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STIMSON

LOST IN TRANSLATION?

U.S. Defense Innovation and Northeast Asia

YUKI TATSUMI

WITH CONTRIBUTIONS FROM
ALEX BOLLFRASS AND PAMELA KENNEDY



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Preface

It is my pleasure to present Stimson's latest publication, *Lost in Translation? U.S. Defense Innovation and Northeast Asia*. As the security dynamics in Northeast Asia adjust to new leadership in both South Korea and in the United States, this report is a timely analysis of the debate in the U.S. regarding future military structure and technologies under the Third Offset Strategy – and how technological change may impact American alliances with Japan and South Korea, and the complex relationship with China.

The discussions that the Stimson team began with defense policy experts in China, Japan, and South Korea covered topics that can be uncomfortable. Nonetheless, policymakers on both sides of the Pacific avoid these issues at their peril. Productive international relationships that contribute to regional stability and defuse potential crises – whether between allies or competitors – depend upon regular, candid conversations about the future of defense policy. During the First and Second Offset Strategies, the United States encountered difficulties in intra-alliance management through its failure to address technological gaps and diverging strategic interests with its allies, and by not clearly articulating U.S. strategy. As this report reveals from the discussions in Northeast Asia, allies and competitor alike are concerned with both the vagueness of America's strategy and its continuing technological strides. Voices of the present and lessons from the past inform the report's recommendations to deepen American engagement with Japan, South Korea, and China by clarifying strategic debates and improving communication and cooperation with allies.

For spearheading this important research, we are indebted to Yuki Tatsumi, the Director of Stimson's Japan Program, whose expertise on Japanese defense policy and the U.S.-Japan alliance stimulated the development of this project. I would also like to thank Alex Bollfrass, a Nonresident Fellow at Stimson, who specializes in nuclear weapons and intelligence-related issues, for leading the roundtable discussions with the Northeast Asian defense community. Pamela Kennedy provided research support and guidance throughout the project lifecycle.

Finally, I would like to thank the Naval Postgraduate School's Center on Contemporary Conflict, which operates the Project on Advanced Systems and Concepts for Countering WMD, and its Executive Director Dr. Michael Malley for their generous support of this project.

Brian Finlay
President and CEO
The Stimson Center

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I am equally grateful for the Chinese, Japanese, and South Korean defense policy experts who took the time to engage in the Track 2 discussions. It is clear that this report would not have been possible without their frank responses to the questions we posed. As we conducted the conversations in Northeast Asia under the Chatham House Rule so that we could engage these experts in candid discussion, I cannot thank them individually or institutionally. Nevertheless, my team and I are grateful for their candid conversations that informed the findings of this report.

Finally, I would like to thank my team at Stimson for their role in successfully concluding this project. Alex Bollfrass, Stimson's Nonresident Fellow, made important contributions in conducting research, leading the Track 2 discussions, and providing the initial draft of the report. My colleague Yun Sun, Senior Associate of the East Asia Program, was critical in facilitating the meetings in China. East Asia Program Research Associate Pamela Kennedy and Japan Program Research Intern Peter Wyckoff provided essential support in research, fact-checking, writing, and copyediting. Stimson Japan Program alumna Carolyn Posner graciously copyedited the final draft, and Research Interns Grant Anderla, Hyebin Joo, and Jonathan Lesh provided additional research and copyediting. I also cannot thank enough the small but mighty Stimson administrative team, who smoothly managed the project.

Yuki Tatsumi
Director, Japan Program
June 2017

Abbreviations

A2/AD	Anti-access/area denial
ACM	Alliance coordination mechanism
C4ISR	Command, control, communications, computers, intelligence, surveillance, and reconnaissance
CFC	Combined force command
DARPA	Defense Advanced Research Projects Agency
DII	Defense Innovation Initiative
DOD	Department of Defense
FMS	Foreign military sales
MOD	Ministry of Defense
MTR	Military-technical revolution
NATO	North Atlantic Treaty Organization
NDS	National Defense Strategy
NDU	National Defense University
PLA	People's Liberation Army
QDR	Quadrennial Defense Review
R&D	Research and development
RMA	Revolution in military affairs
SDF	Self-Defense Forces
SM-3 Block IIA	Standard Missile 3 Block IIA
THAAD	Terminal High Altitude Aerial Defense
U.S.	United States
USSR	Union of Soviet Socialist Republics



Introduction

There is increasing concern among American strategic thinkers regarding the possibility that U.S. adversaries will utilize “disruptive technologies” to limit U.S. power-projection capability. Indeed, with China officially identified in the 2006 Quadrennial Defense Review (QDR) as the country that demonstrates the greatest potential to leverage disruptive military technologies,¹ the U.S. strategic community has shared an increasing sense of urgency that the capability gap between the United States and China has been closing quickly. Operational concepts such as Joint Operational Access Concept,² Joint Forcible Entry Operations,³ and more recently the Joint Concept for Access and Maneuver in the Global Commons⁴ and Littoral Operations in a Contested Environment and Expeditionary Advanced Base Operations,⁵ focus on countering an adversary that employs anti-access/area-denial (A2/AD) tactics. They have been driven by heightened concerns about the rapid military modernization undertaken by China’s People’s Liberation Army (PLA) and the capabilities and technologies in which the PLA has been investing, such as stealth weaponry, cybersecurity, anti-satellite weapons, and cruise missiles. The story that unfolds in Andrew Krepinevich’s 2009 book *7 Deadly Scenarios: A Military Futurist Explores War in the 21st Century* is demonstrative of American strategic thinkers’ concerns about China’s A2/AD capability. Krepinevich lays out the case for how, in the event of a crisis over the Taiwan Strait, China’s enhanced capabilities in missiles, space weapons, and cyber could effectively handicap the U.S. ability to intervene militarily to stop a Chinese attempt to reunify Taiwan by force.⁶

Thus, in the last several years, there has been a robust debate within the U.S. strategic community over the Third Offset Strategy. During the Cold War, the U.S. utilized similar strategies twice,⁷ investing in a small group of advanced military technologies to “offset” the quantitative disadvantage the U.S. military had vis-à-vis the Soviet Union by maintaining a qualitative edge. While the concept of the Third Offset Strategy has yet to be defined precisely, debate around the concept has focused on how the U.S. should organize its defense strategy, military operational concepts, research and development (R&D), and acquisition process to “offset” impact of the disruptive technologies employed by its adversaries.⁷

The emergence and proliferation of disruptive technologies – technologies that, if effectively employed by adversaries, would considerably limit U.S. capability to defend its national interests, as well as its allies – presents the U.S. with a complicated challenge in Northeast Asia. The region is home to two key allies, Japan and the Republic of Korea (ROK, South Korea), which face an immediate military threat posed by North Korea. At the same time, the region is increasingly influenced by China’s growing assertiveness, matched by its increasing military

i. The First Offset Strategy was implemented during the Eisenhower Administration under the “New Look” strategy; the Second Offset Strategy started during the Carter Administration and continued under the Reagan Administration.

capabilities. Such a security environment should compel the U.S., Japan, and South Korea to work closely together to address tangible security challenges and to maintain stability in the region. But mutual suspicion between Japan and South Korea runs deep, preventing them from strengthening security cooperation beyond efforts to respond to the pressing threat of North Korea. The United States and China, while seeking to establish strategic stability, are also both investing in the development of a full range of next generation technologies to gain a strategic edge, including hypersonic vehicles, cyber warfare capabilities, anti-satellite capabilities, and unmanned systems with state-of-the-art robotics technology. Furthermore, emerging perceptions that U.S. military and economic power are declining relative to China's capabilities is driving uncertainty in Japan and South Korea regarding the reliability of U.S. defense commitments in the region.

