td>
<td>319</td>
<td>+ 14.8</td>
</tr>
<tr>
<td>- Logistics Support and Collaboration(^{314})</td>
<td>37,329</td>
<td>38,704</td>
<td>38,752</td>
<td>1,423</td>
<td>+ 3.8</td>
</tr>
<tr>
<td>- Personnel Affairs, Education/Training</td>
<td>4,491</td>
<td>5,068</td>
<td>5,062</td>
<td>571</td>
<td>+ 12.7</td>
</tr>
<tr>
<td>- Facility Construction and Operation</td>
<td>23,547</td>
<td>25,626</td>
<td>25,646</td>
<td>2,099</td>
<td>+ 8.9</td>
</tr>
<tr>
<td>- Reserve Combat Capability Management</td>
<td>1,355</td>
<td>1,360</td>
<td>1,457</td>
<td>102</td>
<td>+ 7.5</td>
</tr>
<tr>
<td>- Operation of Military Institutions</td>
<td>779</td>
<td>845</td>
<td>869</td>
<td>90</td>
<td>+ 11.6</td>
</tr>
<tr>
<td>- Policy Planning and International Collaboration(^{315})</td>
<td>8,088</td>
<td>8,186</td>
<td>8,186</td>
<td>98</td>
<td>+ 1.2</td>
</tr>
<tr>
<td>- Defense Administrative Support(^{316})</td>
<td>6,437</td>
<td>8,281</td>
<td>8,259</td>
<td>1,822</td>
<td>+ 28.3</td>
</tr>
</tbody>
</table>

---

\(^{314}\) Equipment maintenance, equipment/materials procurement, fuel/ammunition, transportation/disaster management, ammunition management.

\(^{315}\) Defense cost sharing, dispatch of troops out of the country, and military attaches’ activities.
The rate of US modernization is critical to assessing the likely types of escalation on the Peninsula, as well as the likely outcomes. As has been discussed, the US is now making major cuts in its planned defense spending and reassessing its strategy “rebalance” its forces from Europe to Asia. In spite of the pressures on US defense spending described in the previous chapter, however, the FY2014 defense plan and budget that President Obama submitted in April 2013 preserve most US force levels and still call for major levels of investment in US military modernization.

Much depends on whether the Congress supports such funding levels, and whether the Department of Defense can improve its use of defense funds to actually execute the programs it plans at the costs it claims. Here is no clear way to assign probabilities to either set of actions, but it should be stressed that the analysis that follows assumes the Congress and Department of Defense will provide the necessary funding and effectiveness. There are a number of US and outside analysts that regard such assumptions as a triumph of hope over experience.

Restructuring, and “Rebalancing” US Forces for Asia and the Pacific

The US has initiated a rebalance towards Asia and made it clear to allies and potential rivals that the US will increase its involvement in regional security. While the US is cutting total military spending and forces, it still has a force structure and resource pool to draw upon. The

\[316\] The high increase in the amount of defense-related administrative support is due to the reflection of compensation concerning military plane-caused noise in residential areas (120 billion won).
IISS estimates that the US accounted for 45.3% of global defence spending in 2012, more than the next 14 countries combined. At the same time, the IISS noted that “the pending end of a decade of complex wars centered on the land environment gave the US a chance to reassess force structures, roles and inventories,” for Asia and the Koreas with the aim of reducing force size and relying more on technological capabilities.\footnote{IISS, \textit{The Military Balance 2013}, 113:1, p. 5-6, 31.}

The proposed FY2014 US defense budget that President Obama submitted to Congress in April 2013 continued the US focus on rebalancing US forces to provide more capability in Asia and to support the ROK. The budget briefings provided with the President’s FY2014 budget request provide an important update to the new strategy the DoD issued in late 2011 and put speeches that exaggerated the US “pivot” to Asia into a real-world perspective based on actual plans.

The US FY2014 budget submission made it clear that the US was giving equal priority to maintaining and improving capability in the Middle East and improving its capabilities in Asia and the Pacific. It was restructuring its force to emphasize power projection to key allies like the ROK rather than conducting a major build-up or making major shifts out of Europe to forward positions in Asia and the Pacific.

Planned US force levels are shown in Figure III.13 and will maintain the basic power projection capabilities of every US force element with the exception of the size of total active and reserve ground forces. It is important to note that the US budget maintains readiness in every key area of forward deployed forces as well as the kinds of power projection that would be critical to rapid US intervention in the Koreas. It also places a major emphasis on the kind of joint exercises that support a US strategy based on partnership, rather than reliance on US forces.

At the same time, rebalancing of US forces to Asia will not mean any major military buildup in forward deployments. At the same time, the overall capabilities of US forces will improve in spite of currently planned cuts in the total US defense effort. These points tend to be lost in the debate over US defense spending, but in many ways the current cuts really reflect the fact the US is adjusting its force posture to as the wars in Iraq and Afghanistan end, placing a new emphasis on regional partners and more emphasis on high technology forces and air and sea power.

The primary focus of US rebalancing will be to improve its air and sea capabilities to support is allies. The Air Force will make major improvements in Strike fighter capabilities, stealth, IS&R, and seek a new manned bomber. The Navy planned to keep some 52 ships forward deployed in the PACOM area and slowly increase the number in future years. The US planned to reduce total US Army and Marine Corps forces to pre-2001 levels over the coming years while planning to keep some 66,000 soldiers and 3,400 Marines stationed around the Pacific Rim.\footnote{OSD Comptroller, \textit{Overview – FY2014 Defense Budget Summary}, Department of Defense, April 2013. http://comptroller.defense.gov/defbudget/fy2014/fy2014_Budget_Request_Overview_Book.pdf.}
The restructured force will be balanced by technological advancements to deter and defeat aggression, to maintain flexibility, to ensure surge capability, and to sustain readiness levels to ensure effective mobilization. There will be a rebalance of force structure and investments toward the Asia-Pacific and Middle East regions while sustaining key alliances and partnerships in other regions. (Preface)

More change is taking place as U.S. economic and security interests are inextricably linked to developments extending from the western Pacific and East Asia into the Indian Ocean region and South Asia. Accordingly, while the U.S. military will continue to be central to ensuring global security, we will of necessity rebalance forces and funding priorities toward the Asia Pacific region. In the Middle East the aim is to counter violent extremists, prevent destabilizing threats from developing, and uphold our commitments to allies and partner states. (p. I-2)

...the world has not stood still. With the successful end to the war in Iraq and the responsible transition of security responsibilities in Afghanistan, we see an emerging security environment whose evolution presents a range of challenges and opportunities. Complex linkages are forming among economic, security, and social forces around the world, facilitated in part by the spread of technology. Adapting to these changes requires the United States to uphold its commitments to allies and partners, enable others to secure themselves and support a just and stable international order, and set an example of leadership that ensures free and open commerce, open access to all domains, and adherence to the rule of law.

U.S. economic and security interests are inextricably linked to developments in the arc extending from the western Pacific and East Asia into the Indian Ocean region and South Asia. Accordingly, while the U.S. military will continue to contribute to security globally, we will of necessity rebalance toward the Asia-Pacific region. In the Middle East the aim is to counter violent extremists, prevent destabilizing threats from developing, and uphold our commitments to allies and partner states. Social movements like the Arab revolutions may introduce tensions between and within existing governments and societies, but will ultimately result in more stable and reliable partners of the United States as governments in the region become more responsive to the legitimate aspirations of their people. The United States continues to place emphasis on the U.S. and allied military presence in the Middle East region by working with partner nations in the region. (II-2)

DoD will no longer size U.S. forces for large-scale, protracted counterinsurgency (COIN) and stability operations. DoD will hedge against the possibility of future large-scale COIN operations by institutionalizing COIN expertise and capabilities. We will also structure the drawdown of our ground forces in a way that protects the ability to quickly rebuild capacity for unforeseen needs, such as another prolonged stability operation, including by maintaining a reserve force capable of meeting emerging threats. The Joint Force will continue to be capable of quickly confronting a wide range of global threats, and the ability to grow, mobilize, and surge to adapt in an uncertain future security environment is critical. To create a leaner, more agile force, DoD will place a fresh emphasis on preserving readiness across all Services for a wide range of potential missions. We will avoid the lessons of previous drawdowns and will not create a “hollow force” – one that maintains a large force at the expense of readiness.

Rebalance DoD’s global posture and presence to emphasize the Asia-Pacific region and the Middle East. The maintenance of peace, stability, the free flow of commerce, and U.S. influence in this dynamic region will depend in part on an underlying balance of military capability and presence. As part of a whole-of-government approach, an enduring defense presence in the Asia-Pacific region is a tangible manifestation of the U.S. commitment to Asia’s security, economic development, and the prosperity essential to continued growth. DoD’s commitment to also maintain focus on the Middle East reflects the key interests at stake for the United States in this region. It is a region where the lessons and institutionalized capabilities from the last decade of war still have great resonance and enduring value in promoting stability.

... [A]mid the uncertainty of regime changes and grassroots pressures for governmental reforms... our posture and presence in both regions will be supported by a force that can project power, deter
and defeat aggression, and execute the missions identified in the DSG.

**Build innovative partnerships and strengthen key Alliances and partnerships in all regions.** This involves enhancing DoD’s building partnership capacity (BPC) and security force assistance (SFA) efforts, and developing innovative approaches to partnering. Whenever feasible, we will pursue “low-cost, small footprint” initiatives and seek to be the security partner of choice. As we innovate and strengthen our global network of relationships, DoD in partnership with the State Department will structure its security cooperation efforts in ways that help foster the development of partner capabilities that are most relevant to the defense of common interests, including an emphasis on prevention. We will improve interoperability with our partners, and conduct a broad range of bilateral and multilateral exercises. The Department will also leverage defense diplomacy to shape the global security environment by building consensus on issues of common interest and supporting international institutions and regimes that promote a peaceful and stable order. (II-3 to II-4)

**Ensure that the United States can quickly confront and defeat aggression from any adversary – anytime, anywhere.** DoD must be capable of deterring and defeating aggression by an opportunistic aggressor even if U.S. forces are committed to a large-scale operation elsewhere. The Department will retain the ability to deter, fight, and win multiple conflicts in multiple regions with overlapping timeframes. DoD has begun exploring ways to more efficiently manage the use of forces under these circumstances, and will ensure that adequate capabilities are available to project force into denied areas. (II-2 to II-3)

**Asian Rebalance**

…In January 2012, the Department of Defense released its new Defense Strategic Guidance, Sustaining U.S. Global Leadership: Priorities for 21st Century Defense. A key tenet of the strategy is a renewed emphasis on the Asia-Pacific region, outlining a deeper and more enduring role for the United States in advancing the security and prosperity of the region. The rebalance is predicated upon the conclusion that U.S. economic and security interests are inextricably linked to developments in Asia, creating a mix of evolving challenges and opportunities that call for substantial and enduring regional engagement, even while we continue to contribute to security globally. The United States has long been a Pacific nation, and for the past decade U.S. defense strategy has been informed by the growing importance of the Asia-Pacific region. However, the rebalance will influence DoD’s investments in force structure, capabilities, posture, operational concepts and engagement in the region. (II-6 to II-8)

The rebalance to the Asia-Pacific commits us to support enduring principles and a just international order, modernize and strengthen alliances and partnerships, enhance presence in the region, and strengthen power projection capabilities. To this end, investments and activities emphasize our existing alliances, which provide an invaluable foundation for security in the region, and also support expanding our networks of cooperation with emerging partners. It also includes maintaining peace on the Korean Peninsula by effectively working with allies and other regional states to deter and defend against provocation from North Korea. (II-6 to II-8)

Finally, the maintenance of peace, stability, the free flow of commerce, and of U.S. influence in the region will depend on an underlying balance of military capability and presence. The United States and China have a strong stake in peace and stability in East Asia and an interest in building a cooperative bilateral relationship. However, China’s rapidly growing economic and political influence has been accompanied by a comprehensive military modernization program that emphasizes “counter-intervention” capabilities and poses a significant challenge to America’s position as the security partner of choice in the Asia-Pacific region. We will continue to seek expanded U.S.-China military-to-military ties (in bilateral and multilateral venues), advocate for increased transparency in China’s military development, and, where feasible, seek China’s cooperation on regional and global security challenges. (II-6 to II-8)

DoD’s FY 2013 President’s Budget request reflected initial efforts to rebalance towards the Asia-Pacific region, with investments outlined in the January 2012, Defense Budget Priorities and Choices. The FY 2014 budget request further advances the rebalance agenda, continuing key investment choices
made in FY 2013, as well as investing in new initiatives to expand and deepen our commitment to the region. (II-6 to II-8)

The Department is enhancing and diversifying air, naval, and ground presence within the region. This includes expanding access and rotational presence in some areas, as well as undertaking a wide range of activities with allied and partner states to build trust, capacity, and interoperability. The Department is planning to put some of its most capable forces forward in the region, with the rotational deployment of an F-22 squadron to Kadena Air Base in FY 2013, and plans for the early deployment to the region of all variants of the F-35. We are developing Guam as a strategic hub and expanding our access and cooperation agreements with Australia, the Philippines, and Singapore. Additionally, this budget gives priority to investments that develop platforms and capabilities that have direct applicability and use in the Asia-Pacific region, to include: VIRGINIA-class nuclear powered submarine, the P-8 maritime patrol aircraft, cruise missiles, and Intelligence, Surveillance, and Reconnaissance (ISR) platforms. (II-6 to II-8)

Investments in New Capabilities

The United States continues to make the requisite investments to ensure that U.S. forces can accomplish all of their assigned missions. We are shaping a Joint Force for the future that while smaller and leaner, is agile, flexible, ready, and technologically advanced. Of particular importance in the Asia-Pacific region, U.S. forces will maintain regional access and the ability to operate freely, including where our power projection operations are challenged by adversaries. Key investments in FY 2014 to implement the rebalance include: the fifth generation Joint Strike Fighter, a new stealth bomber, the KC-46 tanker replacement, the Broad Area Maritime Surveillance, and investments in other future-focused capabilities, such as cyber, science and technology, and space. (II-6 to II-8)

Operational Concepts

One notable feature of the rebalance is that our plans do not call for fielding a dramatically larger force or withdrawing from our commitments and leadership role in the rest of the world. Although implementing the rebalance with increasing budget pressures is not without challenges or difficult decisions, DoD is dedicating significant attention to understanding how to gain access to and operate in denied areas, including developing new operational concepts and developing new ways of engaging partners and deterring and defeating adversaries. (II-6 to II-8)

Alliances and Partnerships

DoD’s commitment to the Asia-Pacific region is part of a broader U.S. Government focus. The President’s November 2011 trip to the region and statements by former Secretary of State Clinton underscore the strategic importance of the region to U.S. national interest as well as the diplomatic and economic efforts that form an important component of U.S. leadership there. U.S. military engagements in the Asia-Pacific region complement these efforts with investments in presence operations, posture, partner capacity building, and defense diplomacy. Key enhancements or protected investments in FY 2014 include: continuing high-level, frequent visits by senior Department leaders to the region; revitalizing our defense partnerships with Japan, Korea, Australia, the Philippines, Thailand, New Zealand, Vietnam, Malaysia, and Indonesia; deepening our defense cooperation with India; and strengthening our military-to-military relationship with China. (II-6 to II-8)

In spite of coming reductions in the total size of the US Army, there will also be changes that improve its power projection capabilities.\footnote{Ibid., p. 4-1 to 4-3.}

… [T]he Army is beginning to regionally align its forces with the goal of increasing both the quantity and quality of forces available to combatant commanders. Simply described, the Army will align units with specific geographic combatant commands based on existing assignments, relationships established through the State Partnership Program, or anticipated demand. In doing so, the Army will
establish operational and planning associations between its units and the combatant commands with which they are aligned.

Training will be tailored to include an understanding of the languages, cultures, geography and militaries of the countries where the units are most likely to be employed. The Army began regionally aligning forces this year with the assignment of a Brigade Combat Team (BCT) to USAFRICOM.

The Army estimates that, by 2015, the geographic combatant commanders should be able to plan for increased use of their assigned forces.