The United States must ensure that its military can adapt to an evolving threat environment to maintain its relative advantage vis-à-vis potential adversaries. In the context of Northeast Asia, it can and should work in cooperation with its allies and partners in the region to address the challenges presented by disruptive technologies of potential adversaries to realize the necessary adaptation. Should the U.S. tackle this task unilaterally, however, the perception of relative U.S. decline will only aggravate uncertainties in Japan and South Korea about U.S. defense commitments. The U.S. must take advantage of the current period, in which both Japan and South Korea have demonstrated significant interest in closer defense ties with the United States. Japan's effort to strengthen alliance relations with the United States was seen in the recently-revised U.S.-Japan Guidelines for Defense Cooperation. A similar attitude was reflected in the South Korean government's decision to accept U.S. deployment of the Terminal High Altitude Area Defense (THAAD) missile system – despite debates within the new Moon administration over the balance between the need for economic security from China on the one hand and national security from the United States on the other.

To assist leaders of the U.S.'s strategic relationships with these critical tasks, this report examines Northeast Asian perceptions of the risks posed by disruptive technologies in the military sphere and recommends a series of policy steps to minimize these risks. The views of U.S. allies and partners are shaped in part by the debate in the United States about future defense technology and concepts, a debate that is more thinking-aloud than substantial policy. Taking these perceptions into consideration, the report suggests ways to link the conversation across the Pacific.

Context: Revolution in Military Affairs and Offset Strategies

The discussion of military innovations and revolution in military affairs (RMA) has long been part of the scholarly discussion on military strategy and its history.⁸ Scholars have debated issues such as what incentivizes innovative change,⁹ the cost of reform,¹⁰ how RMA can be theorized,¹¹ and why some efforts for innovation have an impact far-reaching enough to affect the dynamics of international politics, while others do not – debates that continue to the present.¹²

Discussions of RMA were first begun by U.S. defense strategists in the early 1990s after the overwhelming U.S. victory in the 1991 Gulf War. Subsequent analysis including the assessment of “military-technical revolution (MTR)”¹³ for the Department of Defense (DOD)’s Office of Net Assessment have been informed by these scholarly debates, but are narrower in scope. Specifically, the discussion of RMA among U.S. defense strategists focuses on how the U.S. can and should take advantage of advanced technology to sustain its military superiority relative to adversaries. In examining Soviet military strategists’ observation of U.S. development of advanced military technologies, such as stealth and precision-guided weapons and cruise missiles, and how the U.S. military integrated these new capabilities into military operations, Krepinevich observed that Soviet military strategists may have detected U.S. RMA earlier than U.S. strategists themselves had realized. He argued that the United States, at the time of his assessment, was in a very early stage of the revolutionary period and predicted that it would take several decades of ongoing change to unfold fully.¹⁴

It is in the context of discussion about RMA that offset strategies, including the recent Third Offset Strategy, need to be examined. The United States implemented its First Offset Strategy, known as the “New Look” strategy, during the Eisenhower Administration. The objective of this strategy was to address the overwhelming Soviet advantage in conventional forces deployed in Europe without weakening American economic and fiscal health. The U.S. focused its investments on nuclear weapons (miniaturization of warheads in particular), bombers, and missiles. The Second Offset Strategy emerged between the late 1970s and early 1980s as it became apparent after the Cuban missile crisis that the Soviet Union was again gaining numerical advantage vis-à-vis the United States in almost every aspect of military capability, including its nuclear forces. The U.S. attempted to neutralize the USSR’s effort by focusing on a limited range of advanced weapons technology that its existing strategic forces could exploit, thereby preventing Moscow from catching up to the United States. Among the technologies that the U.S. focused on developing were stealth, precision guidance technology, cruise missiles, and networking of its communication system.¹⁵

These two Cold War-era offset strategies prioritized investment in a select number of advanced technologies in order to maintain a qualitative edge over the

Soviet Union. But neither of the offset strategies focused exclusively on investing in advanced technologies. Rather, what was more significant was the profound impact these technologies made on U.S. strategic warfare, prompting adaptations to operational concepts, doctrines, and force postures. For instance, the investment that the U.S. made in its nuclear forces eventually led to a new doctrine known as “massive retaliation,” which called for the use of nuclear weapons early in a conflict. The main instrument of American defensive and deterrent capability under this new doctrine was anchored in its new intercontinental bomber fleet of the Strategic Air Command. The budget was also reallocated in favor of the Air Force and Navy at the expense of the Army and Marine Corps. The much-reduced Army was equipped with tactical nuclear weapons. One might argue that what we see today as examples of the technological advantages of U.S. military technologies – F-22s, missile defenses, C4ISR, precision-guided munitions – are by and large the realization of technologies developed under the Second Offset Strategy.

The most recent debate surrounding the Third Offset Strategy seems driven by concerns about what scholars such as Michael Horowitz view as the impact of the diffusion of advanced technologies on international politics.ⁱⁱ The concept of technological disruption first appeared in the 2005 National Defense Strategy (NDS), which introduced “disruptive challenges” as an emerging security threat facing the U.S. in the 21st century.¹⁶ In discussing “disruptive challenges,” the 2005 NDS referred to the possibility that “revolutionary technology and associated military innovation can fundamentally alter long-established concepts of warfare,” and warned that some “potential adversaries are seeking disruptive capabilities to exploit U.S. vulnerabilities and offset the current advantages of the United States and its partners.”¹⁷ The 2006 QDR further elaborated on the U.S. defense establishment’s need to shift the focus of its defense strategy to better respond to “asymmetric threats, including irregular, catastrophic, and disruptive challenges.”¹⁸ The Review also identified China as the emerging power with “the greatest potential to compete militarily with the United States and field disruptive military technologies that could over time offset traditional U.S. military advantages absent U.S. counter strategies.”¹⁹ Following the 2006 QDR, the 2010 QDR continued to discuss the possibility of current and future U.S. adversaries taking advantage of emerging technologies to use “asymmetric tactics to disrupt the superiority of U.S. military power.”²⁰ The 2010 QDR argued that the DOD “must not only prepare for those threats...but also build the agile, adaptive, and innovative structures capable of quickly identifying emerging gaps and adjusting program and budgetary priorities to rapidly field capabilities that will mitigate those gaps.”²¹ In other words, the U.S. now needs to find a balance between maintaining its powerful military force while also pursuing the capabilities to counter the impact of evolving “disruptive technologies” that offer asymmetric options to its competitors.

ii. Horowitz points out that, because of the high cost associated with the organizational changes that are required for integrating new technologies into a country’s broader strategy, innovation often upsets the existing power balance of international politics, benefitting the rising powers that are nimbler than the status-quo powers. Horowitz, Michael C. *The Diffusion of Military Power: Causes and Consequences for International Politics*. Princeton: Princeton University, 2010.

It was not until 2014, when the QDR noted that the Asia-Pacific region faces “greater risk that tensions over long-standing sovereignty disputes or claims to natural resources will spur disruptive competition or erupt into conflict,”²² that serious discussion of the Third Offset Strategy began to gain traction within the U.S. defense establishment. Citing China’s increasing military budget and lack of transparency on the part of Beijing regarding its intentions, the 2014 QDR discussed U.S. defense commitments in the Asia-Pacific region as a tool to prevent “miscalculation and disruptive regional competition and avoid escalatory acts that could lead to conflict.”²³ Building on the 2014 QDR, in a speech at National Defense University (NDU) on August 5, 2014, Deputy Secretary of Defense Robert Work argued that unless the United States began serious discussions on how to maintain its military forces’ technological advantage, the U.S. armed forces would face “an arsenal of advanced, disruptive technologies that could turn our previous technological advantage on its head – where our armed forces no longer have uncontested theater access or unfettered operational freedom of maneuver.”²⁴

Shortly after Work’s speech at NDU, then Secretary of Defense Chuck Hagel announced the launch of the Defense Innovation Initiative (DII), a DOD-wide effort to “pursue innovative ways to sustain and advance our military superiority for the 21st century and improve business operations throughout the Department.”²⁵ In a speech coinciding with the memorandum’s release, Hagel observed that, while the United States was preoccupied with counterinsurgency operations to address security threats posed by al-Qaeda and other Islamic terrorist organizations, strategic competitors such as Russia and China were heavily investing in military modernization to close the technological gap.²⁶ Hagel described DII as an initiative which he hoped would develop into a “third offset strategy.”²⁷

Indeed, the rapid pace of growth in China’s military capabilities has caught the attention of American strategic thinkers for some time. As early as 2003, scholars such as Krepinevich and Barry Watts have identified the growing risk of potential adversaries’ A2/AD challenges to the U.S. military’s power-projection capability. They argued that potential adversaries’ acquisition and fielding of satellite and missile capabilities will increase risk for U.S. forward-deployed forces, with China and North Korea as the two prime examples of countries that pose A2/AD challenges to the U.S. military.²⁸ Beijing’s focus on investing in missile technology, modernization of its fighter fleet, efforts to build a blue water navy, and activities in new battle domains such as space and cyber point to China as a near-peer competitor of the United States. In particular, Beijing’s investment in these technologies has a disruptive impact on anticipated U.S. military operations not only in Northeast Asia, but in the broader Asia-Pacific region, as such advances could inhibit U.S. military access to potential areas of crisis, limiting America’s ability to maneuver. Although discussion of the “Third Offset Strategy” carefully avoids singling out China, the sense of urgency generated by the reality that China is quickly catching up to the United States in key areas of military technology has no doubt been the primary driver of the Third Offset.

The Third Offset Strategy envisions robust collaboration with U.S. allies. In January 2015, Work elaborated on three key differences between the two Cold War era offset strategies and the current Third Offset: much longer timelines before the new strategy sees tangible results, the necessity of addressing more diverse threats (from nation-state adversaries and non-state actors), and the reality that, unlike the Cold War era, many technological advances will come from the private sector.²⁹ Work stressed that the U.S. should be cognizant of the importance of interdependence with its allies. He noted that the U.S. allies each have “certain key advantage or certain key things that they are really, really good at,” and emphasized the need for the U.S. to think about the alliances in the context of specialization, while acknowledging concerns about the technology gaps between alliance partners.³⁰

In fact, what Work envisions resonates very much with critical issues that Krepinevich identified in his 1992 MTR assessment. Some of the questions that Krepinevich put forward in regards to the role of U.S. allies are as follows:

- Would the U.S. want to develop the next generation military capability jointly with our allies,ⁱⁱⁱ or would it hope to maintain some margin of advantage over all other countries?
- Would the U.S. envision coalition warfare in which our friends are as capable as we are, or would the U.S. provide certain kinds of capabilities and/or function that others lack?
- Would the fiscal and other constraints of U.S. allies make the management of these issues more challenging?
- Should the U.S. approach to its allies be consistent regardless of the types of operations it discusses, or should the discussion be tailored to specific operations that the U.S. military is expected to undertake with various allies?³¹

Overall, the concept of the Third Offset Strategy has not been well understood within the U.S., let alone among allies and partners. This is because the Third Offset was understood to mean different things even within the DOD. For instance, to Secretary of Defense Ash Carter, it was about innovative technologies and investment in “over-the-horizon” technologies, as well as leveraging robust high-tech capacity in the private sector, as he elaborated in a speech in October 2016.³² However, other senior defense officials, including Deputy Secretary of Defense Work and Vice Chairman of the Joint Chiefs of Staff General Paul Selva, have presented the core of the Third Offset as more about “operational and organizational innovation.”³³ For those who subscribe to this view, while there is genuine merit in innovation, the U.S. simply cannot out-innovate adversaries, and thus it makes more sense to leverage operational and organizational strengths to address the most pressing concerns, such as “precision strike en masse.” With the Trump administration in place, the challenge of communicating American intentions about the Third Offset Strategy may grow, as U.S. allies and partners ask more fundamental questions about mutual commitments to their alliances.

iii. For example, the F-35, despite the problems in the developments, is considered a successful example of the U.S. jointly developing a new capability with its allies.

Northeast Asian Perspectives

Emerging technologies and technological disruption can profoundly impact the international security environment, changing the array of capabilities in play and forcing countries to reassess the risks and opportunities afforded by their arsenals and international relations. The U.S. response to new and unexpected technologies further complicates future scenarios. An effective counter to the weaponization of disruptive technologies by strategic competitors takes the form of developing American emerging technologies to offset potential disruptions – focusing on long-range attack capabilities and broader utilization of unmanned platforms. But a strategy built around these types of technologies could affect the forward-deployed presence that the U.S. maintains in some regions, which would require close consultation with the allies that consider this presence to be the most tangible sign of U.S. security commitments.

While this issue applies to many U.S. allies around the world, this report focuses on alliances in Northeast Asia, where the U.S. faces its main strategic competitor, China. Northeast Asian international relations are fraught with tension, due to historical issues dating to World War II and earlier, China's growing assertiveness in the East and South China Seas where it has competing territorial claims vis-à-vis its neighbors,^{iv} fears of military modernization or build-up in the region, and the increasing threat of a nuclear North Korea. Adding emerging technology to the situation could change the current balance, without necessarily mitigating fundamental challenges. But conversation among policymakers and defense planners about how the U.S., Japan, and South Korea might adapt to a potentially profound change in American military posture in Northeast Asia has not yet occurred.

Obstacles to a necessary conversation among allies in Northeast Asia

A reason for this lack of discussion is the hub-and-spokes security structure, with the U.S. allying separately with Japan and South Korea, rather than forming a collective security organization like the North Atlantic Treaty Organization (NATO). The hub-and-spokes model depends heavily on American ability to maintain robust alliances, and the complex relationship between Japan and South Korea, made bitter and mistrustful by the legacy of their 20th century history, poses a great challenge to bridging the two alliances. While operational-level trilateral dialogues and exercises occur with regularity, the U.S. has not been able to cultivate the deeper trust between South Korea and Japan necessary to hold more sensitive, strategic conversations at a high level.

iv. In the case of the South China Sea, the Permanent Court of Arbitration in The Hague ruled on July 12, 2016 that China's territorial claim based on its historical "Nine-Dash Line" was invalid under international law.

Furthermore, the status of Japan and South Korea as junior allies has helped foster a mentality of reliance on the security guarantee provided by American military capabilities. For example, the U.S.-Japan Mutual Security Treaty obligates the U.S. to come to the defense of Japan should Japanese territories or areas of administrative control be threatened, but Japan does not have a reciprocal obligation to defend the U.S. homeland should the United States be attacked. The U.S.-Republic of Korea Mutual Defense Treaty does require a reciprocal response from South Korea, and in the past, South Korean armed forces fought alongside the U.S. in the Vietnam War and in Operation Iraqi Freedom. While such operations by South Korean armed forces have been important for the U.S., the U.S.-ROK alliance has served primarily as a bulwark against North Korea, and U.S. bases and troop presence in South Korea are seen by Koreans as the manifestation of U.S. defense commitments.³⁴ The lack of participation and limited geographic scope of Japan Self-Defense Force (SDF) operations and the U.S.-ROK alliance's intense focus on the North Korea threat have contributed to a widening gap in military technology and operational capability between the U.S. military and alliance partners.