...The Army is currently conducting a detailed analysis of a proposal that reorganizes BCTs from the existing modular BCTs into fewer, but much more capable, organizations. This analysis could lead to a decision to reorganize BCTs into more capable and robust formations which would require further BCT reductions in order to increase overall versatility and agility for tomorrow’s security challenges. If adopted, the most significant changes to a BCT would be the addition of a third maneuver battalion and the formation of a Brigade Engineer Battalion in each BCT.

...Perhaps the most important element of the Army’s transition back to full-spectrum, decisive-action operations is the ongoing revision of the training strategy. The Army’s training process is based on units progressively improving their proficiency beginning with individual soldier skills training, progressing through small unit (squad, platoon, and company) live fire and maneuver training, and culminating in a battalion/brigade-level Combat Training Center (CTC) event conducted in either a live or constructive environment that integrates all capabilities into a synchronized exercise.

The US issued additional reporting in April 2013 that described specific programs for its rebalancing in Asia. The report stated that these steps included:320

- Creating a more operationally resilient Marine Corps presence in the Pacific, undertaking key presence initiatives in Australia, and investing in Guam as a joint strategic hub... DoD invested in Pacific bases in Guam and Pearl Harbor to enhance our capacity for submarine and CSG operations and to support our rebalancing to the Asia-Pacific region... The Department added $78 million in FY 2014 to enable basing of another fast-attack submarine in Guam... The Department also added $300 million across the FYDP to dredge Pearl Harbor to ease aircraft carrier access... The Department will procure a second Virginia-Class attack submarine in FY 2014; this will lessen the impact from the retirements of Los Angeles-Class attack submarines in the 2020s.

- Adding electronic attack EA-18Gs (Growlers) to offset the loss of retired Marine Corps EA-6B (Prowler) squadrons

- Investing in an array of critical munitions, particularly for countering anti-access/area denial (A2/AD) strategies. Our military’s weapons must be invulnerable to countermeasures and be able to out-reach our enemy’s defenses. Potential adversaries continue to improve their capabilities, challenging our ability to project power, especially in anti-access environments. In order to preserve tactical, operational, and strategic advantages, the FY 2014 submission increased investments in munitions that overcome and resist adversary countermeasures, outrange enemy weapons, and strike difficult targets. For example, this budget:
  - Increased procurement of advanced blocks of air-to-air missiles like AIM-9X
  - Funded development and production of a new highly capable, long-range anti-ship cruise missile designed to out-range and resist adversary countermeasures
  - Increased procurement of extended range Joint Air-to-Surface Standoff Missiles (JASSM-ER) to enhance our arsenal of advanced long-range strike missiles

• Funded improvements to weapons designed to destroy or defeat hard and deeply buried targets, such as the BLU-109 and BLU-113 penetrators
• Funded development of a new increment of the Guided Multiple Launch Rocket System (GMLRS) designed to strike targets at range from the ground
• Funded a service life extension for the existing Army Tactical Missile System (ATACMS) to bridge the gap until the new GMLRS increment is fielded and comply with our cluster munitions policy
• Integrated advanced Small Diameter Bombs (SDB-II) with all-weather and moving target capability on additional Navy aircraft
• Funded development and demonstrations of alternative uses of existing capabilities, expanding delivery platform options as well as broadening the type of targets munitions are able to strike
• Adjusted the apportionment of munitions around the globe to align with the strategy, emphasizing our shift to the Asia-Pacific region
• We also enhanced capability and effective capacity by integrating munitions on a broader set of platforms, funding demonstrations to expand applications of existing munitions, and ensuring that the right munitions were strategically located around the world. For example, we:
  o Integrated long-range air-launched JASSM-ERs on additional aircraft
  o Integrated advanced Small Diameter Bombs (SDB-II) with all-weather and moving target capability on additional Navy aircraft
  o Funded development and demonstrations of alternative uses of existing capabilities, expanding delivery platform options as well as broadening the type of targets munitions are able to strike
  o Adjusted the apportionment of munitions around the globe to align with the strategy, emphasizing our shift to the Asia-Pacific region
  o Increasing our joint and combined training capacity in and around Guam

This is only a small part of the measures the US has underway, however, and the US still faces major uncertainties as to what level of restructuring and systems it can afford, and has much to do in defining its future posture in the ROK and Asia. It is still reappraising the threat it faces from the DPRK as a result of the new tensions that arose in the spring of 2013, as well as how each service must respond to the broader challenges in the Asia-Pacific and the rise of China.

Former USFK Commander General Walter Sharp discussed some of the issues involved at a CSIS forum in March 2013. He argued that the US and ROK should both increase defensive and offensive capabilities against the DPRK, as the North has become increasingly threatening and is approaching the capability to attack anywhere in the world with nuclear missiles. He proposed that the US and ROK develop layered, robust missile defense systems that could quickly strike anywhere in the DPRK; construct regional intelligence sharing systems, such as the stalled ROK-Japan intelligence sharing agreement, and increase sharing
of military secrets to better monitor the North; and continue tightening economic and
diplomatic pressures on the DPRK.  

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Figure III.13: US Force Plans, FY2013-FY2014

**Active Manning (1,000s)**

<table>
<thead>
<tr>
<th>Service</th>
<th>FY 2013 Enacted</th>
<th>FY 2014</th>
<th>Delta FY13 - FY14</th>
</tr>
</thead>
<tbody>
<tr>
<td>Army</td>
<td>562.1</td>
<td>520.0</td>
<td>-32.1</td>
</tr>
<tr>
<td>Navy</td>
<td>322.7</td>
<td>323.6</td>
<td>+0.9</td>
</tr>
<tr>
<td>Marine Corps</td>
<td>197.3</td>
<td>190.2</td>
<td>-7.1</td>
</tr>
<tr>
<td>Air Force</td>
<td>329.5</td>
<td>327.6</td>
<td>-1.9</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>1,401.6</strong></td>
<td><strong>1,361.4</strong></td>
<td><strong>-40.2</strong></td>
</tr>
</tbody>
</table>

**Reserve Forces**

<table>
<thead>
<tr>
<th>Service</th>
<th>FY 2013 Enacted</th>
<th>FY 2014</th>
<th>Delta FY13 - FY14</th>
</tr>
</thead>
<tbody>
<tr>
<td>Army Reserve</td>
<td>205.0</td>
<td>205.0</td>
<td>-</td>
</tr>
<tr>
<td>Navy Reserve</td>
<td>62.5</td>
<td>59.1</td>
<td>-3.4</td>
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**Total Forces**

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1/ The Navy force structure plan reflects the FYDP Ship Building Plan. The current 30-year Ship Building Plan reflects a force structure of 306 ships.

The Pace of Modernization

The US is slowing the pace of military modernization through program cuts, delaying the arrival times of new equipment, and cutting the size of total future buys. However, the proposed levels of US investment in military modernization are shown in Figure III.14, and would still lead the world in terms of total modernization. If Congress largely accepts the President’s proposals, the plans will not halt the US rebalancing to Asia or stop the US from modernizing key elements of its forces that directly affect the Korean balance and US capabilities in the rest of Asia.

OSD Comptroller describes the pace of US modernization investment and summarizes the new cuts made in the FY2014 budget as follows:322

Overall, the Department is requesting $167.6 billion for equipment, systems, research, technology development, and weapons for FY 2014. Of this amount, $67.6 billion is for RDT&E efforts, and $99.3 billion for Procurement of equipment (also, an additional $0.7 billion is budgeted for other Investment related expenses). Of this amount, 40 percent ($69.4 billion) is being budgeted for the Major Defense Acquisition Programs (MDAP) efforts, to include primarily war fighting weapon systems.

...This FY 2014 PB includes recommendations to terminate or restructure weapons systems acquisition programs to realign funding to higher priority national security requirements. These particular programs are experiencing significant developmental problems, unsustainable cost growth, or are no longer on the Department’s high priority list. Terminations include, Missile Defense Agency Precision Tracking Space System (PTSS) development program (FY 2014, -$270 million) and the Air Force’s Expeditionary Combat Support System (ECSS) developmental effort (FY 2014, -$76 million).

Two major changes in US modernization efforts will affect missile defense and US ground combat capabilities, although it is far from clear that the end result will not lead to more solid and effective modernization efforts:323

Standard Missile-3 Block IIB (SM-3 IIB) Restructuring: Next Generation Aegis Missile (Standard Missile-3 Block IIB)(SM-3 IIB) – The Department is restructuring the Standard Missile-3 Block IIB program, transitioning our efforts to focus on common kill vehicle technology for the GBI exo-atmospheric kill vehicle (EKV), and future SM-3 variants. Consolidating these into one technology effort accelerates our ability to address emerging threats and increase the protection of the homeland. This restructure will allow the Department to evaluate new technologies, system architectures, and component design, aimed at improvements in targeting and lethality. Additional developmental efforts will also be focused on advanced technologies such as the development of a common kill vehicle, fast burning fuels, divert and altitude control systems, and cutting-edge seeker technologies.

Ground Combat Vehicle (GCV) Restructuring: Ground Combat Vehicle (GCV) – The GCV is the U.S. Army’s replacement program for the M2 Bradley armored fighting vehicles in heavy and Stryker Brigade Combat Teams (SBCT). The GCV development was restructured by adding an additional 18 months to the Technology Development (TD) and Engineering, Manufacturing, and Development (EMD) phases, to better mature technologies to improve the vehicles performance, including survivability aspects in combat missions. In addition, to reduce cost, thus improve the programs

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322 OSD Comptroller, Overview – FY2014 Defense Budget Summary, Department of Defense, April 2013, p. 3-1 to 3-2.
323 Ibid.
affordability, only one contractor team will proceed into EMD, instead of the original plan to carry two contractor teams.

While the US is cutting back in areas that affect the Korean balance and its total power projection capabilities, it is also now focusing on the kind of force structure, modernization, and readiness that affect its ability to both fight on the Korean Peninsula and project power in Northeast Asia. The US will also continue several key areas of modernization that will significantly increase its power projection capabilities:324

The Department continues to invest in aircraft systems, both manned and unmanned. Technological advancements in the past decade are being concentrated on maturing future systems, including the F-35 Joint Strike Fighter, the Global Hawk Block 40, the E-2D Advanced Hawkeye, and a new strategic bomber. The Department also continues to invest in airborne logistics support platforms such as the C-130J, the V-22 Osprey, and the new KC-46A tanker. At the same time, the Military Departments continues to invest in the modernization of existing aircraft, such as the F-15 Eagle, the C-5M Galaxy, and the F-22 Raptor. Likewise, the rotary wing fleet is also being modernized in order to ensure it can support ground operations in the coming decades. (3-1 to 3-4).

The AH-64 helicopter is being upgraded to the block 3 “E” configuration, which provides numerous improvements. In addition, the Army will also continue to procure the CH-47 Chinook and the UH-60 Black Hawk helicopters in efficient multiyear procurement contracts. To enhance situational awareness and expand command and control capabilities, the Department continues to invest in space and land based systems, which, in concert, provide U.S. forces and allies an advantage over adversaries with regards to intelligence, surveillance and reconnaissance (ISR) capabilities. A new generation of satellites, the Mobile User Objective System (MUOS), the Advanced Extremely High Frequency (AEHF) and the Wideband Global Satellite (WGS), along with the Army’s Warfighter Information Network-Tactical (WIN-T) and the Joint Tactical Radio System (JTRS), will enhance both tactical and strategic communications; and command and control capabilities of the Services. (3-1 to 3-4)

…The FY 2014 budget funds the development and deployment of ballistic missile defense capabilities that support the Administration’s priorities: protecting the U.S. homeland, deployed forces, allies, and partners. The United States will maintain and improve the Ground-based Midcourse Defense (GMD) system currently operationally available in Fort Greely, Alaska, and Vandenberg Air Force Base, California to defeat limited ICBM attacks. We are supporting a presidential decision to implement the existing homeland defense hedge by increasing our operational fleet of Ground Based Interceptors (GBI) from 30 to 44 in order to counter larger raid sizes. In February 2013 the Ground Based Interceptor (GBI) returned to flight in a successful non-intercept test flight using the CE II GBI. Our highest priority this year is the execution of a successful intercept using a Capability Enhancement II (CE II) GBI. (3-1 to 3-4)

…Other key efforts supported by this budget include: (3-1 to 3-4)

- The Department is restructuring the Standard Missile-3 Block IIB program, transitioning our efforts to focus on common kill vehicle technology for the GBI exo-atmospheric kill vehicle (EKV), and future SM-3 variants. Consolidating these into one technology effort accelerates our ability to address emerging threats
- Continued acquisition of GBIs to support GMD operations, testing, spares, and interceptor reliability growth testing and component reliability programs to eliminate known risks and identify reliability improvements for GBI component hardware

324 Ibid.
Continued conversion of Aegis ships to provide BMD capability, with a planned operational availability of up to 41 Aegis BMD ships by FY 2018, and procurement of 52 SM-3 Blk IB interceptors for Aegis BMD ships in FY 2014

Procurement of the sixth Terminal High Altitude Area Defense (THAAD) battery and 36 THAAD interceptors, to be delivered by FY 2017

Procurement of 56 new Missile Segment Enhancement (MSE) missiles which evolved from the Patriot Advanced Capability-3 (PAC-3) providing a more agile, lethal interceptor missile resulting in substantial performance improvement. Delivery is set for FY 2015, 4th Quarter. The program continues integration of missile and ground system hardware and software as well as activities that support the Test and Evaluation Master Plan (TEMP).

Patriot Mods continues its modernization mission with the Radar Digital Processor, Enhanced Launcher Electronics System (ELES) upgrade kits to increase PAC-3 capability, Air Defense Artillery (ADA) School upgrades, and Cryptographic Modification. Patriot Mods also continues Reliability, Availability, and Maintainability (RAM), Recapitalization, and Battery Command Post/Tactical Command System (BCP/TCS) efforts.

The FY 2014 budget continues to fund the Army’s high priority efforts to upgrade/replace aging fleets and increase soldier capabilities in the following areas: advanced command and control capabilities; soldier/squad program upgrades (M4 improvements, body armor, sights, etc.); ground combat vehicle to replace the M2 Bradley; joint light tactical vehicle to replace the HMMWV; and armored multi-personnel vehicle to replace the M113. Current funding represents the minimum level needed for balanced modernization and investment to support strategic requirements. Further funding cuts increase the risk of losing technological advantages achieved over the last ten years. (4-4)

Serviceability of equipment remains a challenge as utilization rates over the past eleven years have exceeded many designed operating parameters. In order to maintain high serviceability rates for these systems, especially for units that are deployed or preparing to deploy, the Army has relied on supplemental funding to assure systems are fully mission capable for current operations. (4-4)

… Ground and aviation equipment must meet the needs of the current and emerging security environment. As the Marine Corps explores options to adjust to changing fiscal realities, there is a clear imperative to reset portions of legacy equipment used in OEF and OIF. This reset occurs as the Marine Corps modernizes to guarantee dominance over future threats. As mentioned earlier, in order to bolster investments in personnel and unit readiness, the Marine Corps accepted the greatest amount of risk in its equipment modernization budget. $2.1 billion of our $2.3 billion rebalance was taken in this pillar. (4-11 to 4-12)

Although the FY 2014 budget fully funds the Joint Light Tactical Vehicle, Ground/Air Task Order Radar, and the current development plan of the Amphibious Combat Vehicle, risk was assumed in the remainder of the Ground Combat Tactical Vehicle portfolio. Specific risks include lower increases of funding for modification of High Mobility Multipurpose Wheeled Vehicles, delayed upgrades to Light Armored Vehicles, and lower funding increases for the Marine Personnel Carrier. Additionally, the FY 2014 budget reduced funding for both equipment sustainment and the service life extensions that sustain legacy equipment until modernization can be achieved. (4-11 to 4-12)

The FY 2014 President’s Budget provides for ship construction of forty-one new vessels. The aforementioned LCS will provide 14 ships, while this budget also includes 9 VIRGINIA class submarines and nine Arleigh Burke class destroyers. The total shipbuilding budget across the FYDP is $70.5 billion.