Part of the reason, too, for the lack of discussion of emerging technologies is that North Korea's accelerating menace preoccupies the allies to the extent that the threat from China takes lower priority. The clear and present security threat requires a level of vigilance that makes it difficult to focus on less tangible future threats. Although the U.S. is making technological improvements in its ballistic missile defense capability, as most recently demonstrated by the successful Standard Missile 3 Block IIA (SM-3 Block IIA) flight test in February 2017,³⁵ the solution to countering a tangible missile threat by North Korea will not likely come from the U.S. response to "disruptive technologies."

These limitations present challenges for the U.S. military as it pursues increased interoperability with Japanese and Korean forces, a goal shared by the allies. Japan and South Korea have pursued military modernization by introducing U.S. military platforms and systems, as much as their defense budgets – far smaller than that of the United States – can afford. Japan's engagement with the U.S. in joint research and development of missile defense capabilities, which will culminate in an upgrade of the SM-3 Block IIA interceptor, has helped propel armament cooperation with the U.S.³⁶ Although the results have been mixed to date, a South Korean government program requiring U.S. defense companies to provide and/or share technology and production with the South Korean defense industry aims to ensure that the joint development program will benefit the South Korean defense industrial base. Collaboration between Korean Aerospace Industries and Lockheed Martin on the T-50, light combat aircraft and one of the world's few supersonic trainer jets, had a positive impact on defense technological cooperation between the U.S. and South Korea.³⁷

Still, such cooperative efforts have focused on developing specialized systems to respond to specific requirements and security challenges. Extensive consultation on the strategic environment, and questions about how the strategic environment may evolve, has yet to take place.

Talking around the issue with China

The conversation between the U.S. and China, of course, is of a different nature. As strategic competitors who are deeply entwined economically, and who share interests in regional stability but diverge when defining the nature and sources of that stability, the U.S. and China also need to consult on the impact of technological innovation – before either country disrupts the status quo by unveiling new capabilities, with the potential for unanticipated consequences. For the past decade, the U.S. and China have held Track 1.5 and Track 2 strategic dialogues to assess the state of the U.S.-China relationship at strategic and tactical levels, and to discuss the issue of a nuclear-armed North Korea.³⁸ But there have been no Track 1 talks about strategic forces or emerging technologies.

While the United States and China have increased communication and engagement at the tactical level, strategic tensions between the two have heightened, particularly regarding nuclear issues and missile defense. The PLA continues to view the U.S. as the primary threat to China, and the U.S., while concerned in the short-term with North Korea, also sees China as a potential adversary for the foreseeable future.³⁹ Indeed, within the context of the Third Offset Strategy, China is positioned as the U.S.’s likely primary adversary. Another point of high-level mismatch is China’s “no first-use” policy, which the U.S. has resisted reciprocating.⁴⁰ On the U.S. side, concerns have been voiced in the strategic dialogues about “co-mingling,” or placement of conventional weapons alongside nuclear missile launchers, which could lead to unintentional escalation of conflict if nuclear capabilities are struck accidentally.⁴¹

This tactical/strategic divergence is apparent even within the Chinese nuclear community.⁴² The Chinese nuclear scientific establishment (e.g. the Beijing Institute of Applied Physics and Computational Mathematics or the China Academy of Engineering Physics) has more experience in the international arena, and is willing to engage with the U.S. on strategic matters. Representatives from these institutions have attended Track 1.5 and Track 2 meetings, regularly participate in exchanges with American universities, and speak at conferences and on panels. But the PLA Rocket Force, a consolidated branch of the PLA granted responsibility for China’s nuclear weapons in 2015, has expressed limited willingness to engage on issues related to China’s nuclear strategy.⁴³

Central to the matter of nuclear strategy is the broader concept of “strategic stability,” which also has implications for emerging technologies. The most recent strategic dialogues have attempted to clarify this concept, which the U.S. and China interpret differently.⁴⁴ The U.S. values its alliances as a stabilizing influence in Northeast Asia. China’s view of the U.S. as a threat consequently extends to U.S. allies in Asia, and while Chinese delegates have acknowledged extended deterrence as a disincentive to nuclearization for Japan and South Korea, they remain concerned that states outside the U.S. nuclear umbrella will feel compelled to seek nuclear weapons.⁴⁵ In addition, alliance strategies to counter North Korea’s

threat have the ability, to some extent, to threaten China's own conventional and nuclear capabilities. Thus, China views the U.S. alliance system in Asia as possessing inherently destabilizing components – and sees efforts to deepen the alliances as exacerbating the destabilizing effect overall. At the heart of China's concern is suspicion about American intentions as the U.S. and allies improve their capacity to mitigate North Korea's threat.

Adding to the complexity of defining strategic stability and determining how to achieve it, both China and the U.S. are in the process of modernizing their nuclear arsenals. China is moving from a historic “lean and effective” disposition to greater retaliation capability, requiring a larger force.⁴⁶ In a September 2015 dialogue, Chinese delegates indicated that U.S. efforts to strengthen ballistic missile defense architecture were the impetus for China's nuclear modernization, saying, “a firmer shield requires a sharper spear.”⁴⁷ Meanwhile, the U.S. is modernizing its nuclear triad to provide “thinner but stronger legs.”⁴⁸

Both initiatives are leading to some uncertainty about the feasibility of strategic stability. China fears that the U.S.'s theater missile defense will prompt North Korea to increase its capabilities, just as China has chosen to sharpen its own spear. The destabilizing effect of emerging technology in the nuclear realm has also been a topic of exploration within the strategic dialogues, in particular whether multiple independently targetable reentry vehicles that are not mated with nuclear warheads are destabilizing.⁴⁹

Following on the heels of nuclear modernization are anticipated technologies that also could disrupt strategic stability. No firm agreement has been reached on responses to the entrance of new technologies. China fears that new-wave American technology, including hypersonic planes, space-based weapons, or more advanced ballistic missile defense capabilities, could offset its nuclear deterrence ability.⁵⁰ China's concerns are exacerbated by deployment of American technology to U.S. partners in East Asia – notably THAAD in South Korea and Aegis in Japan, as well as the Precision Acquisition Vehicle Entry Phased Array Warning System in Taiwan.⁵¹ What the U.S. presents as single-use technology designed to counter North Korean threats is viewed as dual-use by China, simply by virtue of China's proximity to North Korea.

As the U.S. and China develop and deploy new technologies, reaching a mutual understanding of strategic stability is becoming more complicated. The quagmire of issues that already surround nuclear capabilities is compounded when the discussion expands to emerging technologies that impact these capabilities and the broader strategic context. Establishing benchmarks for strategic stability and incorporating discussion of emerging technologies, while acknowledging that the discussion will evolve as technological capabilities change and strategic priorities shift, will remain a critical component of U.S.-China dialogue.

Questions for defense experts in Northeast Asia

The Stimson team traveled to Japan, South Korea, and China to hold discussions with defense experts. Candid discussions, conducted under the Chatham House Rule, revealed the experts' perceptions of American strategic debates on emerging technologies, disruption, and impact on military posture. The team offered the questions below to start the conversations, but followed avenues of interest to the participating analysts:

Questions for Japanese and South Korean experts

- To what extent are Washington-based efforts toward a Third Offset Strategy observed and discussed in Japan/South Korea?
- How does the Japanese/Korean strategic analysis community interpret “emerging/disruptive technology,” particularly in the context of a Third Offset Strategy?
- Is there a concern in Japan/South Korea that the U.S., in response to the security challenges posed by a competitor or adversary that leverages such technologies to their advantage, may take measures that make allies question U.S. commitment to deterrence? What measures might prompt such questioning?
- How would Japan/South Korea respond to weakening or strengthening of alliance cohesion in the context of the alliance having a strategic advantage or not?
- What are the possible benefits and drawbacks of a Third Offset Strategy for Northeast Asia?
- Which particular technologies should, or should not, be part of a Third Offset Strategy?
- How might American actions to address the challenges presented by new technologies influence relations among Japan, South Korea, and China?

Questions for Chinese experts

- What kind of technologies are disruptive with possible strategic implications for the balance that currently exists between the U.S. and China?
- Do strategic circles in China follow the U.S. discussion of the Third Offset Strategy? How do they interpret it?
- How might China leverage the emerging military technologies to sustain strategic stability with the U.S. (or gain comparative advantage vis-à-vis the U.S.), and vice versa?
- What does the future of U.S.-China strategic stability look like considering recent developments in military technology on both sides?
- How might American actions to address the challenges presented by disruptive technologies influence relations among Japan, South Korea, and China?

Views from Japan and South Korea

In Japan and South Korea, only a limited number of defense experts who closely follow U.S. defense strategy understand the American strategic debate on the impact of disruptive technologies and/or the Third Offset Strategy. The Stimson team's exchanges with defense policy experts focused on drawing out their reactions to the description of disruptive technologies and the Third Offset Strategy provided by the Stimson team at the beginning of the discussion.

Japan views China as a threat requiring joint strategic responses with the U.S., and Japanese defense professionals calibrate their views about most defense technological developments in the next two decades with respect to China. Specifically, responses revolved around what Japan should do to develop a strong negotiating position with China, which has a more technologically advanced military. South Korean experts do not share this level of threat perception, and as such tend not to view the Third Offset Strategy as relevant to Korean security interests.

Both countries view North Korea as a clear and present security threat, and define their defense needs in relation to the quality of protection afforded by their alliance with the United States. However, as the Third Offset Strategy is generally understood to be focused on China, there is no substantial expectation in either country that the U.S. response to disruptive technology will address the threats posed by North Korea. Both countries would prefer instead to discuss specific capabilities that would address the threat posed by North Korea, such as leveraging existing missile defense cooperation with the U.S. In Japan, experts noted an interest in introducing indigenous “enemy base counter-attack” capability, a politically sensitive way to rephrase the more controversial term “offensive capability.”⁵²

(1) Uncertainty about the Third Offset Strategy and the direction of U.S. strategy

The defense experts the Stimson team met in Japan and South Korea, including those who follow U.S. defense strategy very closely, appeared uncertain about where future U.S. strategy is heading. Many have been exposed to discussion within the U.S. on how to counter specific disruptive technologies (i.e., hypersonic weapons), but are not as familiar with disruptive technologies in the context of the Third Offset conversation. In both countries, analysts voiced questions about whether the Offset aims to maintain U.S. strategic superiority or U.S. dominance in military technology through improvements in streamlined operations, information management, or logistical efficiency.

Japanese experts seemed confused about the initiative’s strategic objective and in what ways it departs from previous defense transformation debates. There seem to be different views on the efficacy of the United States trying to coordinate with Japan to develop a new offset strategy. Some experts suggested that discussion of a long-term strategy in the abstract may not be productive because it could produce confusion about how the strategy would be operationalized at the tactical

level. Analysts described a lack of communication in Japan between the policy and operations sides that limits the flexibility necessary to promote innovative concepts like the Third Offset. They perceived interagency communication in the U.S. as relatively better, and suggested that Japan needed to improve this communication and interagency integration and jointness with allies in order to work more effectively with the U.S.

Analysts in South Korea were skeptical of the maturity of the concept, contrasting it with the New Look, in which an obvious defense problem was addressed with a specific technology. They argued that today's Offset discussion has yet to articulate a defense problem and produce a clear solution. Some Korean analysts were especially concerned that the discussion, one element of which emphasizes game-changing technologies like railgun, has raised hopes in Korea that the United States is about to unveil an unexpected new technological way to counter North Korea or China, or to dramatically increase firepower.

(2) Questions about the usefulness of the Third Offset for allies' interests

Analysts raised concerns that the Third Offset's focus on China and emerging technology does not address allies' security interests in full. Japanese analysts perceived China as a threat, but are also urgently concerned about North Korea. Korean experts were primarily focused on countering threats from North Korea, and several were doubtful about the ultimate utility of the Third Offset as a defense and deterrence strategy in this respect. The analysts said that the Third Offset appeared to be about big power competition between the U.S. and China, and many did not see the strategic discourse in the U.S. as relevant to their own defense needs and dilemmas in a meaningful timeframe. Despite China's assertive behavior in Asia, including its harsh response to the South Korean government's decision to deploy THAAD, South Korean analysts were reluctant to discuss China as a security threat. When not viewing the issue through a pure North Korean lens, however, some Korean analysts did recognize the need for the United States to plan for the emerging technological environment, and suggested that it is important for the U.S. and its allies to prevent new technologies from being weaponized.

The extended timeline of the Offset was identified as a concern by some of the Japanese experts. Defense systems developed as part of the Offset would likely not be available until around 2040, leaving a window of vulnerability vis-à-vis China in the 2020s and 2030s, which is likely to be a worrying period in China's military development. However, other Japanese security experts did not share this view. In fact, one analyst suggested that, given his expectation of linear security trends over the next decades, technological offsets would not be a critical issue. Instead, all Japan would need from the United States is a clearer Asia-Pacific strategy emphasizing the maintenance of U.S. forward-deployed forces and the continuation of investment in assets in the Asia-Pacific region. These perspectives, however, may be based on

potential misinterpretation (or overinterpretation) of the Third Offset, because they either seem to discount the usefulness of the Offset against its main target or the necessity of the Offset altogether.

Several Korean analysts questioned the timing, as well as the target, wondering if the Offset had any relevance for South Korea. These experts viewed the decades-long timeline for development of the Offset technologies as useless against the immediate threat of North Korea, regardless of the technologies' long-term utility in the North Korean context. Some asked whether the U.S. understood what deterrence meant for South Korea, given the vast distance between North Korea and the United States. The conversation suggested that, while Washington and Seoul share concerns about security threats posed by North Korea, the emphasis each country places on the *types* of threats from North Korea may not be either well aligned or well understood outside small circles of defense planners in both countries.

Several Japanese analysts also noted the Offset's strong emphasis on leveraging advanced technology in alliance interoperability. They suggested that the focus on technology may be excessive, given that strategic competitors such as China will eventually be able to catch up with the U.S. technologically, either by offsetting technologies or by leveraging them sooner than the U.S. One argument posits that the real competition between the U.S. and China will center not only on shortening the time from R&D to acquisition, but also on the speed and cost-effectiveness of adaptation in doctrines, policies, and laws to technological changes.

Korean analysts cautioned that the U.S. should not place too much emphasis on technological development in its strategizing, because superior technology has not always granted victory. As examples, the analysts cited the Vietnam War, which the U.S. lost despite possessing a technological advantage, and Russia's current advances, for which the analysts noted doubts about the U.S. response. The Korean analysts also reiterated that the Third Offset had no technological relevance for the North Korea issue, as several possible Offset technologies were merely delivery systems, like railgun, and not revolutionary technologies that would create new strategic concerns for North Korea.

(3) Concerns about the effects on alliance cohesion

Most Japanese analysts did not seem to think that leveraging disruptive technologies to respond to potential adversaries would fundamentally affect the credibility of the U.S.-Japan alliance. They believed the U.S.-Japan alliance had the capacity to adapt to major geostrategic changes, just as the alliance adapted to the post-Cold War world order, but that managing emerging technologies in an alliance context was the main challenge. Several analysts cautioned that it is difficult to update standard operating procedures, but noted that the alliance has dealt with crises before; if both partners commit to working on integrating an emerging technology, then alliance enhancement is possible. Japanese analysts suggested joint assessments of the future of warfare and how the U.S. and Japan can work together in specific

situations with new technology, and Korean experts agreed that it is imperative for the United States to involve its allies in discussions around U.S. responses to disruptive technologies, so that the allies can harmonize their responses.