The procurement of aircraft remains vital to ensure the Department can complete every mission. We are properly managing risk with our purchase of 108 JSFs across the FYDP. The introduction of Joint
Strike Fighters into the fleet will lead to the final procurement of F/A-18s in FY 2013. Rotary wing aircraft will continue to be significant, with eighty procured in FY 2014 alone. The MV-22 Osprey will continue to be produced in significant quantities, 78 across the FYDP. Unmanned Aerial Vehicles will become even more vital to the mission. A total of 35 are to enter service between FY 2014 and FY 2018.

In terms of average aircraft age, Air Force “iron” is older than it has ever been. The average age of the Air Force fighters is now 23 years, rescue helicopters 22 years, training aircraft 25 years, bombers 37 years and tankers 48 years. Sustainment costs continue to outpace inflation, and the Air Force is aggressively pursuing multiple initiatives to control these costs and mitigate risk. In addition, high operations tempo has shortened service lives, requiring service life extension programs to bridge the gap with new weapon systems not yet fielded and in some cases significantly delayed. Sustainment funding also enables weapon system availability and flying hours, making it a key contributor to readiness. The FY 2014 budget submission adds $1.4 billion across the FYDP to WSS accounts. With the addition of anticipated FY 2014 OCO funds, planned WSS funding meets 81 percent of the requirements. The continuation of OCO funding will be critical to account for increased WSS requirements as many weapons systems remain employed overseas while others simultaneously reset to support current strategy. (4-13 to 4-14)

…The need for modernization spans across the Air Force. The FY 2014 budget keeps the Air Force’s top three modernization programs (F-35, KC-46 and LRS-B) on track. While service life extension programs and periodic modifications have largely kept the inventory viable for the current environment, emerging threats and technologies require new investments. The FY 2014 budget begins to recapitalize the fighter fleet with the F-35 and continues development of the long-range-strike bomber as a requirement to meet forecasted future threat assessments and provide the ability to operate/survive in an A2/AD environment. It funds legacy fleet service life extensions and critical capability upgrades, and preserves the KC-46 as the service’s highest acquisition priority, recapping a tanker fleet that averages 48 years in age. The budget also begins procurement of MQ-9/Block 5 aircraft, a new configuration that provides robust communication, encryption and power for next generation sensors, and continues production for the E-3 (AWACS) Block 40/45 program. (4-14)

Additionally, the FY 2014 budget focuses on reinvigorating the nuclear enterprise by undertaking platform modernization efforts (e.g., B-2 defensive management system, B-52 digital connectivity, ICBM fuses) and upgrading nuclear command and control systems.

The Air Force also continues to improve space capabilities by developing Space Fence Site 1, a next generation radar which enhances our ability to track and identify space objects, and continues support of GPS Enterprise modernization efforts, providing anti-jam/anti-spoof/anti-tamper capabilities. Fielding of Space Based Infrared System (SBIRS) is funded, providing improved overhead persistent infrared detection supporting missile warning, missile defense, technical intelligence, and battlespace awareness missions. Finally, the Air Force budget funds the Advanced Extremely High Frequency (AEHF) and the Enhanced Polar System (EPS) capabilities, providing protected communications (anti-jam, low probability of detection/intercept) at higher bandwidth and capacity for the warfighter.

These investments will help sustain forward momentum in capability and capacity for the future and contribute to meeting requirements derived from the Defense Strategic Guidance. However, the Air Force has identified additional modernization and acquisition requirements, such as recapitalizing our advanced training aircraft, which remain unfunded. (4-14)

The Procurement portfolio delivers both immediate and future capabilities through investment across four specific appropriations: Aircraft, Missile, Ammunition and Other Procurement. A new multi-year C-130 procurement initiative leverages resources across services, and funds the procurement of six C-130J aircraft, one HC-130, four MC-130s and five AC-130s in FY 2014. Additionally, the Air Force procures twelve MQ-9, nineteen F-35A, and three CV-22B Osprey in addition to various upgrades and modifications to the existing fleet. The Air Force will continues Evolutionary Acquisition for Space Efficiency/Efficient Space Procurement (EASE/ESP) approach for a fixed price block buy of
Advanced Extremely High Frequency satellite vehicles 5 and 6 and Space-Based Infrared System GEO-5 and 6. Additionally, the budget request procures munitions to maintain appropriate War Reserve Materiel munitions quantities and test and training stockpiles including 6,965 Joint Direct Attack Munitions and general purpose bombs, practice bombs and rockets. (7-15)

The FY 2014 Budget Request funds modernization of legacy fighters, the B-1B, F-35 development and procurement, development of a new Long Range Strike-Bomber (LRS-B) capability, and continued investment in preferred air-to-ground munitions. As a whole, the adjustments described below provide a sustainable, relevant fleet. The Air Force continues to support future precision attack capabilities with Active Electronically Scanned Array (AESA) radars for the F-15E. AESA radars on the Strike Eagle will ensure weapon system viability, create cost avoidance in the manufacturing base, and provide a robust, all-weather, air-to-ground targeting capability. Additionally, the Air Force continues two life extension programs for the F-16 in order to bridge to the F-35: Structural Service Life Extension Program and Combat Avionics Programmed Extension Suite. To counter the anti-access and area denial challenge the United States faces in many potential theaters, the budget request includes funding for the continued development of the F-35 weapon system and procurement of 19 F-35A aircraft. (7-20)

The Air Force FY 2014 Budget Request includes funding to continue the development of an affordable, long range, and penetrating aircraft that incorporates proven technologies. In addition to the development of LRS-B, the Air Force will continue to modernize the B-1B to ensure the fleet remains viable until recapitalization can be accomplished. The budget includes the continuation of the B-1 Integrated Battle Station contract which concurrently procures and installs Vertical Situation Display Upgrade (VSDU), Central Integrated Test System (CITS), and Fully Integrated Data Link (FIDL). VSDU and CITS each address obsolescence and diminishing manufacturing sources for the B-1 fleet. (7-20)

It is important to note that the US stresses a far higher degree of partnership with key allies like the ROK and Japan. It is also focusing on ISR, air and sea power projection capabilities, and Special Forces that can reinforce partners like the ROK rather than trying to fight a war by relying on US forces. These trends are reflected in the different summaries each service provided of their procurement plans for the FY2014 budget submission, shown in Figure III.15.

This does increase some risks, but it also reflects the underlying realities of the Korean balance. Unless the US deployed most of its ground forces to Korea, it would face major time problems in deploying massive ground reinforcements to the Peninsula.

Past US plans called for a ground force build-up that took more time than most scenarios allow. While increased reliance on partnership, ISR, stealth, and precision strike have their limits, they also offer the ability to rapidly support a key ally, increase deterrence in the areas where the DPRK has been most provocative, and offset the DPRK’s advantages along the DMZ relative to the location of Seoul and other key Korean population and economic centers by creating a US deep strike capability that the DPRK cannot defend against or match.

This does not mean that the US will not have to adapt to any changes in DPRK forces that involve further major increases in its deployments near the border or ground attack capabilities, or the overall mix of forces that might be deployed if China intervened on the DPRK’s behalf. At the same time, the ROK is now capable of supporting the conventional forces needed to deal with the DPRK threat and assume the lead in the US-ROK partnership.
Figure III.14: US Military Investment Spending, FY2001-FY2018

Investment Spending: FY2001 to FY2018

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Figure III.15: Procurement Plans, FY2013-FY2018 – Part One (US Army)

- The Army’s FY 2014 modernization objective is to maintain technological advantage in any operational environment.
- The Network, a critical enabler supporting this objective, includes:
  - Warfighter Information Network—Tactical
  - Joint Tactical Radio System
  - Distributed Common Ground System—Army
  - Joint Battle Command—Platform
  - Nett Warrior
- The objective is also supported by modernizing survivability, lethality, mobility, and Soldier equipping, such as:
  - Combat vehicle modernization — continues Ground Combat Vehicle and Armored Multi-Purpose Vehicle development
  - Joint Light Tactical Vehicle — enhances survivability and mobility at lower cost through the Joint Light Tactical Vehicle program’s economies of scale
  - Fire support modernization — continues the Paladin Integrated Management program, an essential component of balanced alignment with Armored Brigade Combat Teams
- Our Base request is $1.7B or almost 7% less than last year’s request. The reduction reflects the Army’s acceptance of measured risk to accommodate a tightening fiscal environment.

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*Numbers may not add due to rounding*  
*The FY 2014 OCO Request will be submitted at a later date*

Source: Adapted from MGen Karen E. Dyson, Director, Army Budget and Mr. Davis E. Welch, Deputy Director, Army Budget, *Army FY2014 Budget Overview*, April 2013.
### Figure III.15: Procurement Plans, FY2013-FY2018 – Part Two (US Navy)

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#### Aviation

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Source: Adapted from RADM Joseph P. Malloy, Deputy Assistant Secretary of the Navy for Budget, *US Department of the Navy, FY 2014 President’s Budget*, April 10, 2013.
Figure III.15: Procurement Plans, FY2013-FY2018 – Part Three (US Marine Corps)

Source: Adapted from RADM Joseph P. Malloy, Deputy Assistant Secretary of the Navy for Budget, *US Department of the Navy, FY 2014 President’s Budget*, April 10, 2013.
**Figure III.15: Procurement Plans, FY2013-FY2018 – Part Four (US Air Force)**

- Maintains F-35A procurement and ramps production up to 60 per year within FYDP
- Continues CV-22 and implements Multi-Year Procurement Strategy for C-130 platforms
  - Procures 3 CV-22s, 6 C-130Js and recapitalizes MC-130 and AC-130
- Invests in depleted munitions inventories
- Committed to annual production rate of evolved expendable launch vehicle booster cores based on restructured acquisition strategy
- Sustains Efficient Space Procurement strategy for Advanced Extremely High Frequency and Space Based Infrared System (SBIRS)
- Low Rate Initial Production begins for Family of Advanced Beyond Line of Sight Terminals

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China

As has been discussed in Chapter, changes in Chinese strategy and military modernization are reshaping the military balance that affects the Koreas, Northeast Asia, and the entire Pacific region. Since the early 1990s, China’s leaders have worked on a broad-based and ambitious military modernization program. In particular, Chinese equipment modernization includes new ships, missiles, submarines, a stealth fighter, and aircraft carrier combat groups. Figure III.16 compares the expansion of modern operational systems within the PLA by service, from 2000 to 2010.

Hu Jintao promoted a new military policy on December 24, 2004 at a Central Military Commission Conference, defining the four new missions of the PRC military:

1) Serve as an “important source of strength” for the Communist Party to “consolidate its ruling position”
2) “Provide a solid security guarantee for sustaining the important period of strategic opportunity for national development”
3) “Provide a strong strategic support for safeguarding national interests”
4) “Play an important role in maintaining world peace and promoting common development”

According to a subsequent newspaper article, Hu argued that the military should not only pay close attention to the interests of national survival, but also national development interests; not only safeguard the security of national territory, territorial waters, and airspace, but also safeguard electromagnetic space, outer space, the ocean, and other aspects of national security.

The Chinese 2008 Defense White Paper treated the military services as distinct for the first time, implying the reduced importance of the Army, while Party rhetoric regarding China as a “great maritime power” and the need to strengthen and modernize the Navy indicates that the PRC Navy may gain in funding and mission scope. However, inter-service rivalry has long existed in the Chinese military and competition for control over new capabilities – such as space systems – could increase this friction. Force development is taking place faster than command structure reform, and the Army still dominates the military organizationally, while the other forces are often marginalized.

The percentage of modern military equipment is growing quickly, and China has closed important technological gaps and gained some capabilities that are equal to or exceed global standards. The DoD reports, For the PLA, this modernization effort remains a work in progress. The first decade of the 21st century can be characterized as a period of ambitious PLA acquisition and development.

327 Ibid.
328 Ibid.
Although this trend will continue in the years ahead, the more dominant theme of the 2010-2020 decade is likely to be training and integration. Senior PRC leaders recognize that this period will prove critical to meeting the PLA’s modernization objectives, and they have demanded that the military engage in more realistic training and organizational reform.

…However, it is unlikely that China will be able to project and sustain large forces in high-intensity combat operations far from China prior to 2020.

Despite significant improvements, the PLA continues to face deficiencies in inter-service cooperation and actual experience in joint exercises and combat operations. Recognizing these shortcomings, China’s leaders continue to stress asymmetric strategies to leverage China’s advantages while exploiting the perceived vulnerabilities of potential opponents. The PLA has also embarked on human capital reform, intended to attract and retain talented personnel.

Modernization efforts include anti-access/area denial capabilities, ballistic missile defense development, extended operational reach, strategic capacities, and power projection beyond Taiwan. In particular, China is working to increase its maritime capabilities, and the country’s defense industry is increasingly able to produce advanced weaponry, slowly transforming the PLA.\footnote{Ibid.}

In December 2010, the Chinese Defence Minister Liang Guanglie stated, “making the country prosperous and making the armed forces strong are two major cornerstones for realizing the great rejuvenation of the Chinese nation.” According to the DoD,\footnote{Ibid., p. 9.}

China’s leaders anticipate that a successful expansion of comprehensive national power will serve China’s overriding strategic objectives, which include perpetuating CCP rule; sustaining economic growth and development; maintaining domestic political stability; defending national sovereignty and territorial integrity; and securing China’s status as a great power.

A Transformation Underway: The Chinese View

The 2010 Chinese Defense White Paper discusses relatively explicitly Chinese plans for military modernization. The People’s Liberation Army (PLA) is working on switching from a focus on scale, quantity, and manpower to efficiency, quality, and technology. The military aims to field high-technology weapons and develop into a more agile, smarter fighting force. In addition, the concept of “informationization” is emphasized, with a goal of integrating information systems into combat, support, and service support functions.

While the Army appears to be declining in importance, air, naval, and defense roles are projected to expand. In addition, the Second Artillery is explicitly acknowledged as having responsibility for both conventional and nuclear missiles; the branch plans to enhance strategic deterrence and thus increase emphasis on its nuclear capacity.\footnote{Information Office of the State Council of the People’s Republic of China, \textit{China’s National Defense in 2010}, March 31, 2011, p. 8-11.}

To meet the new and changing needs of national security, the PLA tries to accentuate modernization from a higher platform. It strengthens the building of a new type of combat capability to win local wars in conditions of informationization, strengthens the composite development of mechanization and informationization with the latter as the leading factor, focuses informationization on raising its
fighting capabilities based on information systems, and enhances the capabilities in fire power, mobility, protection, support and informationization.

... In line with the strategic requirements of mobile operations and tri-dimensional offense and defense, the PLA Army (PLAA) has invested additional efforts in reform, innovation and development, and advanced the overall transformation of the service. The PLAA has emphasized the development of new types of combat forces, optimized its organization and structure, strengthened military training in conditions of informationization, accelerated the digitized upgrading and retrofitting of main battle weaponry, organically deployed new types of weapon platforms, and significantly boosted its capabilities in long-distance maneuvers and integrated assaults.

... The PLAA has made great progress in strengthening its arms. The armored component has strengthened the development of digitized units, accelerated the mechanization of motorized units, and improved its combat system, which combines heavy, light, amphibious and air-borne assault forces. The artillery component has been working on new types of weapons, equipment, and ammunition with higher levels of informationization, forming an operational and tactical in-depth strike system, and developing the capacity to carry out precision operations with integrated reconnaissance, control, strike and assessment capabilities.

The air defense component has stepped up the development of new types of radar, command information systems, and medium- and high-altitude ground-to-air missiles. It has formed a new interception system consisting of anti-aircraft artillery and missiles, and possesses enhanced capabilities of medium- and low-altitude air and missile defense operations. The PLAA aviation wing has worked to move from being a support force to being a main-battle assault force, further optimized its combat force structure, and conducted modularized grouping according to different tasks. It has upgraded armed helicopters, transport and service helicopters, and significantly improved its capabilities in air strike, force projection, and support. The engineering component has accelerated its transformation into a new model of integrated and multi-functional support force which is rapid in response and can be used both in peacetime and in war. It has also strengthened its special capabilities in emergency rescue and disaster relief.