Underscoring the need for partnership, Japanese analysts appeared wary of the potential for negative consequences if the U.S. creates a new strategy and then informs its allies. They held the view that allies must participate in the process of creating strategic concepts. As such, the experts expressed their preference for discussions about strategy, ideally from a whole-of-alliance perspective that includes political questions and helps enable U.S.-Japan joint operations. They were deeply critical, however, of Japan's lack of internal coordination on defense technological development. Whether due to an absence of jointness in the military or a lack of communication between policymakers and technical specialists, they indicated that Japan would not be ready to work with the U.S. on an offset strategy until Japan became more coherent internally.

Japanese analysts identified target tracking and prompt strike capability as technological improvements that would improve the alliance's capabilities vis-à-vis North Korean and Chinese missiles, and recommended that the U.S. permit Japan to build strategic offensive capabilities in response to the threat from China. One analyst described missile defense as the glue of the alliance, a specific area in which the U.S. and Japan share common interests and strategy. In other areas like space and cybersecurity, the analysts recognized that the capabilities gap between the U.S. and Japan has been growing and Japan needs to catch up. Analysts noted worries that Japan will be unable to join U.S. conversations about cyber deterrence without developing offensive cyber capabilities; likewise, the U.S. is currently working to improve the resilience of space capabilities while the Japanese Ministry of Defense (MOD) has only begun to consider the topic. There could be a negative impact on the alliance if the gap in certain domains or with specific technologies grows too big to bridge, or if U.S. systems become too advanced to cooperate productively with allies in these areas, especially considering the political dimension of procurement issues.

Japanese and Korean analysts agreed on a potential game-changer: a move away from forward deployment because of emerging technologies that facilitate long-range options. Experts in both countries expressed deep concerns about the effect on the credibility of the alliance if the U.S. were to move toward the kinds of postures envisioned by some advocates of a Third Offset. Japanese analysts emphasized that should U.S. military technology no longer require the sizable presence of troops on bases in Japan, consultation in advance of any changes to deployment would be critical to sustaining the alliance. Losing the physical commitment of American soldiers in Japan would fundamentally change the alliance dynamic. For example, unmanned and autonomous weapons platforms, even if they are forward-deployed in the region, would be ill-suited as concrete signs of U.S. defense commitments. They would likely lack the "tripwire" implication inherent in the practice of placing American personnel in harm's way, making more credible the commitment to treating an attack on an ally as equivalent to an attack on the U.S.

Even the possibility of human-machine teaming, potentially reducing the role of people in the decision-making loop, would raise questions about U.S. military operations in the region. Would the U.S. be willing to act unilaterally, or without sufficient consultations, if new technology changes the decision-making process?

Korean analysts linked alliance commitment with the visible deterrence provided by American bases and troops in South Korea. Some bluntly stated that Koreans cared more about the physical presence than the alliance's future technological portfolio as a deterrent against North Korea's threats. The analysts' strong interest in tangible deterrence was reflected in their preference for weapons platforms that could be used for preemptive strikes against the North's nuclear missiles. A recent movement toward greater self-reliance, at the extreme including calls for an indigenous nuclear weapons program, appears to have lost momentum among defense analysts, possibly after the deployment of THAAD. Analysts noted in discussion that missile defense can be used quickly, reducing reliance on U.S. backup – thus mellowing concerns about the U.S. alliance commitment without substantially assuaging them. To Korean experts, deploying Third Offset technology with an increased strike range, coupled with a reduced force presence, sounded like a strategic withdrawal from the Korean Peninsula.

(4) Concerns about the effects on domestic defense industrial bases

Anxiety about an overemphasis in U.S. strategy on leveraging advanced technology also seems to be driven by concerns about the implications of such strategy for indigenous defense industries. Japanese and Korean experts are pessimistic about their own countries' ability to develop and field offsetting technologies. One example that was identified in Japan was cybersecurity: great reluctance in academia and the private sector to be perceived as actively engaged in projects that benefit Japan's defense industrial base makes it unlikely that Japan would be able to recruit technologies from its high-tech sector the way the Third Offset concept envisions leveraging the technological capacity residing in Silicon Valley. In Korea, experts worried that an American focus on Silicon Valley would undermine the viability of Korea's defense industry. Koreans also expect that, despite the South Korean government's efforts to ensure its defense industry will benefit from collaboration with the U.S. industry by establishing the offset program, the United States will restrict the sharing of new technologies the same way it has rebuffed previous requests from South Korea to transfer core technology. As such, though the Third Offset emphasizes the importance of utilizing the industrial capacity of allies, Korean experts appear very doubtful that the U.S. will engage in the deeper technology cooperation that would lead to mutually beneficial technology sharing.

Concern in Japan is also driven by analysts' pessimistic outlook regarding Japan's future defense budgets. Most analysts projected that the ratio of defense expenditures to gross domestic product would remain low, for domestic political and

associated regulatory reasons that restrict the kinds of technological development the government can sponsor. Not only has the Ministry of Defense failed to convince universities to accept funding for defensive technology R&D, but the MOD's own R&D division is small and has not sought out new technology in the same way as the DOD's Defense Advanced Research Projects Agency (DARPA). Analysts mentioned that Japanese universities accept R&D funding from the Pentagon, so the reluctance to accept MOD funding appears to be tied to the unpopularity of the SDF. In addition, referring to a case in which a small Japanese robotics firm was acquired by Google after its robot won a competition managed by DARPA in 2013, Japanese experts expressed concerns about American buyouts of firms that offer cutting-edge technologies.

Furthermore, experts conveyed unease about the possibility that a technology-driven U.S. strategy may eventually lead to Japan's complete reliance on the U.S. for advanced defense systems. Given that Japan's defense acquisition mostly comes through foreign military sales (FMS), almost all of which are from the United States,⁵³ the analysts seemed worried that further dependence on FMS could set in motion the destruction of Japan's indigenous defense industrial base. One expert pointed out that the U.S.-Japan alliance is larger than equipment purchase contracts, so the two countries should partner strategically on development initiatives that can benefit both countries' defense industrial bases. Despite Japan's limited funds for R&D, licensing or bilateral projects could help to lower the threshold for Japanese participation in technological development and strengthen Japan's industrial base.

Such comments seem to be driven by analysts' concern about future competition between the Japanese and American defense industries, if Japan's defense industry becomes successful without close cooperation and coordination between the two on defense technology strategy. Those who expressed concern about this prospect pointed to tensions between Japan and the United States over Japan's Fighter Support Experimental program in the 1980s, when Japan sought technological cooperation from the U.S. as it developed what eventually became the F-2 fighter aircraft. Japan's efforts to build the F-2 based on the American technology used to build the F-16 generated significant backlash from the U.S. Congress. Korean analysts had similar concerns about defense competition, and noted related areas of friction.