In this way, capabilities in integral combat support and military operations other than MOOTW missions have been further enhanced. The chemical defense component has worked to develop an integrated force for nuclear, biological and chemical defense which operates both in peacetime and in war, combines civilian and military efforts, and integrates systems from various arms and services. It has developed enhanced permanent, multi-dimensional and multi-terrain defense capabilities against nuclear, biological and chemical threats.

In line with the requirements of offshore defense strategy, the PLA Navy (PLAN) endeavors to accelerate the modernization of its integrated combat forces, enhances its capabilities in strategic deterrence and counterattack, and develops its capabilities in conducting operations in distant waters and in countering non-traditional security threats.

It seeks to further improve its combat capabilities through regularized and systematic basic training and actual combat training in complex electromagnetic environments. By organizing naval vessels for drills in distant waters, it develops training models for MOOTW missions. New types of submarines, frigates, aircraft and large support vessels have been deployed as planned. The PLAN enhances the construction of composite support bases so as to build a shore-based support system which matches the deployment of forces and the development of weaponry and equipment. The Navy has accelerated the building of surface logistical platforms... and is working to further improve its surface support capabilities. The Navy explores new methods of logistics support for sustaining long-time maritime missions....

To satisfy the strategic requirements of conducting both offensive and defensive operations, the modernization and transformation of the PLA Air Force (PLAAF) follows a carefully-structured plan. It strengthens and improves the PLAAF development and personnel development strategies, and enhances its research into the operation and transformation of air forces in conditions of
informationization. The PLAAF is working to ensure the development of a combat force structure that focuses on air strikes, air and missile defense, and strategic projection, to improve its leadership and command system and build up an informationized, networked base support system. It conducts training on confrontation between systems in complex electromagnetic environments, and carries out maneuvers, drills and operational assembly training in different tactical contexts.

The PLAAF strengthens routine combat readiness of air defenses, taking the defense of the capital as the center and the defense of coastal and border areas as the key. It has carried out MOOTWs, such as air security for major national events, emergency rescue and disaster relief, international rescue, and emergency airlift. It has gradually deployed airborne early warning and control aircraft, third-generation combat aircraft, and other advanced weaponry and equipment.

Following the principle of building a lean and effective force, the PLA Second Artillery Force (PLASAF) strives to push forward its modernization and improves its capabilities in rapid reaction, penetration, precision strike, damage infliction, protection, and survivability, while steadily enhancing its capabilities in strategic deterrence and defensive operations. It continues to develop a military training system unique with the strategic missile force, improve the conditions of on-base, simulated and networked training, conduct trans-regional maneuvers and training with opposing forces in complex electromagnetic environments.

It has set up laboratories for key disciplines, specialties and basic education, and successfully developed systems for automatic missile testing, operational and tactical command and control, strategic missile simulation training, and the support system for the survival of combatants in operational positions. It has worked to strengthen its safety systems, strictly implement safety regulations, and ensure the safety of missile weaponry and equipment, operational positions and other key elements. It has continued to maintain good safety records in nuclear weapon management. Through the years, the PLASAF has grown into a strategic force equipped with both nuclear and conventional missiles.

… The PLA takes the building of joint operation systems as the focal point of its modernization and preparations for military struggle, and strives to enhance its fighting capabilities based on information systems.

**Outside Views**

US official views take careful note of these Chinese developments. In 2011, the US DoD commented that Chinese modernization was at least partly driven by the fact China’s leaders follow the policy that great power status in the long term is best achieved by avoiding confrontation in the short term. Their goals were reaching critical military and economic benchmarks by 2020 and becoming a world-class military and economic power by 2050. Thus, the PRC followed a pragmatic approach of modernizing the military, strengthening the economy, and solidifying the Communist Party’s power. Overall, China’s military modernization program was successful: “despite continued gaps in some key areas, large quantities of antiquated hardware, and a lack of operation experience, the PLA is steadily closing the technological gap with modern armed forces.”

The DoD report on Chinese military power for 2012 provided a summary of then-current US official views of Chinese military modernization, noting that China still focused on Taiwan

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as its primary military priority but was expanding its power projection capabilities and broader role in Asia.\(^{334}\)

To advance its broader strategic objectives and self-proclaimed “core interests,” China is pursuing a robust and systematic military modernization program.

In 2011, Taiwan remained the PLA’s most critical potential mission, and the PLA continued to build the capabilities and develop the doctrine necessary to deter the island from asserting its sovereignty; deter, disrupt, or deny effective third-party (including U.S.) intervention in a potential cross-Strait conflict; and defeat Taiwan forces in the event of hostilities.

The PLA’s modernization efforts focus primarily on building a force capable of fighting and winning “local wars under conditions of informatization” — conditions in which modern military forces use advanced computer systems, information technology, and communication networks to gain operational advantage over an opponent. The character used for “local war” can also be translated as “regional war.”

There is a debate over which translation is more accurate. In the course of developing, refining, and assimilating these technologies, the basic tenets of China’s military strategy and warfighting doctrine have displayed strong continuity. The PLA in turn has ensured that its information technologies have been developed, refined, and integrated to ensure continuity with China’s military strategy.

China’s “Military Strategic Guidelines for the New Period,” completed in 1993 and revised as recently as 2004, contains the overarching strategic and operational guidance that directs the training, development, and employment of China’s armed forces. The key operational component of these guidelines is known as “active defense,” which serves as the highest-level operational guidance to all PLA services on how to fight and win wars. The warfighting principles embedded in active defense emphasize using precise and well-timed offensive operations, gaining and retaining the initiative, attacking only under favorable conditions, and exploiting an opponent’s most vulnerable weaknesses.

It noted that China had concentrated naval weapons investment on anti-air and anti-surface capabilities in order to achieve periodic and local sea and air superiority within the first island chain. China had sea trials for its first aircraft carrier in 2011, which was commissioned in 2012 and will serve as a training platform. However, it did not yet have an operational fixed-wing air regiment, and likely would not for several years. Other US officials concluded that the PLA Air Force was becoming capable of both offshore defensive and offensive roles, such as strike, air and missile defense, reconnaissance and early warning, and strategic mobility.\(^{335}\)

In March 2013, DNI James R. Clapper reported to the Senate that,\(^{336}\)

China is pursuing a long-term comprehensive military modernization designed to enable China’s armed forces to achieve success on a 21st century battlefield. China’s military investments favor capabilities designed to strengthen its nuclear deterrent and strategic strike, counter foreign military intervention in a regional crisis, and provide limited, albeit growing, capacity for power projection. During 2012, China’s People’s Liberation Army (PLA) introduced advanced weapons into its


\(^{336}\) James R. Clapper, “Worldwide Threat Assessment of the US Intelligence Community,” Senate Select Committee on Intelligence, March 12, 2013, p. 22.
inventory and reached milestones in the development of key systems, thereby sustaining the modernization program that has been under way since the late 1990s. For example, in August, the PLA Navy commissioned the Liaoning, China’s first aircraft carrier, which Beijing probably sees as a significant step in developing a military commensurate with great-power status. Additionally, China has continued to develop advanced ballistic missiles.

Developments in Chinese military capabilities support an expansion of PLA operations to secure Chinese interests beyond territorial issues. To expand operations—specifically in the Indian Ocean—China is pursuing more effective logistical support arrangements with countries in the region. Beijing is also maintaining a multi-ship antipiracy task force in the Gulf of Aden for the fourth straight year to protect commercial shipping. The task force operates independently of international efforts, but is making a tangible contribution to protecting shipping through this heavily pirated area.

China is also supplementing its more advanced military capabilities by bolstering maritime law enforcement (MLE) activities in support of its territorial claims in the South and East China Seas. In the territorial disputes with the Philippines and Japan last year, the Chinese Navy stayed over the horizon as MLE vessels provided Beijing’s on-scene presence and response.

The DoD’s 2013 edition of Military and Security Developments Involving the People’s Republic of China went into a new level of depth in discussing these issues. It noted both the links between strategy and modernization discussed in Chapter 1 and the major advances in missile and nuclear forces discussed in Chapter 9. It also described many changes and priorities affecting the balance in the Koreas and Northeast Asia:337

Although Taiwan continues to dominate the PLA’s force modernization … Beijing is investing in military programs and weapons designed to improve extended-range power projection and operations in emerging domains such as cyber, space, and electronic warfare. Current trends in China’s weapons production will enable the PLA to conduct a range of military operations in Asia well beyond Taiwan, in the South China Sea, western Pacific, and Indian Ocean. Key systems that have been either deployed or are in development include ballistic missiles (including anti-ship variants), anti-ship and land attack cruise missiles, nuclear submarines, modern surface ships, and an aircraft carrier. The need to ensure trade, particularly oil supplies from the Middle East, has prompted China’s navy to conduct counter-piracy operations in the Gulf of Aden. Disputes with Japan over maritime claims in the East China Sea and with several Southeast Asian claimants to all or parts of the Spratly and Paracel Islands in the South China Sea have led to renewed tensions in these areas. Instability on the Korean Peninsula could also produce a regional crisis involving China’s military. The desire to protect energy investments in Central Asia, along with potential security implications from cross-border support to ethnic separatists, could also provide an incentive for military investment or intervention in this region if instability surfaces. (p. 29)

China’s political leaders have also charged the PLA with developing capabilities for missions such as peacekeeping, disaster relief, and counterterrorism operations. These capabilities will increase Beijing’s options for military influence to press its diplomatic agenda, advance regional and international interests, and resolve disputes in its favor China has become more involved in HA/DR operations in response to the “New Historic Missions.” China’s ANWEI-class military hospital ship (the Peace Ark) has deployed throughout East Asia and to the Caribbean. China has conducted more than ten joint military exercises with the SCO members, the most prominent being the PEACE MISSION series, with China and Russia as the main participants. China continues its Gulf of Aden counter-piracy deployment that began in December 2008. Outside of occasional goodwill cruises, this represents the PLA Navy’s only series of operational deployments beyond the immediate western

Military Equipment Modernization Trends. China’s defense industry resource and investment prioritization and allocation favors missile and space systems, followed by maritime assets and aircraft, and, lastly, ground force materiel. China is developing and producing increasingly advanced systems, augmented through selected investments into foreign designs and reverse engineering. However, China’s defense industries are increasing the quality of output in all of these areas as well as increasing overall production capacities. Over the past decade, China has made dramatic improvements in all defense industrial production sectors and is comparable to other major weapon system producers like Russia and the European Union in some areas. (p. 47)

Naval/Shipbuilding Industry. Shipyard expansion and modernization have increased China’s shipbuilding capacity and capability, generating benefits for all types of military projects, including submarines, surface combatants, naval aviation, and sealift assets. China continues to invest in foreign suppliers for some propulsion units, but is becoming increasingly self-reliant. China commissioned its first aircraft carrier, the Liaoning, a renovated Russian KUZNETSOV-class hull, in September 2012. China is among the top ship-producing nations in the world and is currently pursuing an indigenous aircraft carrier program. To date, China has not produced a non-carrier surface combatant larger than a destroyer, but is outfitting theses ships with increasingly sophisticated anti-surface, -air and – subsurface defensive and offensive capabilities. China is using more sophisticated ship design and construction program management techniques and software, and it is improving in most areas of the maritime sector. (p. 47)

Armament Industry. There have been production capacity advances in almost every area of PLA ground forces systems, including production of new tanks, armored personnel carriers, air defense artillery systems, and artillery pieces. However, China still relies on foreign acquisition to fill gaps in select critical technical capabilities, such as turbine aircraft engines. China is capable of producing ground weapons systems at or near world standards however, quality concerns persist with some export equipment. (p. 47)

Aviation Industry. China’s commercial and military aviation industries have advanced to indigenously produce improved versions of older aircraft and modern fourth-to-fifth generation fighters and attack helicopters. China’s commercial aircraft industry has invested in high-precision and technologically advanced machine tools, avionics, and other components that can also be used in the production of military aircraft. However, production in the aircraft industry will be limited by its reliance on foreign sourcing for dependable, proven aircraft engines, as well as a continued lack of skilled personnel and facilities. Infrastructure and experience for the production of large-body commercial and military aircraft are believed to be limited, but growing with new investments. China is developing fourth and fifth generation aircraft that incorporate stealth and low-observable technologies (including carbon fiber and other specialty materials), and it is pursuing an indigenous heavy-lift military transport. Although China is modernizing its aviation industry, it lags behind in the production of reliable high performance aircraft engines. (p. 47)

Outside analysts agree that the Chinese Navy and Air Force give priority to increasing their ability to support their strategic goals in the Asia-Pacific region. As one expert notes, China is developing stronger anti-air force and anti-navy capabilities, using missiles – often land based – to threaten naval bases, carrier strike groups, and regional air bases. At the same time, the country is improving its integrated air defense system to make it difficult to penetrate and strike these missiles. The intention is to deter the US from entering important near-seas areas and force US forces back beyond their armaments and platforms ranges.338

Moreover, both services have emphasized other aspects of force modernization, aside from equipment development and acquisition:\(^{339}\)

Modernization (\emph{xian\-dai\-hua}) of hardware is only one component of PLA development and reform. The others are regularization (\emph{zheng\-gu\-hua}) and revolutionization (\emph{ge\-ming\-hua}). Revolutionization refers to the need to ensure that the PLA remains a Chinese Communist Party-controlled military even as it becomes more specialized and proficient. Regularization, or what U.S. specialists term software modernization, entails standardization and improvement of rules and regulations as well as organization to increase the PLA’s ability to employ its hardware.

…. Since the late 1990s, increasingly realistic training and organizational reforms (including downsizing of personnel, streamlining of bureaucratic structures, and reconfiguration of logistics and maintenance) have facilitated regularization of China’s navy and air forces. Facilities, faculty, curricula, and research at military educational institutions are being improved, in part through increased funding and even monetary rewards. Consolidation and merging of institutions may also be in store, particularly for PLAAF and PLAN aviation. Officers of unprecedented intellectual and technical caliber are being recruited…. The quality and education level of noncommissioned officers remains a problem, however, necessitating targeted remedial education…

Overall, US sources agree that the PLA is becoming increasingly modern:\(^{340}\)

The PLA has gradually increased its technological research and development, as well as its military and educational exchanges, and has conducted various combined exercises with such advanced militaries as those of Russia and Turkey. China’s naval and air forces are receiving a larger proportion of PLA personnel and funding as the PLA becomes a leaner, more technology-intensive force through successive personnel reductions, particularly of ground forces.

Some analysts also feel China believes it can structure its modernization efforts in ways that exploit the US-PRC asymmetry of interest in near-sea disputes and overall regional influence. The PRC is using military, economic, and political carrots and sticks regionally to convince the US and its neighbors that PRC interests should be respected and that any attempts to restrain the PRC will fail – and that in this reemergence, the PRC is the natural leader of East Asia. China hopes that it can use military development to speed up their political goals without having to actually use the military in a battle. Furthermore,\(^{341}\)

Given the systems that China is developing and acquiring, the PLA appears to have a different definition of “modern.” At present, for instance, it does not need high-end power-projection capabilities. The PLA already possesses cutting-edge missile technology and systems. It is not yet capable of sophisticated joint operations or complex real-time command, control, communications, computers, intelligence, surveillance and reconnaissance (C4ISR), but for high-priority near-seas missions, work-arounds may be available involving land-basing, temporal and spatial deconfliction of assets, and communications through secure fiber optic cable networks and high-powered line-of-sight. Such approaches may already be sufficient to convince leaders in Taiwan that the PLA has the capability to coerce the island while deterring U.S. intervention.

That said, for China to continue to improve its A2/AD capabilities, it must surmount several hurdles… Together with avionics and flight-control systems to some degree, [aeroengines] technology remains a major gap in Chinese aircraft development and production capabilities… Coordination of aircraft and

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\(^{340}\) Ibid.

surface-to-air missile operations represents another possible challenge.... Other potential hurdles include the mastery of antisubmarine warfare and amphibious operations.... To enable truly robust out-of-area operations, China must increase its capabilities in satellite navigation and C4ISR, antisubmarine warfare, area air defense, long-range air power, production of military ships and aircraft, at-sea replenishment, remote repair, operational readiness, doctrine, training, human capital, and overseas facilities. Thus far, Beijing has many limitations in these areas; some voluntary, some less so. These will be key indicators to monitor.

**Ground Force and Joint Warfare Modernization**

The DoD report on Chinese military power for 2012 summarized ground force and joint warfare modernization as follows:

**Ground Forces**

Along with other branches of the PLA, China’s large ground force is undergoing significant modernization, and has steadily improved capabilities in most areas. In mid-2011, the PLA began to transform its ground forces into a modular combined arms brigade-focused force structure.

The PLA fielded new rotary wing aviation assets in 2011, with the initial fielding of a new, domestically-produced attack helicopter, the Z-10, as well as major growth in the number of multi-purpose helicopters in army aviation units across the force. As 2011 ended, numerous indicators pointed to the start of an expansion of the majority of army special forces units. An improved amphibious assault vehicle has also entered service in key PLA units.

Throughout the PLA, growing numbers of modern heavy-armor, long-range strike artillery, and increased-range air defense weapons have entered service in selected units. Concurrent with this modernization, the ground force has emphasized combined arms operations and long-range mobility. China’s ground forces remain challenged by a lack of combat experience and self-identified limitations in the leadership abilities of its command staff, particularly at operational levels.

These problems have long been exacerbated by a lack of realism in training. However, the PLA began executing plans in 2011 designed to help overcome these issues by 2020, including increased force-on-force training against dedicated opposing force units, adopting simulator use for training, developing automated command tools to aid command decisions, and increasing the education levels and science and technology training of PLA commanders and staff officers.

**C4ISR Capabilities**

Acquiring comprehensive command, control, communication, computers, intelligence, surveillance, and reconnaissance (C4ISR) systems is a key component of China’s military modernization and is essential for executing integrated joint operations. The PLA is focused on developing C4ISR systems that will allow the military to share information and intelligence data, enhance battlefield awareness, and integrate and command military forces across the strategic, campaign, and tactical levels.

A fully integrated C4ISR system, as envisioned by PLA leaders, would enable the PLA to respond to complex battlefield conditions with a high level of agility and synchronization. To accomplish that vision, the PLA will need to overcome deficiencies in system integration and interservice coordination. Nevertheless, improvements in these systems will continue to enhance PLA battlefield awareness and lead to greater integration among the separate PLA services.

The 2013 edition of the report noted that,

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The PLA is investing heavily in modernizing its ground force, emphasizing the ability to deploy campaign-level forces across long distances quickly. This modernization is playing out with wide-scale restructuring of PLA ground forces that includes a more rapid, flexible special operations force equipped with advanced technology; improved army aviation units utilizing ultra-low altitude mobility helicopters armed with precision-guided munitions; and command and control (C2) capabilities with improved networks providing real-time data transmissions within and between units. (p. 8)

In addition, the PLA has focused its modernization efforts on transforming from a motorized to a mechanized force, as well as improving the ground force’s armored, air defense, aviation, ground-air coordination, and electronic warfare (EW) capabilities. PLA ground forces have benefited from increased production of new equipment, including the Z-10 and Z-19 attack helicopters. New air defense equipment includes the PLA ground force’s first medium-range SAM, the CSA-16, as well as domestically-produced CSA-15s (a copy of the Russian SA-15) and a new advanced self-propelled air defense artillery system, the PGZ-07. PLA ground force restructuring is highlighted by the development of brigades as a key operational echelon for combat in diverse terrain and under complex electromagnetic conditions. (p. 9)

The ground force is a proponent of joint operations since it requires transport from other forces to operate beyond China’s borders. To assist with its power projection needs, PLA ground forces have practiced using commercial transport assets such as roll-on/roll-off ships, to conduct maritime crossing operations. However, broader joint operations capability are still the primary goal for the ground force, a goal that is now a mandate for all the military services following the General Staff Department’s (GSD) December 2011 creation of the Military Training Department to oversee all PLA training, ensuring all military services realize the “prominence of joint training.” (p. 9)

A New Focus on the PLA Navy

China’s Navy has undergone significant expansion over the past decade – driven in part by the 1995-6 Taiwan Strait Crisis, which convinced the PRC leadership of the importance of naval power to balance US interests in the region. In general, China is developing its maritime capabilities – including its large and expanding merchant marine, significant offshore energy and minerals exploration, development in the global shipbuilding markets, an increasing fishing fleet, and its rapidly modernizing Navy.

The DoD report on Chinese military power for 2012 noted that:

The PLA Navy primarily focuses on improving anti-air and anti-surface warfare capabilities, as well as developing a credible at-sea nuclear deterrent. "e additional attack submarines, multi-mission surface combatants, and fourth-generation naval aircraft entering the force are designed to achieve sea superiority within the first island chain and counter any potential third party intervention in a Taiwan conflict.

China is also developing a near-continuous at-sea strategic deterrent with the JIN-class SSBN program. The JIN-class SSBN was built as a follow-on to China’s first generation XIA-class SSBN. The PLA Navy is also acquiring ships capable of supporting conventional military operations and HA/DR missions, including several amphibious transport docks and the ANWEI-class (Peace Ark) hospital ship.

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The PLA Navy will likely commission the KUZNETSOV-class (formerly the Varyag) aircraft carrier, currently undergoing sea trials, in 2012. The carrier will initially serve as a training platform for fixed-wing aircraft and as an additional asset for helicopter-borne HA/DR operations, until its full fixed-wing air regiment achieves operational capability in several years.

The 2013 edition of the report described Chinese naval modernization as follows,\textsuperscript{345}

In the most publicized PLA Navy modernization event of 2012, after a year of extensive sea trials, China commissioned its first aircraft carrier, the Liaoning, in September 2012. The PLA Navy successfully conducted its first launch and recovery of the carrier-capable J-15 fighter on November 26, 2012. The Liaoning will continue integration testing and training with the aircraft during the next several years, but it is not expected to embark an operational air wing until 2015 or later. China also continues to pursue an indigenous aircraft carrier program (the Liaoning is a refurbished vessel, purchased from Ukraine in 1998), and will likely build multiple aircraft carriers over the next decade. The first Chinese-built carrier will likely be operational sometime in the second half of this decade. (p. 6)

The PLA Navy places a high priority on the modernization of its submarine force. China continues the production of JIN-class nuclear-powered ballistic missile submarines (SSBN). Three JIN-class SSBNs (Type 094) are currently operational, and up to five may enter service before China proceeds to its next generation SSBN (Type 096) over the next decade. The JIN-class SSBN will carry the new JL-2 submarine launched ballistic missile with an estimated range of more than 4,000 nm. The JIN-class and the JL-2 will give the PLA Navy its first credible sea-based nuclear deterrent. (p. 6)

China also has expanded its force of nuclear-powered attack submarines (SSN). Two SHANG-class SSNs (Type 093) are already in service, and China is building four improved variants of the SHANG-class SSN, which will replace the aging HAN-class SSNs (Type 091). In the next decade, China will likely construct the Type 095 guided-missile attack submarine (SSGN), which may enable a submarine-based land-attack capability. In addition to likely incorporating better quieting technologies, the Type 095 will fulfill traditional anti-ship roles with the incorporation of torpedoes and anti-ship cruise missiles (ASCMs). (p. 6)

A separate analysis by Andrew Erikson, Lyle Goldstein, and Carnes Lord reported that,\textsuperscript{346}

The platforms and weapons systems that have emerged... are asymmetric in nature and anti-access in focus; they target a full spectrum of vulnerabilities inherent in CSGs and other power-projection platforms. Navigation satellites, new-generation submarines, sea mines and cruise and ballistic missiles promise to give China an ability to defend its maritime periphery in ways that were simply impossible 15 years ago. It is unlikely, however, that the Chinese think they can or should prepare to challenge the United States in a head-to-head clash of major surface forces in the Pacific. For the time being, they value the U.S. Seventh Fleet as a means to reassure regional stability that underwrites Chinese commerce and costs China nothing. However, they have recently shown signs of moving beyond a maritime strategy heavily reliant on submarines and land-based air and missile attack... toward one that also includes major surface combatants....

... [C]ommerce protection and the importance of sea lines of communication clearly resonate with the Chinese leadership. As China has become more dependent on seaborne oil imports from the Persian Gulf and Africa in recent years—a dependence that no amount of overland pipeline construction is


likely to reduce anytime soon—it is plainly worried about a potential threat to its oil tankers in transit through the Strait of Malacca and the Indian Ocean… it appears to be in the process of helping to develop facilities and infrastructure of various kinds (most notably, the deep-water port at Gwadar in Pakistan) in friendly countries throughout this region.

China has worked to develop its submarine force with both conventional and nuclear submarines over the past 15 years: Andrew S. Erickson summarizes such developments as follows:\footnote{347}

China’s submarine force is one of its core strengths, but it contains considerable variety. On the nuclear-powered ballistic-missile submarine (SSBN) front, three Type 094 hulls are already in service. Their armament awaits deployment of the JL-2 submarine-launched ballistic missile (SLBM), which is currently undergoing flight testing. The underground base at Yalong Bay on Hainan Island, which is emerging as a likely center of Chinese SSBN operations, offers proximity to deep water in otherwise cluttered and possibly closely monitored water space. The Office of Naval Intelligence’s most recent unclassified report characterizes the Type 094 as relatively noisy compared to equivalent Russian platforms. This noisiness, and the lack of an operational SLBM, leave it unable as yet to take full advantage of its South China Sea location. Follow-on variants of both hull and missile, as well as further training and operational experience, may be required before the system as a whole is capable of effective deterrence patrols. Moreover, command and control issues inherent in successful SSBN operations may give Beijing pause and slow development. Meanwhile, China’s land-based, partially mobile nuclear-missile forces are already extensive and highly capable. Their stealth is greatly enhanced by use of decoys and secure fiber-optic communications, options unavailable to submarines. While China is heading toward a nuclear dyad (Second Artillery and PLAN), it is likely to be a slow and cautious road.

For current nonnuclear operations, the key platforms are not SSBNs but rather conventional and nuclear-powered attack submarines (SSN). The relative emphasis between them is an important indicator of China’s prioritization of near-seas versus far-seas operations. China’s conventionally powered submarines, already quiet but constrained by the speed and power limitations of their type, are relevant primarily to near-seas operations. This applies even to the advanced Yuan-class, whose likely air-independent propulsion (AIP) would permit several weeks of low-speed submerged operations without snorkeling, which makes antisubmarine warfare against them more difficult. AIP also saves batteries to support several hours of high-speed engagement and escape maneuvers. SSNs, by contrast, are important for far-seas power projection because of their unparalleled power and endurance. China’s numbers and capabilities remain limited here, but this will be an important indicator to watch.

Erickson also provides useful background on China’s commissioning of its first aircraft carrier on September 25, 2012:\footnote{348}

According to China’s Ministry of National Defense, Liaoning will facilitate PLAN integrated combat force modernization, help address sovereignty issues, and advance new historic missions by “developing far seas cooperation” and capabilities to deal with nontraditional security threats. Particularly important is its future significance for “enhancing protection operations capabilities” (zengqiang fangwei zuozhan nengli) by using air power to cover vessels operating out of area.

While Liaoning will initially serve as a training and test platform, and cannot threaten capable forces such as the U.S. Navy or the Japan Maritime Self-Defense Force, PLAN-affiliated experts advocate using its formidable symbolism and potential for future air power to deter smaller neighbors such as Vietnam from pursuing competing claims in the South China Sea. [C]arriers will constitute part of…

\footnote{347}{Andrew S. Erikson, “China’s Navy and Air Force: Advancing Capabilities and Missions,” National Bureau of Asian Research, September 27, 2012.}
\footnote{348}{Ibid.}
lower-intensity tertiary layer of Chinese naval and air power development... China will probably develop multiple aircraft carriers so that one can always remain at sea while the others are undergoing refitting or being used for training.

*Liaoning* is a short takeoff but arrested recovery (STOBAR) carrier, which combines an un-catapulted, rolling takeoff assisted by a ski jump with a traditional arrested recovery system that permits the landing of fighter aircraft in short deck space. The STOBAR design entails several major limitations.... To increase its deck aviation capabilities substantially, China must develop a catapult-assisted takeoff but arrested recovery (CATOBAR) carrier; the question is how soon it will actually do so. It is uncertain whether China has started “indigenous construction,” and how that might be defined. Chinese shipyards may already be working on components. More broadly, will China seek to construct its own version of *Liaoning* first?.... Alternatively, might China wait to master more complex processes, and then construct a CATOBAR carrier? The nature of China’s second indigenously constructed aircraft carrier will tell much about its deck aviation trajectory.

Chinese naval modernization includes operations as well. In 2011, the Chinese Navy undertook its first operational deployment to a distant part of the world (Africa and the Mediterranean) to protect its citizens, also its largest noncombatant evacuation operation, when it dispatched the frigate *Xuzhou* to Libya to support and protect Chinese citizen evacuation – most of which occurred on chartered merchant vessels, chartered aircraft, military aircraft, and overland buses.

The operation involved a significant level of interagency cooperation along with private industry assistance. Also, it indicates that the Chinese military is becoming more proficient in long-range operations, while transport logistics and the political will to send forces overseas have also risen markedly. The success of this operation will also likely increase naval procurement and the government’s investment in more robust long-range naval capability in general, as well as the aircraft carrier program.

The DoD reports that,

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349 China participates in UN peacekeeping operations around the world, creating a core group of personnel with operation experience in various regions. As of January 31, 2011, China had almost 1900 troops involved in UN peacekeeping operations.


The DoD report on Chinese military power for 2012 summarizes Chinese progress in air, missile, and space modernization as follows: 352

**Air and Air Defense Forces**

Once oriented solely on territorial defense, the PLA Air Force is transforming into a force capable of off-shore offensive and defensive operations. Mission areas include strike, air/missile defense, strategic mobility, and early warning/reconnaissance. China is also investing in stealth technology, as evidenced by the flight testing of its first stealth aircraft prototype, beginning in January 2011.

In response to the new historic missions’ requirements to protect China’s global interests, the PLA Air Force is attempting to increase its long range transportation and logistics capabilities, to achieve greater strategic projection. However, it is likely the PLA Air Force’s primary focus for the coming decade will remain building the capabilities required for Taiwan contingencies.

The PLA Air Force is currently in the beginning stages of developing ballistic missile defenses and the air-space integration needed for early warning. China continued to modernize its ground-based air defense forces with the introduction of a new medium-range surface-to-air missile (SAM) system in 2011. Current and future air defense systems development emphasizes multi-target engagement capability, net-centric operations, survivability, and robust electronic protection.

**Missiles—Second Artillery Corps**

The PLA Second Artillery Corps is modernizing its short-range ballistic missile force by fielding advanced variants with improved ranges and payloads. It is also acquiring and fielding greater numbers of conventional medium-range ballistic missiles (MRBMs) to increase the range at which it can conduct precision strikes against land targets and naval ships, including aircraft carriers, operating far from China’s shores beyond the first island chain.

Similarly, China continues to produce large numbers of advanced ground-launched cruise missiles capable of standoff, precision strikes. By 2015, China will also field additional road-mobile DF-31A (CSS-10 Mod 2) intercontinental ballistic missiles (ICBMs) and enhanced, silo-based DF-5 (CSS-4) ICBMs. The PLA Second Artillery Corps faces several challenges in its force structure, including integrating both new and planned systems.

**Space and Counterspace Capabilities**

In the space domain, China is expanding its space-based surveillance, reconnaissance, navigation, meteorological, and communications satellite constellations. China continues to build the Bei-Dou (Compass) navigation satellite constellation with the goal of establishing a regional network by the end of 2012 and a global network by 2020. China launched the Tiangong space station module in September 2011 and a second communications relay satellite (the Tianlian 1B), which will enable near real-time transfer of data to ground stations from manned space capsules or orbiting satellites.

China continues to develop the Long March V rocket, which will more than double the size of the low Earth and geosynchronous orbit payloads that China will be capable of placing into orbit. In parallel, the PRC is developing a multidimensional program to limit or deny the use of space-based assets by adversaries during times of crisis or conflict.

In addition to the direct-ascent anti-satellite weapon tested in 2007, these counterspace capabilities also include jamming, laser, microwave, and cyber weapons. Over the past two years, China has also conducted increasingly complex close proximity operations between satellites while offering little in the way of transparency or explanation.