Views from China

The Chinese defense policy community is watching the Third Offset Strategy conversation warily, as they view the United States as the primary threat to stability in Northeast Asia. In discussions with the Stimson team, Chinese defense analysts described the addition of emerging technologies as not only a potential destabilizer of the warfighting capabilities balance between the two countries, but as an element impacting strategy and stability more broadly. Speculation on the impact of emerging technologies, and on the future of the U.S.-China relationship, varied significantly among Chinese analysts, however.⁵⁴

(1) Viewing the Third Offset conversation in a strategic context

Chinese experts reported that the Third Offset Strategy is followed closely in China, particularly by scholars of international relations and military strategists. The consensus is that the Offset is designed to counter China's growing capabilities, with other potential adversaries like Russia or the Islamic State holding a lower priority. Analysts suggested that the DOD might use the ostensible threat from China to attract funding. A minority held that the Offset is intended to provoke China into a ruinous arms race analogous to the effect of Strategic Defense Initiative plans on the Soviet Union. Newer domains like cyber and space came up in each meeting as the areas that the analysts thought would be the domains of the Offset in the future, but several analysts also noted that the timing of the Offset technology rollout was years away, possibly as far as the 2030s.

Chinese analysts placed the discussion in the larger strategic context of regional stability and U.S.-China relations. They emphasized their preference to think about strategic stability broadly, covering multiple facets of the U.S.-China relationship, from economic to political to security. This view tempered their concern over China as a target of Third Offset technology, but they asserted that the potential of Offset technology to destabilize the region is worrisome. However, one analyst noted that the Third Offset Strategy, unlike the previous two offset strategies, offers more opportunities for dialogue on issues like the next war and future arms races. Deep economic and trade ties between the U.S. and China, which did not exist between the U.S. and the USSR, are strong incentives to carry out this dialogue, and analysts agree that China might be open to such conversations.

The analysts acknowledged that the conversation between the U.S. and China on strategic stability is limited at present, to the point that "strategic stability" mostly means "arms control." Several analysts stressed that China does not want an arms race with the U.S., and occasionally granted that the United States was a Pacific nation with legitimate regional interests. Any frictions were due to other countries feeling emboldened to make expansive territorial claims in the hope of securing U.S. backing; if these sovereignty disputes were to be resolved, then tension between China and the U.S. would decrease.

*(2) Perspectives on the potential impact
of the Offset on U.S. alliances*

Chinese analysts offered varying perspectives on U.S. alliance partners in Northeast Asia. Most portrayed Japan's increase in military capability and efforts towards constitutional reform as a dangerous development. The prospect of Japan losing confidence in the United States and activating its latent nuclear weapons capability was a concern for some. A minority of experts conceded that Japan is far from the aggressive military power it once was, also dismissing any claims of Japanese regional leadership. Analysts viewed South Korea's decision to deploy THAAD as a major concern, as South Korea might eventually have a joint missile defense system with both the U.S. and Japan. Analysts opined that Japan and South Korea's concerns about possible U.S. retrenchment emerged because allies prioritized matters of deployment rather than the technology under development, while adversaries would watch the technology pipeline that may result in future acquisition programs more closely. The analysts suggested that because the length of the pipeline is at least a couple decades, there are multiple points at which development can alter course, so it was in the allies' interest to focus more on technology that had already passed these developmental hurdles.

According to Chinese experts, missile defense systems in Northeast Asia have become a thorn in China's side, particularly THAAD, as they have the capability to damage China's own systems. The development of missile defense systems among U.S. allies has prompted, in part, China's own efforts to modernize its military and prepare to counter more robust capabilities in the region. The analysts cautioned several times that it is difficult to tell offensive from defensive systems, and conventional from nonconventional missiles. The strategic context of these systems and weapons is critical: without understanding potential adversaries' strategic intentions, sophisticated systems and emerging technology become dangerous. The key, several analysts argued, is confidence building both between the U.S. and China and the U.S. and its allies.

Analysts described North Korea's nuclear weapons program as a security problem for China, due in part to the threat to China from American alliance countermeasures like THAAD. Analysts agreed that China's leverage over North Korea had declined, leaving China with few options. Some noted that China has treaty obligations to defend North Korea should the U.S. or another country attack, but could only suggest sanctions or dialogue as methods of addressing North Korean provocations. However, experts emphasized that part of the problem is North Korea's ability to exploit U.S.-China tension and competition, and the Third Offset might exacerbate that competition.

*(3) Uncertainty about the future of the
Third Offset Strategy under the Trump administration*

Analysts expressed uncertainty about the direction of the Third Offset under the Trump administration. Some thought it would continue while Robert Work remained in the DOD to promote relevant technology. Everyone agreed that the U.S. defense budget would need to increase, though some viewed the increase as necessary for a broader transformation of U.S. military resources with new technology. The strategic context will also matter for the future of the Offset: if the DOD determines that other adversaries like the Islamic State are more immediate concerns, then the technology in the Offset portfolio will have to adjust. Concerns about the Trump administration possibly expanding the U.S. nuclear arsenal also arose.

So far, the absence of an articulated military strategy associated with the Third Offset has prevented PLA officers and planners from understanding the details, instead leading them to view it as a general threat. Several analysts were concerned about the variance in understanding of the Offset within China, asserting that strategists in the PLA lack a nuanced understanding of technological issues and thus oversimplify the Offset as simply a strategy to contain China. The operational planners, however, were more realistic in assessing the array of U.S. capabilities in various combinations as well as the dynamics within the DOD and the military branches.

Interest in the details of the Offset conversation and relevant future scenarios is very high across the country's defense community. Seminars and conferences on associated topics have been well-attended, and this is likely to continue as Chinese experts wait for the Trump administration to determine its course on the Offset.

(4) Views on the U.S.-China capability gap

Other analysts said that the Offset was not worrying due to its uncertain fate, and that China put greater emphasis on closing the capability gap between China and the U.S. Analysts were divided on the nature of this gap. Some asserted that the strategic balance with the U.S. had shifted strongly in China's favor, and the U.S. would not, for example, send aircraft carriers to the Taiwan Strait today during heightened tensions. Some reported that the PLA was confident in its ability to prevail in a conflict with the United States within the first island chain. Others emphasized areas in which China lagged, such as the generation gap between American and Chinese aircraft carriers and fighter jets. Even so, the analysts demonstrated a nuanced view of the capability gap. A gap in a specific technology might result in certain situational disadvantages, but would not necessarily mean an absolute gap. Analysts noted that China's discussions of capabilities were not so narrow as to focus on one domain or technology at a time, but assessed a spectrum of capabilities to gain a comprehensive perspective on warfare. In this respect, communication about the gap is also important: multiple arms races in each aspect of the gap are not beneficial for maintaining regional stability.

Several analysts also made a distinction between human and technological factors, which could influence calculations of the cost of war. If the U.S., for example, deployed technology that could limit American human involvement in a conflict with Chinese troops who still relied on manpower, the costs of the conflict would be very different for both sides: expensive in technology for the U.S., but costly in terms of lives for China. Within the context of U.S. alliances as well, the analysts noted that alliance commitment required deploying people as well as technology. The analysts implied that such scenarios needed analysis by both the U.S. and China.

The Chinese military is currently undergoing major reforms intended for completion over the next decade, a modernization process that analysts described as an effort to streamline the PLA and increase its quality (though some felt the mammoth process was disorderly). While the process emphasizes the development of maritime domain capabilities, particularly where China will encounter the U.S., analysts noted that China's land-based security concerns were still important, requiring a military of diverse capabilities. When asked about the impact of the modernization on arms control, analysts asserted that great powers needed proportionate military power.

While a review of doctrine is part of this transition and seeks to exploit new technologies, analysts described their government's approach as reactive to U.S. technology development. However, a new contracting approach has opened the door for competition between state and private companies, even if hardware will continue to be the exclusive purview of state-owned enterprises. Some analysts suggested that the PLA, by studying the Third Offset and ideas from other countries, would eventually form a DARPA-like organization and that the PLA is currently considering new technologies such as unmanned vehicles and drones. Analysts noted that despite competing sources of funding for technology development between the PLA and the government, investment in these technologies has been increasing, following China's concern about the potential for conflict (with the U.S. and others) with cyber- and space-based capabilities, especially cross-domain threats and possibly American nuclear use in space.