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China’s space and counterspace programs are facing some challenges in systems reliability. Communications satellites using China’s standard satellite launch platform, the DFH-4, have experienced failures leading to reduced lifespan or loss of the satellite. The recent surge in the number of China’s space launches also may be taking its toll. In August 2011, in the third satellite launch in seven days for China, a Long March 2C rocket (carrying an experimental Shijian 11 satellite), malfunctioned after liftoff and failed to deliver the satellite into orbit.

The 2013 DoD report on Chinese military power noted that China was focusing on both A2AD capabilities and stealth, as well as precision strike capabilities and improved air defenses:353

China’s future air force A2/AD capabilities will be bolstered by the development of a 5th generation fighter force, which is not likely to be fielded before 2018. Key characteristics of fifth generation fighters include high maneuverability, lack of visibility on radar due to very low observable stealth shaping, and an internal weapons bay. Other key features of these aircraft are modern avionics and sensors that offer more timely situational awareness for operations in network-centric combat environments, radars with advanced targeting capabilities and protection against enemy electronic countermeasures, and integrated electronic warfare systems with advanced communication and GPS navigation functions. These next generation aircraft will improve China’s existing fleet of fourth generation aircraft (Russian built Su-27/Su-30 and indigenous J-10 and J-11B fighters) by utilizing low-observable platforms to support regional air superiority and strike operations. Additionally, China’s continuing upgrades to its bomber fleet may provide the capability to carry new, longer-range cruise missiles. Similarly, the acquisition and development of longer-range unmanned aerial vehicles (UAV), including the BZK-005, and unmanned combat aerial vehicles (UCAV), will increase China’s ability to conduct long-range reconnaissance and strike operations. (p. 35)

…The PLA seeks to develop aircraft with low observable features, advanced avionics, super-cruise engines, and stealth applications, as demonstrated by the January 2011 flight test of the J-20 prototype and recent observations of a second indigenously-produced aircraft with stealth features. China seeks to develop these advanced aircraft to improve its regional airpower projection capabilities and strengthen its ability to strike regional airbases and facilities. China’s first fifth generation fighter is not expected to enter service prior to 2018, and China faces numerous challenges to achieving full operational capability, including developing high-performance jet engines. (p. 64)

The PLA Air Force has observed foreign military employment of stealth aircraft and views this technology as a core capability in its transformation from a predominantly territorial air force to one capable of conducting offensive and defensive operations. The PLA Air Force also perceives there is an imbalance between offensive and defensive operations due to advances in stealth aircraft and related technologies with stealth aircraft providing an offensive operational advantage that denies an adversary the time to mobilize and conduct defensive operations. The PLA Air Force also sees the offensive advantage to combining an aircraft’s stealthy features with information systems that enhance situational awareness and improve coordination of forces during combat. (p. 64)

The development of stealth aircraft incorporated with advanced fifth generation capabilities, including super-cruise engines and advanced avionics, would make the aircraft capable of supporting a variety of tactical and regional missions. Furthermore, stealth aircraft the size of China’s J-20 could be used as a multi-role fighter to strike ground targets within the region in addition to supporting air superiority missions beyond China’s borders. Although China’s second developmental fifth generation fighter is smaller in size than the J-20, this aircraft (tentatively identified as the J-31) may be designed for multi-role missions, providing China with a second stealth platform for regional operations. In addition to manned fighter aircraft, the PLA Air Force also views stealth technology as integral to unmanned aircraft, specifically those with an air-to-ground role, as this technology will improve the system’s ability to penetrate heavily protected targets. (p. 64)

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353 Ibid.
China’s ground-based air defense A2/AD capabilities will likely be focused on countering long-range airborne strike platforms with increasing numbers of advanced, long-range SAMs. China’s current air and air defense A2/AD components include a combination of advanced long-range SAMs – its indigenous HQ-9 and Russian SA-10 and SA-20 PMU1/PMU2, which have the advertised capability to protect against both aircraft and low-flying cruise missiles. China continues to pursue the acquisition of the Russian extremely long-range S-400 SAM system (400 km), and is also expected to continue research and development to extend the range of the domestic HQ-9 SAM to beyond 200km. (p. 35)

The Chinese development of stealth capabilities was particularly striking. It became clear in early 2011 that China was developing its own “stealth” strike fighter, the J-20, although its capabilities and deployment schedule remain unknown. DNI James R. Clapper described the US assessment of this development as follows in his testimony to the US Intelligence Community for the House Permanent Select Committee on Intelligence on February 10, 2011:

China’s ongoing military modernization program began in earnest in the late 1990s, after Beijing observed the threat posed by long-range precision guided warfare in DESERT STORM and the Balkans. China’s defense policies—initially aimed at creating credible options to forcibly bring Taiwan under Beijing’s authority and developing the corresponding capabilities to prevent US intervention in a cross-Strait conflict—led Beijing to invest heavily in short- and medium-range ballistic missiles, modern naval platforms, improved air and air defense systems, counterspace capabilities, and an Intelligence, Surveillance, and Reconnaissance (ISR) system. For example, the Chinese have recently conducted the first flight test of what we refer to as a fifth-generation fighter, the J-20. We have known about this program for a long time and the flight test was not a surprise. We judge that this event is another indication of China’s aspiration to develop a world-class military, and it is a capability we take seriously. But this program, like others in China, will have to overcome a number of hurdles before reaching its full potential.

The J-20 underwent its first test flight in January 2011, while more recently China test flew a second prototype stealth fighter model, the J-31 Falcon Eagle, on October 31, 2012. The J-31 appears to be a smaller version of the J-20. The J-31 looks similar in size and shape to Lockheed Martin’s F-35 and F-22 fighters. It was reported that Chinese hackers stole data on the design, performance and other characteristics of the F-35 from the British defense firm BAE systems. Though both planes display stealth design features, their true capabilities in terms of radar-absorbing coatings, censors, and other stealth attributes remain unknown. It is also unknown when or if either plan will enter production.

According to the IISS, in September 2012, China’s aerospace ambitions were again confirmed when images emerged of a twin-engine medium fighter manufactured by the Shenyang Aero-space Company, unofficially

357 IISS, Military Balance 2013, p. 254.
identified as either the J-21 or J-31. Unlike the Chengdu J-20 heavy fighter, unveiled in January 2011 and gauged by some analysts as of possibly Russian heritage, the J-21 reflects US designs, with echoes of the F-22 and the F-35. This has led to speculation of industrial espionage during its development. As with the J-20, Beijing has yet to comment formally on the nature or specific purpose of the J-21 project. The J-21 airframe has almost all the hallmarks of a low observable design, and is missing the large canards that feature on the J-20. That said, the aft quadrant and engine nozzles do not appear optimised to minimise radar and infrared signatures, although this may reflect its prototype status.

The extent to which the structural materials used are appropriate for a low-observable design remains un-clear, as does the degree to which the sensor suite would support stealth operations. It is widely speculated that the first aircraft could be fitted with the Russian RD-93 engine, which is being exported to China for Pakistan-bound JF-17 light fighters. The J-21 is smaller than the J-20, and it may be intended to complement the larger aircraft. At the end of 2012, however, it remained unclear which of the services was the project’s initial sponsor, or indeed whether the design began as a competitor to the J-20. The Shenyang prototype also features characteristics of a carrier-borne fighter. However, the PLAN already has a carrier-borne multi-role fighter under development, in the Shenyang J-15. The J-15 is based on the locally produced variant of the Su-27, while Chinese industry may also have benefitted from the purchase of a prototype Su-33 from Ukraine. At least five J-15 prototypes are being tested.

It was also reported in March, 2013 that China’s second stealth fighter, the J-31, could be developed into an aircraft carrier-borne fighter. It is the smaller of the two, resembles the F-25, and has two wheels on its nose landing gear. Meanwhile, the larger J-20 is likely to be a multi-role fighter designed to attack both ground and air targets, a stealthy interceptor like the USSR’s MiG-25 Foxbat and able to shoot down incoming fleets of attack plans, or a stealth bomb truck designed to speedily evade enemy radars and attack ships and bases with bombs and cruise missiles.358

Chinese manufacturers have unveiled the two next-generation fighter aircraft prototypes, the J-20 and J-31, as well as the J-15 carrier-based fighter and the accelerated modernization of Shenyang J-11 and Chengdu J-10 fleets. The Chinese defense industry has clearly been developing a diverse portfolio of new aircraft designs, including modernizing its traditional fighters and developing indigenous fourth-generation – and potentially fifth-generation – fighters.359

These important advances owe to the implementation of a multi-pronged strategy across the sector’s largest defence-industrial group, Aviation Industry Corporation of China (AVIC) and its five core prime contractors: Chengdu Aircraft Industry Corporation, Shenyang Aircraft Corporation, Hongdu Aviation Industry Group, Xi’an Aircraft Company and Changhe/Hafei Aviation. This strategy has included corporate reforms and organisational restructuring, coupled with sustained investment and expansion. China’s aeronautic development strategy has also focused on key projects, such as indigenous platform and critical sub-system programs, and on building research, development and innovation capacity. Finally, this strategy has aimed to integrate civil and military aircraft manufacturing and leverage international commercial partnerships and acquisitions.

As AVIC upgrades its existing third- and fourth-generation fighters, it is also focusing on next-generation stealth fighters (J-31) and strategic transport aircraft (Y-20), designed to complement the PLA’s long-term military transformation. These programs are currently in their development stages.

358 John Reed, “China’s second stealth jet may be a carrier fighter,” Foreign Policy – Situation Report, March 11, 2013.
and have yet to overcome technical hurdles — AVIC is finding it particularly difficult to integrate reliable high-performance power plants. Nevertheless, these programs represent the Chinese defence industry’s growing potential for innovation.

However, China still lacks the sophisticated technology required for highly advanced innovation in military equipment — in particular, in material selection, process standardization, quality control, and ensuring structural strength. When combined with integration, systems design, and management problems, the result has been cost overruns, extensive testing and delays, and many modifications of the design. Furthermore, the fragmented corporate structure of AVIC makes it difficult for the group to gain compliance from its sub-units.360

US analyst Andrew S. Erikson assessed China’s stealth prototype developments in further depth. In particular, Chengdu Aircraft Corporation’s (CAC) production and design abilities are growing, and the company’s Project 718 J-20 could become the PRC’s first fifth-generation (or, in Chinese terminology, fourth-generation) aircraft — meaning it would include high maneuverability, supercruise, helmet-mounted sights, thrust vectoring, low observability, and sensor fusion characteristics. The J-20 prototype — which resembles the F-22 — is also large and has a significant weapons bay; when combined with China’s strategic goals (as discussed in Chapter 1), it is likely that the plane could have several different, important to attack aircraft and strike fighter missions.361

One of these missions could be offensive counterair, meaning that due to its low-detection capabilities, it would be able to strike high-value airborne assets. The J-20 could also be used to destroy key targets in heavily-defended areas inside an air-defense system. This capability could be used against both land-based targets — like air-defense radars — or ship-based assets. However to achieve these potential capabilities, the plane needs to overcome difficulties with avionics, engine design, and systems integration. One PLAAF deputy commander projected 2017-19 as a possible first deployment for the plane.362

Shanghai Aircraft Corporation (SAC) is also working on its own stealth aircraft prototype, which has been called the F60, J-31, and J-21 in various sources. The plane could be exported, as well. A scale model was presented in 2010, and in 2012 photographs and videos — allegedly of the prototype — appeared online, depicting a plane with “31001” painted on it, indicating that J-31 is likely the best name for the plane until something more official is announced. The plane is the second significant fighter aircraft produced by SAC in less than a year. The other is the J-16, a plane that is similar to the Russian Su-30MKK and the US F-15E — a two-seat version of the Chinese J-11B. The J-31 is likely to be a multirole combat aircraft that can be used in both air-to-air and air-to-surface roles requiring modern precision munitions.363

360 Ibid.
362 Ibid.
363 Ibid.
Because both the J-20 and the J-31 prototypes were completed at roughly the same time, it seems likely that CAC and SAC have developed a competitive relationship, instead of the previous geographic division of labor. Or, the J-31 could simply be a lighter J-20 (similar to the US F-35 as a complement to the F-22, or the Chinese J-10 is a complement to the J-11B). A key point, however, is that “Beijing has finally decided that it can sustain multiple overlapping advanced programs, with SAC alone currently working on four major fighter aircraft: the J-31 and the aforementioned J-16, as well as the J-16’s single-seat parent the J-11B and the carrier-borne J-15, also based on the J-11B.”

China is also working on the development of unmanned aerial vehicles. It would appear that China’s ability to sustain multiple overlapping advanced programs in its shipbuilding and aviation industries could be an important strategic breakthrough for the Chinese.

Finally, China is developing a wide range of information, ISR, and battle management systems to support all of its services, including its Air Force. The broad goals of this effort are described in Chapter 1, and the space-related efforts in Chapter 9. The US Department of Defense does note, however, that they involve a new and much broader Chinese interest in electronic warfare that would affect Chinese tactical operations in any Korean or Northeast Asian contingency:

An integral component of warfare, the PLA identifies EW as a way to reduce or eliminate U.S. technological advantages. Chinese EW doctrine emphasizes using electromagnetic spectrum weapons to suppress or deceive enemy electronic equipment. PLA EW strategy focuses on radio, radar, optical, infrared, and microwave frequencies, in addition to adversarial computer and information systems. Chinese EW strategy stresses that it is a vital fourth dimension to combat and should be considered equally with traditional ground, sea, and air forces. Effective EW is seen as a decisive aid during military operations and consequently the key to determining the outcome of war. The Chinese see EW as an important force multiplier and would likely employ it in support of all combat arms and services during a conflict.

PLA EW units have conducted jamming and anti-jamming operations testing the military’s understanding of EW weapons, equipment, and performance, which helped improve their confidence in conducting force-on-force, real-equipment confrontation operations in simulated electronic warfare environments. The advances in research and deployment of electronic warfare weapons are being tested in these exercises and have proven effective. These EW weapons include jamming equipment against multiple communication and radar systems and GPS satellite systems. EW systems are also being deployed with other sea and air-based platforms intended for both offensive and defensive operations.

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364 Ibid.
**Asymmetric Warfare Modernization Plans, Training**

China has steadily attempted to develop new and innovative capabilities for asymmetric warfare that it is expanding to the strategic and grand strategic levels. In terms of developing technologies to carry out these modernization efforts.

The DoD reported in 2011 that,\(^{367}\)

> China relies on foreign technology, acquisition of key dual-use components, and focused indigenous research and development (R&D) to advance military modernization. The PRC also utilizes a large, well-organized network of enterprises, defense factories, affiliated research institutes, and computer network operations to facilitate the collection of sensitive information and export-controlled technology, as well as basic research and science that supports U.S. defense system modernization.

The DoD report on Chinese military power for 2012 noted that Chinese modernization affected a wide range of activities outside its military forces:\(^{368}\)

**Cyber Espionage and Cyberwarfare Capabilities**

In 2011, computer networks and systems around the world continued to be targets of intrusions and data theft, many of which originated within China. Although some of the targeted systems were U.S. government-owned, others were commercial networks owned by private companies whose stolen data represents valuable intellectual property. In the hands of overseas competitors, this information could diminish commercial and technological advantages earned through years of hard work and investment. Intrusions in 2011 occurred in key sectors, including companies that directly support U.S. defense programs.

Authoritative writings and China’s persistent cyber intrusions indicates the likelihood that Beijing is using cyber network operations (CNOs) as a tool to collect strategic intelligence.

In parallel with its military preparations, China has increased diplomatic engagement and advocacy in multilateral and international forums where cyber issues are discussed and debated. Beijing’s agenda is frequently in line with Russia’s efforts to promote cyber norms under a UN framework. In September 2011, China and Russia were the primary sponsors of an Information Security Code of Conduct that would have governments exercise sovereign authority over the flow of information in cyberspace. China has not yet accepted that existing mechanisms (such as the Law of Armed Conflict), apply in cyberspace. However, China’s thinking in this area may evolve as its own exposure increases through greater investment in global networks.

**Technology Transfer, Strategic Trade Policy, and Military Modernization**

The PRC continues to modernize its military by incorporating Western (mostly U.S.) dual-use technologies, which have also assisted its overall indigenous industrial, military industrial, and high-technology sector development.

One of the PRC’s stated national security objectives is to leverage legally and illegally acquired dual-use and military-related technologies to its advantage. China has a long history of cooperation between its civilian and military sectors and openly espouses the need to exploit civilian technologies for use in its military modernization.

In this context, the cumulative effect of U.S. dual-use technology transfers to China could also make a


substantial material contribution to its military capabilities.

For example, interactions with Western aviation manufacturing firms may also inadvertently provide benefit to China’s defense aviation industry. Through its advisory role within the U.S. export control process, DoD will continue to identify and mitigate risk, and seek to prevent critical advanced technologies exports to China that could be diverted to unauthorized end-use or to third-country end-users of concern, or contribute to overall modernization of China’s military and defense industrial base.

**Espionage**

Chinese actors are the world’s most active and persistent perpetrators of economic espionage. Chinese attempts to collect U.S. technological and economic information will continue at a high level and will represent a growing and persistent threat to U.S. economic security. The nature of the cyber threat will evolve with continuing technological advances in the global information environment.

Sensitive U.S. economic information and technology are targeted by intelligence services, private sector companies, academic/research institutions, and citizens of dozens of countries. China is likely to remain an aggressive and capable collector of sensitive U.S. economic information and technologies, particularly in cyberspace.

**Civil-Military Integration**

China’s defense industry has benefited from China’s rapidly expanding civilian economy, particularly its science and technology sector. Access to foreign advanced dual-use technology assists China’s civilian economic integration into the global production and research and development (R&D) chain.

For example, with increasing globalization and integration of information technologies, companies such as Huawei, Datang, and Zhongxing, with their ties to the PRC government and PLA entities, pose potential challenges in the blurring lines between commercial and government/military-associated entities.

**Chinese Cyberwarfare**

Cyberwarfare is become a major aspect of Chinese modernization and triggering a growing US, ROK, and Japanese response.

The PLA, under the “Integrated Network Electronic Warfare” doctrine, has been paying significant attention to information warfare in the past 10-15 years, not only looking at Cyberwarfare, but also battlefield EW. The doctrine promotes the PLA’s capabilities in paralyzing an opponent’s C4ISR capabilities through network warfare and EW tools. Recently, the PRC has apparently moved towards a new “information confrontation” (xinxi duikang) concept, integrating non-electronic and electronic information warfare under a single command. It is likely that the PLA perceives information warfare as a national exercise to be undertaken in times of both peace and war, as information sovereignty is an important aspect of national power. In a battle situation, each side would employ integrated air, ground, naval, and electromagnetic forces. As such, the PLA is working to improve battlespace situational awareness by linking all the military branches into one common operating platform.369

In an assessment of capabilities, the IISS noted,370

370 Ibid.
Three PLA departments – Informatisation, Strategic Planning and Training – have either been established or re-formatted to help bring about this transformation. And since 2008, major PLA military exercises, including Kuayue 2009, Shiming Xingdong 2010 and Lianhe 2011, have all had significant cyber and information operations components that have been both offensive and defensive in nature. China’s cyber assets fall under the command of two main departments of the General Staff Department (GSD). Computer network attacks and EW would, in theory, come under the 4th Department (Electronic Countermeasures), and computer network defence and intelligence gathering comes under the 3rd Department (Signals Intelligence). The 3rd Department is supported by a variety of ‘militia units’ comprising both military cyber-warfare personnel and civilian hackers.

In July 2010, colours were presented by General Cheng Bingde, head of the PLA General Staff Department, to a new ‘Information Safeguards Base’ tasked with addressing cyber threats and safeguarding China’s information security and infrastructure. Some PLA sources claim that the base is not an offensive cyber capability but rather is intended to bolster resilience. In 2011, the PLA said that a much-reported ‘Cyber Blue Team’ was a body designed to improve the PLA’s ‘ability to safeguard internet security’.

These Chinese activities have led to a growing US reaction. In early May 2013, the Obama administration – through the DOD – accused the Chinese military of attacking US government and defense contractors’ computer systems. Some recent estimates believe that over 90% of cyberespionage in the US comes from China. The DoD report on Chinese military power for 2013 made it clear that China’s cyberwarfare modernization had become a far more challenging issue for the US:

**Cyber Activities Directed Against the Department of Defense.** In 2012, numerous computer systems around the world, including those owned by the U.S. government, continued to be targeted for intrusions, some of which appear to be attributable directly to the Chinese government and military. These intrusions were focused on exfiltrating information. China is using its computer network exploitation (CNE) capability to support intelligence collection against the U.S. diplomatic, economic, and defense industrial base sectors that support U.S. national defense programs. The information targeted could potentially be used to benefit China’s defense industry, high technology industries, policymaker interest in US leadership thinking on key China issues, and military planners building a picture of U.S. network defense networks, logistics, and related military capabilities that could be exploited during a crisis. Although this alone is a serious concern, the accesses and skills required for these intrusions are similar to those necessary to conduct computer network attacks. China’s 2010 Defense White Paper notes China’s own concern over foreign cyberwarfare efforts and highlighted the importance of cyber-security in China’s national defense.

**Cyberwarfare in China’s Military.** Cyberwarfare capabilities could serve Chinese military operations in three key areas. First and foremost, they allow data collection for intelligence and computer network attack purposes. Second, they can be employed to constrain an adversary’s actions or slow response time by targeting network-based logistics, communications, and commercial activities. Third, they can serve as a force multiplier when coupled with kinetic attacks during times of crisis or conflict.

Developing cyber capabilities for warfare is consistent with authoritative PLA military writings. Two military doctrinal writings, *Science of Strategy*, and *Science of Campaigns* identify information warfare (IW) as integral to achieving information superiority and an effective means for countering a stronger foe. Although neither document identifies the specific criteria for employing computer network attack

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against an adversary, both advocate developing capabilities to compete in this medium.

The *Science of Strategy* and *Science of Campaigns* detail the effectiveness of IW and CNO in conflicts and advocate targeting adversary C2 and logistics networks to affect their ability to operate during the early stages of conflict. As *Science of Strategy* explains, “In the information war, the command and control system is the heart of information collection, control, and application on the battlefield. It is also the nerve center of the entire battlefield.”

In parallel with its military preparations, China has increased diplomatic engagement and advocacy in multilateral and international forums where cyber issues are discussed and debated. Beijing’s agenda is frequently in line with Russia’s efforts to promote more international control over cyber activities. China and Russia continue to promote an Information Security Code of Conduct that would have governments exercise sovereign authority over the flow of information and control of content in cyberspace. Both governments also continue to play a disruptive role in multilateral efforts to establish transparency and confidence-building measures in international fora such as the Organization for Security and Cooperation in Europe (OSCE), ASEAN Regional Forum, and the UN Group of Governmental Experts. Although China has not yet agreed with the U.S. position that existing mechanisms, such as international humanitarian law, apply in cyberspace, Beijing’s thinking continues to evolve.

US Government officials have noted that cyber issues will be a key aspect of the US-PRC relationship. The DoD summarized the role of cyberspace and cyberwarfare in its new strategy as follows in its FY2014 defense budget overview:

In recognition of cyberspace as an operational domain and the emerging mission to Defend the Nation against cyber threats as directed by the President, this year’s budget provides funds to increase defensive capabilities and develop the cyber Joint Force under a new force planning model.

The unique attributes of cyberspace operations require trained and ready cyberspace forces to detect, deter, and, if directed, respond to threats in cyberspace. Securing and defending cyberspace requires close collaboration among Federal, state and local governments, private sector partners, and allies and partners abroad. This year’s budget establishes dedicated cyber teams to execute this mission on Defense Department networks and in support of Combatant Command and national missions.

This budget reflects an emphasis on enhancing our workforce to successfully execute defensive and offensive missions in cyberspace. The Department is implementing a new cyber force planning model that will realign military, civilian and contractor manpower positions (with associated support costs) under U.S. Cyber Command (USCYBERCOM) in a three-year phased build-up beginning in FY 2014.

This provides manpower, training and support costs for regional cyber mission teams to be located in Maryland, Texas, Georgia, and Hawaii as well as other Combatant Command and military service locations. In addition, manpower at the National Security Agency continues to be funded to provide both cyber security and intelligence support to the USCYBERCOM teams. This overall force construct will provide capacity for the “Defend the Nation” mission, the cyber combat mission (in support of Combatant Command needs), and the cyberspace protection mission which defends Defense Department networks.

- Other cyberspace operations highlights in the FY 2014 President’s Budget are:
  - Continues to support the construction of the Joint Operations Center for USCYBERCOM at Fort Meade, Maryland. Planned construction begins in FY 2014 with occupancy scheduled in FY 2017.

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• Provides funding to develop tools to automate vulnerability detection on classified networks.
• Provides funding for commercial software for data monitoring of defense networks that will identify and isolate suspect files for analysis.
• Continues to robustly support cyberspace operations Science and Technology programs.
• Continues to support defensive cyberspace operations providing information assurance and cyber security to the Defense networks at all levels.
• Provide funding to enhance cyberspace range capabilities by increasing capacity, improving pre- and post- exercise analysis, and mainstreaming and sustaining capabilities of the National Cyber Range developed by the Defense Advanced Research Projects Agency under the oversight of the Department’s Test Resource Management Center.

These US actions built on previous US efforts that an IISS analysis summarizes as follows:375

Each arm of the US military is developing cyber capacity. US Army Cyber Command (ARCYBER) is mandated to ‘plan, coordinate, integrate, synchronize, direct, and conduct network operations and defense of all Army networks’. The 24th Air Force manages cyber for the air force, which, in October 2010, issued a doctrine entitled ‘Cyberspace Operations’. Fleet Cyber Command (the US 10th Fleet) delivers ‘integrated cyber, information operations cryptologic and space capabilities’ for the navy. Marine Force Cyber Command was established in 2009. These service groups are commanded by US Cyber Command (itself under US Strategic Command, and co-located with the NSA).

DoD’s November 2011 ‘Cyberspace Policy Report’ report said that ‘the Department has the capability to conduct offensive operations in cyberspace to defend our Nation, Allies and interests. If directed by the President, DoD will conduct offensive cyber operations in a manner consistent with the policy principles and legal regimes that the Department follows for kinetic capabilities, including the law of armed conflict.’ According to the Cyber Command chief, in March 2012 the command element had 937 staff (with an FY2013 budget request of US$182m), while service cyber staff totalled over 12,000. For Cyber Command, the government’s January 2012 Defense Strategic Guidance ‘means we must pay attention to the ways in which nations and non-state actors are developing asymmetric capabilities to conduct cyber espionage – and potentially cyber attacks as well – against the United States’.

Presidential Policy Directive 20 was signed by President Barack Obama in October 2012 to give US federal agencies clear standards when facing cyberspace threats. Although the Directive’s exact terms are unknown, it likely included a distinction between offensive cyber work and network defense.376

In early 2013, the computer security firm Mandiant released a report detailing the activities of Chinese hackers in stealing business information from companies around the world. One finding that did not receive much attention was that state-sponsored Chinese hackers had penetrated US energy and other critical infrastructure; one US official had said in 2010 that network inspections had “found software tools left behind that could be used to destroy infrastructure components” following hacks from China and Russia. Chinese state-sponsored hackers attacked one company with remote access to over 60% of gas and oil pipelines in North America.377

376 IISS, Military Balance 2013.
Mandiant documented systematic data theft from at least 141 organizations over seven years, tracing the attacks back to a Chinese military unit within the 2nd Bureau of the PLA’s General Staff Department’s 3rd Department – code named Unit 61398. This unit is just one of dozens working for the Chinese military in cyber-espionage all over the country – there are other units within the General Staff’s 2nd Department and the Ministry of State Security. Unit 61398, employing hundreds or even thousands of employees, is one of the most prolific.378

Most of the targets were US companies, though approximately a dozen were smaller US local, state, and federal government agencies, as well as international governmental agencies. The hackers generally stayed in a companies’ computer systems for about a year, and in many cases, terabyte-size amounts of intellectual property were stolen – including pricing documents, negotiation strategies, manufacturing processes, clinical trial results, technology blueprints, and other proprietary information. Mandiant named 115 victims in the US, along with several each in Britain, Canada, Israel, India, Taiwan, Singapore, Switzerland, Norway, Belgium, France, Japan, South Africa, Luxembourg, and the UAE. The top sectors targeted were aerospace, satellites and telecommunications, public administration, information technology, and scientific research and consulting. Mandiant also stated that it had uncovered “only a small fraction of the cyber-espionage that ‘Unit 61398’ has committed.”379

The Mandiant report came out at the same time as a classified US National Intelligence estimate, which concluded that China was the most aggressive perpetrator of a huge cyber-espionage campaign against US commercial targets.380 In April 2013, China and the US held high-level military talks in which a senior Chinese general, Fang Fenghui, pledged to work with the US on cybersecurity. The general said he would be willing to set up a “mechanism” for such cooperation, though progress could be slow; however, the consequences of a major attack “may be as serious as a nuclear bomb.”381

Figure III.16: PLA Modernization Areas, 2000-2010


Note: For surface combatants “modern” is defined as multi-mission platforms with significant capabilities in at least two warfare areas. “Modern” for submarines is defined as those platforms capable of firing an anti-ship cruise missile. For air forces, “modern” is defined as 4th generation platforms (Su-27, Su-30, F-10) and platforms with 4th generation-like capabilities (FB-7). “Modern” SAMs are defined as advanced, long-range Russian systems (SA-10, SA-20), and their PRC indigenous equivalents (HQ-9).

Japan

As is the case with the ROK, Japan’s public modernization plans have not yet fully reacted to the increasing DPRK missile and nuclear threat, the uncertainties in the US “rebalance” to Asia, or the latest developments in China’s strategy and military modernization efforts. In 2010, the Japanese government released a new set of National Defense Program Guidelines (NDPG). In particular, compared with the 2004 NDPG, the 2010 version called for:

1. The authorized number of active duty personnel will be changed from 148,000 to 147,000, while total authorized personnel will be changed from 155,000 to 154,000;
2. Tanks will be reduced from approximately 600 to approximately 400 vehicles, while artillery pieces (main artillery3 in the 2004 NDPG) will be reduced from approximately 600 to approximately 400 pieces; and
3. Surface-to-air missile units will be optimized/rationalized from eight anti-aircraft artillery groups to seven anti-aircraft artillery groups/regiments (six anti-aircraft artillery groups and one anti-aircraft artillery regiment).

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An updated version of the NDPG, the Mid-Term Defense Program (MTDP, covering FY2011-FY2015) was released in 2011 and outlines a plan for realizing the 2010 NDPG goals in national defense capabilities. These programs are depicted in Figure III.17, with the trends in land forces shown in Figure III.18. The 2011 version has six fundamental objectives in order to develop Japan’s defense capacities:  

- Developing systems that suit the role of defense force
- Appropriate resource allocation given priorities to important functions
- Efficient development of quality defense capabilities
- Implementation of measures regarding to build a foundation to maximize defense capabilities
- Continuing to strengthen the Japan-U.S. security arrangements
- Developing defense capabilities that are efficient and logical

The MTDP comprises five major programs regarding the Self-Defence Force’s (SDF) capabilities. The first is effective deterrence and response, which includes ensuring the security of sea and air space around Japan, responding to attacks on offshore islands, responding to cyber attacks, responding to attacks by special operations forces and guerrillas, responding to ballistic missile attacks, responding to ‘complex’ situations, and responding to large scale CBRN disasters.

The second major program is to further stabilize the security environment of the Asia-Pacific region through measures such as promoting bilateral and multilateral security dialogues, capacity building assistance, joint training, and the development of regional cooperative architectures. The third program is to improve the global security environment, such as by involvement in counter-terrorism measures and UN peace keeping operation involvement.

The fourth program is to strengthen the SDF’s organization, equipment, and force disposition, especially in areas such as joint operations, intelligence, and technology. The fifth program is to maximize Japan’s defense capability through means such as the effective utilization of human resources, development and maintenance of defense production capability and technological bases, equipment, and procurement.

Specifically, the SDF posture will work on:

…drawing down Cold War-type equipment and organization such as reducing tanks and artillery acquired during the Cold War period and reviewing the geographical distribution of units and unit operations, while enhancing the defense posture by placing emphasis on building up the functions of warning and surveillance, maritime patrol, air defense, ballistic missile defense, transportation, and command communications in other regions including the southwest region.

Regarding the budget allocation to support this, according to changes of the security environment, the 2010 NDPG calls for drastic review from a comprehensive viewpoint, removing compartmentalization without adherence to precedent.

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383 Ibid., p. 130.
384 Ibid., p. 132-8.
385 Ibid., p. 120.
Furthermore, Japan is increasing collaboration with other countries in defense research and industry. According to the IISS,\textsuperscript{386}

In late 2011, Japan also eased its long-standing defence-export regulations and restrictions on the participation of its domestic defence industry in collaborative international defence-industrial programmes. In June 2012, Japan signed an MoU with the United Kingdom that included an undertaking to cooperate on joint R&D and defence-equipment production. Later, in September 2012, Japan announced a similar bilateral agreement with Australia, which aimed to expand defence research ties and exchange information on areas of defence technology of common interest.

\textsuperscript{386} IISS, \textit{Military Balance 2013}, p. 36.
**Figure III.17: Japanese Estimates of Japanese Self-Defense Forces**

<table>
<thead>
<tr>
<th>Category</th>
<th>2004 NDPG</th>
<th>End of FY2010</th>
<th>At the completion of the 2011 Mid-Term Defense Program</th>
<th>2010 NDPG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Authorized personnel</td>
<td>155,000</td>
<td>160,000</td>
<td>157,000</td>
<td>154,000</td>
</tr>
<tr>
<td>Regular</td>
<td>148,000</td>
<td>152,000</td>
<td>156,000</td>
<td>147,000</td>
</tr>
<tr>
<td>Ready reserve</td>
<td>7,000</td>
<td>8,000</td>
<td>7,000</td>
<td>7,000</td>
</tr>
<tr>
<td><strong>GSDF Major units</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regionally deployed units in peacetime</td>
<td>8 divisions</td>
<td>8 divisions</td>
<td>8 divisions</td>
<td></td>
</tr>
<tr>
<td>6 brigades</td>
<td></td>
<td>6 brigades</td>
<td>6 brigades</td>
<td></td>
</tr>
<tr>
<td>Mobile operation units</td>
<td>1 armored division</td>
<td>1 armored division</td>
<td>1 armored division</td>
<td>Central Readiness Force</td>
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<tr>
<td>Central Readiness Force</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ground-to-air guided missile units</td>
<td>8 anti-aircraft artillery groups</td>
<td>8 anti-aircraft artillery groups</td>
<td>8 anti-aircraft artillery groups</td>
<td>7 anti-aircraft artillery groups/regiment</td>
</tr>
<tr>
<td><strong>MDF Main units</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tanks</td>
<td>About 600 (About 600/vehicle)</td>
<td>About 800 (About 730/vehicle)</td>
<td>About 640 (About 500/vehicle)</td>
<td>About 400 (About 400/vehicle)</td>
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<tr>
<td>Artillery (Main artillery)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Destroyer units</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Destroyers</td>
<td>47 ships</td>
<td>About 48 ships</td>
<td>47 ships</td>
<td>48 ships</td>
</tr>
<tr>
<td>Submarines</td>
<td>16 ships</td>
<td>About 170 aircraft</td>
<td>20 ships</td>
<td>22 ships</td>
</tr>
<tr>
<td>Combat aircraft</td>
<td>About 150 aircraft</td>
<td>About 150 aircraft</td>
<td></td>
<td>About 150 aircraft</td>
</tr>
<tr>
<td><strong>ADF Main units</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aircraft control &amp; warning units</td>
<td>8 warning groups</td>
<td>8 warning groups</td>
<td>8 warning groups</td>
<td></td>
</tr>
<tr>
<td>20 warning squadrons (2 squadrons)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 airborne warning squadron</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fighter units</td>
<td>12 squadrons</td>
<td>12 squadrons</td>
<td>12 squadrons</td>
<td>12 squadrons</td>
</tr>
<tr>
<td>Air Reconnaissance Units</td>
<td>1 squadron</td>
<td>1 squadron</td>
<td>1 squadron</td>
<td>1 squadron</td>
</tr>
<tr>
<td>Air Transport Units/Air refueling/transport units</td>
<td>3 squadrons</td>
<td>3 squadrons</td>
<td>3 squadrons</td>
<td>3 squadrons</td>
</tr>
<tr>
<td>Surface-to-air guided missile units</td>
<td>6 groups</td>
<td>6 groups</td>
<td>6 groups</td>
<td>6 groups</td>
</tr>
<tr>
<td>Combat aircraft</td>
<td>About 350 aircraft</td>
<td>About 340 aircraft</td>
<td>About 340 aircraft</td>
<td>About 340 aircraft</td>
</tr>
<tr>
<td>(Fighter aircraft)</td>
<td>About 260 aircraft</td>
<td>About 260 aircraft</td>
<td>About 260 aircraft</td>
<td>About 260 aircraft</td>
</tr>
<tr>
<td><strong>Maritime equipment &amp; Marine units</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aegis-equipped destroyers</td>
<td>4 ships</td>
<td>4 ships</td>
<td>6 ships</td>
<td>6 ships</td>
</tr>
<tr>
<td>Aircraft control &amp; warning units</td>
<td>7 groups</td>
<td>6 groups</td>
<td>11 surveillance groups/units</td>
<td>11 surveillance groups/units</td>
</tr>
<tr>
<td>Surface-to-air guided Missile Units</td>
<td>4 groups</td>
<td>4 groups</td>
<td>3 groups</td>
<td>3 groups</td>
</tr>
</tbody>
</table>
| Notes: 1. Categorized as main artillery up to 2004 NDPG, but categorized in the 2010 NDPG as artillery except for surface-to-air guided missile units. 2. *Main equipment and major units that can also be used in defense against ballistic missiles* refers to the number of main equipment in the MDF or number of major units in the ADF. 3. According to the 2012 NDPG, additional deployment of Aegis destroyers equipped with ballistic missile defense functions may be carried out within the number of destroyers set above, depending on factors such as the development of ballistic missile defense technology and financial matters.

Russia

As Russia has been rebuilding its economy and military in the wake of the collapse of the Soviet Union, modernization has become an increasingly important issue in the country.

Official Russian Reporting

The 2010 Military Doctrine discusses Russian plans for military modernization, in particular the need to improve Russia’s ability to fight a high-precision conventional war using command-and-control networks and sophisticated communications. The document also urges the military to use its resources more efficiently and for the defense and intelligence communities to better anticipate future wars and the characteristics of such conflicts. The need for a high-technology defense industrial capacity to supply both the Russian military
and foreign customers is also stressed.\textsuperscript{387} In terms of modernization goals, the Doctrine declares,\textsuperscript{388}

The tasks of equipping the Armed Forces and other troops with armaments and military and specialized equipment are:

a) to comprehensively equip (reequip) with up-to-date models of armaments and military and specialized equipment the strategic nuclear forces, permanent-readiness large formations and troop units of the general-purpose forces, antiterrorist formations, engineering and technical troop formations, and roadbuilding troop formations, and to maintain them in a condition that will support their combat use;

b) to create multifunctional (multirole) systems of armaments and military and specialized equipment using standardized components;

c) to develop forces and resources for information warfare;

d) to improve the quality of means of information exchange on the basis of the use of up-to-date technologies and international standards, as well as the single information field of the Armed Forces and other troops as part of the Russian Federation's information space;

e) to ensure the functional and organizational-technical unity of the arms systems of the Armed Forces and other troops;

f) to create new models of high-precision weapons and develop information support for them;

g) to create basic information management systems and integrate them with the systems for command and control of weapons and the automation systems of command and control organs at the strategic, operational-strategic, operational, operational-tactical, and tactical levels.

\textit{Western Analyses}

In March 2013, DNI James R. Clapper also discussed Russian military issues, summarizing some of the larger modernization efforts:\textsuperscript{389}

Russian military forces, both nuclear and conventional, support deterrence and enhance Moscow’s geopolitical clout. Since late 2008 the Kremlin has embraced a wide-ranging military reform and modernization program to field a smaller, more mobile, better-trained, and high-tech force during the next decade. This plan represents a radical break with historical Soviet approaches to manpower, force structure, and training. The initial phases, mainly focused on force reorganization and cuts in the mobilization base and officer corps, have been largely implemented and are being institutionalized. The ground forces alone have reduced about 60 percent of armor and infantry battalions since 2008, while the Ministry of Defense cut about 135,000 officer positions, many at field grade.

Moscow is now setting its sights on long-term challenges of rearmament and professionalization. In 2010, a 10-year procurement plan was approved to replace Soviet-era hardware and bolster deterrence with a balanced set of modern conventional, asymmetric, and nuclear capabilities. However, funding, bureaucratic, and cultural hurdles—coupled with the challenge of reinvigorating a military industrial base that deteriorated for more than a decade after the Soviet collapse—complicate Russian efforts.

\textsuperscript{388} Russian Government, \textit{Russia’s 2010 Military Doctrine [unofficial translation]}, February 5, 2010, section IV.
The reform and modernization programs will yield improvements that will allow the Russian military to more rapidly defeat its smaller neighbors and remain the dominant military force in the post-Soviet space, but they will not—and are not intended to—enable Moscow to conduct sustained offensive operations against NATO collectively. In addition, the steep decline in conventional capabilities since the collapse of the Soviet Union has compelled Moscow to invest significant capital to modernize its conventional forces. At least until Russia’s high precision conventional arms achieve practical operational utility, Moscow will embrace nuclear deterrence as the focal point of its defense planning. It still views its nuclear forces as critical for ensuring Russian sovereignty and relevance on the world stage and for offsetting its military weaknesses vis-à-vis potential opponents with stronger militaries.

DIA Director Ronald L. Burgess, Jr. also provided an overview of Russia’s military modernization efforts in his 2012 Senate testimony:

The Russian military's most comprehensive reform since World War II continues. The goal is to create more agile, modern, and capable forces. General purpose forces will be smaller, more mobile, and combat ready. They will be better suited to respond to threats along Russia's periphery, win local conflicts, and quickly end regional wars. Russia will rely on its robust nuclear arsenal to deter and, if necessary, engage in larger regional or worldwide conflicts.

Russia has moved from division- to brigade-centric ground forces, disbanded most of its Soviet-era ground force mobilization bases, and consolidated air force units and bases. To better control general purpose forces in regional conflicts, it has formed the first peacetime joint strategic commands – West, East, South, and Center. Additionally, the military has established an Aerospace Defense Command under General Staff control, which will perform integrated air, missile and space defense missions.

Moscow's 10-year modernization plan is a top priority for the armed forces, but it faces funding and implementation risks owing in part to a possible decline in the price of oil. The federal budget is set to increase spending by more than 55 percent in 2014 from 2011 spending levels. Competing demands to sell arms abroad, Russia's aging industrial base, insufficient resources, plus corruption and mismanagement most likely will keep modern equipment below those levels.

New equipment for the general purpose forces will increase in 2012, but deliveries will be small and Soviet-era weapons will remain the standard. Russia also will buy selected foreign systems, such as France's Mistral amphibious assault ship and Italian light armored vehicles, and will integrate foreign technology and sustain joint production programs. Russia will continue to field the SS-26 short-range ballistic missile, with the first deployed unit being fully supplied recently. Development of the PAK-FA, Russia's new fifth-generation fighter, will continue, though deployment will not occur for several years.

Military readiness is generally increasing in Russia's new units, but demographic trends, the one-year conscription policy, and contract personnel recruitment problems will complicate efforts to fill the ranks adequately. Programs to build a professional military are proceeding slowly because they are expensive and Moscow's current priority is rearmament.

A 2013 IISS report gave a more detailed overview of Russian modernization efforts and potential. In general, reform processes continue, both in terms of bureaucracy and practical matters such as training and exercise regimens. The military plans to professionalize its forces by increasing contract troops while keeping some proportion of the conscription system intact, although it remains unable to attract enough non-commissioned officers and

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contract personnel at the same time as overall troop levels continue to decrease. Furthermore,391

The pattern of the structural reform process generally remains as before: design, test, and then adjust or adapt if required. Some analysts believe that key elements of the reform process are largely complete, such as the initiative to transform the army towards a combined-arms brigade-based structure, though adjustments are still to be made, largely in the internal formation of these units. Some units retain established structures: the Airborne Forces (VDV) remain a divisional-level formation, and the 18th Machine Gun Artillery Division continues to be stationed in the Kuril Islands. There are some outstanding issues: changes in unit-level combat training are still under development; there is a lack of clarity over how the Joint Strategic Commands… which are planned to operate in Military Districts in times of war, will actually work when activated; and the armed forces are still waiting for an integrated and automated command and control (C2) system to emerge. But the army has already changed substantially, while the armed forces in general have become more compact and mobile and have benefitted from improved frequency of training. Whether this translates directly into improved ‘readiness’ is less clear.

The authorities in Moscow increasingly see rearmament as a second stage in the reform process. The administration maintains its ambitions to field more and newer equipment, though in recent years budgetary problems as well as changing requirements have meant that some programmes have not been realised on schedule, if at all. The latest programme, The State Armaments Programme 2011–2020, was signed by then-President Dmitry Medvedev on 31 December 2010. It saw around R19 trillion ($US610bn) out of the programme’s total R20tr allocated to the Ministry of Defence; the remainder going to other forces. Generating the industrial capacity to address new as well as established procurement ambitions remains a major problem…

391 IISS, Military Balance 2013, p. 199.
About the Authors

Anthony H. Cordesman holds the Arleigh A. Burke Chair in Strategy at CSIS and acts as a national security analyst for ABC News. He is a recipient of the Department of Defense Distinguished Service Medal. During his time at CSIS, he has completed a wide variety of studies on energy, US strategy and defense plans, the lessons of modern war, defense programming and budgeting, NATO modernization, Chinese military power, the lessons of modern warfare, proliferation, counterterrorism, armed nation building, the security of the Middle East, and the Afghan and Iraq conflicts. (Many of these studies can be downloaded from the Burke Chair section on the CSIS website at http://www.csis.org/program/burke-chair-strategy.) Cordesman has directed numerous CSIS study efforts on terrorism, energy, defense planning, modern conflicts, and the Middle East. He has traveled frequently to Afghanistan and Iraq to consult for MNF-I, ISAF, US commands, and US embassies on the wars in those countries, and he was a member of the Strategic Assessment Group that assisted General Stanley McChrystal in developing a new strategy for Afghanistan in 2009. He frequently acts as a consultant to the US State Department, Defense Department, and intelligence community and has worked with US officials on counterterrorism and security areas in a number of Middle Eastern countries.

Before joining CSIS, Cordesman served as director of intelligence assessment in the Office of the Secretary of Defense and as civilian assistant to the deputy secretary of defense. He directed the analysis of the lessons of the October War for the secretary of defense in 1974, coordinating the US military, intelligence, and civilian analysis of the conflict. He also served in numerous other government positions, including in the State Department and on the NATO International Staff. In addition, he served as director of policy and planning for resource applications in the Energy Department and as national security assistant to Senator John McCain. He had numerous foreign assignments, including posts in the United Kingdom, Lebanon, Egypt, and Iran, as well as with NATO in Brussels and Paris. He has worked extensively in Saudi Arabia and the Gulf.

Ashley Hess received her B.A. in international relations and classics from Brown University in 2008. While working in South Korea after graduation, she was awarded a scholarship in 2010 to study Korean and earn a master’s degree under the Korean Government Scholarship Program. During her time in Korea, she traveled extensively throughout the country, including to the DMZ. She received her M.A. in international relations from Seoul National University in 2013, during which she focused on terrorism, national security, and the Northeast Asian strategic environment. At CSIS, she has worked on reports related to the Asia-Pacific and the 2014 transition in Afghanistan.