Recommendations

The preceding two sections examined the history of U.S. strategic debate about RMA and offset strategies, and how such debates – particularly the contemporary discourse on the Third Offset – are viewed by China and U.S. allies in Northeast Asia.

As the U.S. continues to manage its alliance relationships in the context of the Third Offset, policymakers can be informed by several key lessons learned from the First and Second Offset Strategies:

Overwhelming technological superiority of the U.S. makes intra-alliance management challenging.

The technological gap between the U.S. military and its allied counterparts that resulted from the first two offset strategies has made the effort to ensure interoperability between them extremely difficult. As demonstrated by the experience of NATO operations in Kosovo in the mid-1990s, the technological gap between the U.S. military and allied NATO forces created problems both in communications among them and in conducting operations. Similarly, the fear that advanced American technology will irreversibly outstrip allies' capabilities persists among allies.

Allies will only invest in disruptive technologies that serve their perceived needs.

The main thrust of alliance problems associated with RMA seems to be that allies have been and continue to diverge in their perception of prioritization among the security threats that they share with the U.S. Given the limitation in their defense spending, such divergence likely results in differing priorities in defense spending by allies, especially in their investment in technologies. The key example of this may be the U.S.'s declared focus on investing in technologies such as artificial intelligence, while Japan shows an increasing interest in acquiring additional missile defense capabilities such as THAAD and Aegis Ashore to meet its more immediate defense needs.

Communicating new strategies driven by complex advanced technology is challenging.

The overarching critique by U.S. allies of the Second Offset Strategy was its lack of clarity. The U.S. did not engage its allies sufficiently as it developed the Second Offset, nor did it articulate in time the goals and specific technology on which the strategy would focus once it was developed. Especially because collaboration with allies is often emphasized in the Third Offset Strategy, it is in the U.S.'s interest to be as articulate as it can be regarding its goals, including technologies

in which the U.S. is most interested in investing, so that the allies have a better understanding of the Offset itself, and can make more informed decisions about their own defense investments.

Based on the conversations in Northeast Asia discussed in the previous section, it is clear that the lessons learned outlined above remain relevant. This is especially the case now that, with the new Trump administration in place, a new defense team led by Secretary of Defense James Mattis may take a different approach to thinking about the Third Offset Strategy. As the U.S. explores ways to respond to the impact of disruptive technologies on its military strategy in Northeast Asia while seeking to minimize miscommunication with Japan, South Korea, and China, the following steps may serve as good starting points for consideration.

1. Make greater efforts to articulate the debate within the U.S. on defense strategies both in official and non-official (Track 2) discussion venues.

Conversations in all three countries demonstrated that there is confusion over U.S. strategies, including the Third Offset. Most concerning is that, despite the limited understanding of U.S. strategic intent, a potential adversary seems to have a better understanding of U.S. strategic discourse than allies in the region. This needs to be rectified not only to reassure allies but also to prevent strategic miscalculation. To this end, the U.S. should utilize various consultative mechanisms, including strategic dialogues, with countries in Northeast Asia to communicate the intention and goal of American strategies. Track 2 dialogues in which government officials can more freely discuss these issues with their counterparts in Japan and South Korea will also be helpful in this regard. At the time of such conversations, U.S. technological and strategic assumptions, rather than remaining tacit, should be made explicit to the extent possible. These small steps can have a major positive effect in clarifying U.S. intentions and reassuring allied governments.

The U.S. and China have participated in Track 2 security dialogues for years, and these conversations have made some progress in identifying and clarifying issues in the strategic relationship. These dialogues are an ideal venue for further exploration of the potential impact of disruptive technology on strategic stability, as well as cross-domain retaliation and the U.S. alliances. As pursuit of emerging technology by either side is likely to provide new challenges for U.S.-China relations, discussion of mutual strategic intent in this context could mitigate tensions resulting from changing technological capacities. At the least, the dialogues ensure that communications are ongoing. If military-to-military relations continue to improve, communication between the governments may also expand to these critical topics.

2. Hold more honest, and public when possible, conversations between the U.S. and its allies regarding the difference between peacetime force deployments and the effective posture in wartime.

As the U.S. attempts to counter the challenges posed by disruptive technology, one of its major tasks is navigating the operational reality that the preferred peacetime posture, which reassures U.S. allies overseas, may not be the most desirable force posture in times of elevated tension. Furthermore, U.S. planners need to not only acknowledge that there will be a certain level of vulnerability that must be accepted (i.e., hardening of the facilities and assets in overseas bases), but also think more seriously about force dispersal if they do not want to accept that vulnerability. However, to reassure allies, any force dispersal plan in case of contingency must be discussed carefully, as it will deeply affect the allies' confidence in the U.S. defense commitment. Although such honest conversation may be already taking place at the military-to-military level between the U.S. and its allies based on specific contingency scenarios, translating the discussion into a narrative that is palatable for those outside of the defense establishment – and for the broader public – remains a challenge. As the debate over the Third Offset Strategy continues to evolve within the U.S., ways to communicate with allies need to be carefully considered.

3. Engage Japan and South Korea in more robust bilateral as well as trilateral force planning.

The U.S. currently has different levels of consultation and operational planning with Japan and South Korea. On the one hand, the SDF and U.S. forces in Japan do not have a combined force structure, primarily due to the legal limitations imposed by the SDF on its operations outside Japan, based on Article 9 of Japan's Constitution. Because of this limitation, the SDF and the U.S. military do not engage in detailed bilateral military contingency planning. Based on the April 2015 revision of the Guidelines for U.S.-Japan Defense Cooperation, the two countries have now instituted an alliance coordination mechanism (ACM), composed of three layers (policy, operational, and tactical). While this has been utilized for consultation between the two countries on several occasions in 2016, including North Korea's nuclear test in January 2016, how well the ACM functions overall is yet to be seen, particularly at operational and tactical levels, in case of contingencies that directly affect Japan or U.S. military operations in East Asia.⁵⁵

On the other hand, the U.S. and South Korea already have a combined force command (CFC) and as such bilateral contingency planning is an integral part of the U.S.-ROK alliance. However, the planning at the CFC level focuses primarily on North Korea, and while the policymakers of the two countries do discuss broader regional security issues in the existing alliance consultation framework, it remains predominantly focused on responding to the more tangible threat from North Korea.

What makes this situation more complex for the U.S. is the lack of opportunities for detailed conversation on military planning and coordination in a U.S.-Japan-Korea trilateral framework, let alone between South Korea and Japan due to a deep sense of mistrust between Tokyo and Seoul. While the signing of the General Security of Military Information Agreement between Japan and South Korea in 2016 makes it easier for the trilateral discussion to take place if the subject is limited to North Korea, it is still extremely difficult to hold U.S.-Japan-Korea trilateral consultation on region-wide force posturing.

To this end, trilateral contingency planning for various scenarios on North Korea in which disruptive technologies may play a role would be helpful to (1) familiarize both Japan and South Korea to the real-life impact of disruptive technologies on operations, and (2) provide opportunities for the U.S. to communicate its concerns in regards to the operational challenges posed by the gap between its peacetime forward-deployment posture for reassurance and deterrence and the desirable force posture for effective operation in contingencies by working through specific hypothetical scenarios.

4. Continue defense enterprise-wide procurement reform to create a procurement environment in which the U.S. defense industry and its allied country counterparts can establish mutually beneficial business models.

Defense experts in both Japan and South Korea expressed their concerns about the impact of the U.S. spearheading efforts to respond to the impact of disruptive technologies in the context of the Third Offset Strategy, and on further widening the technological gap that already exists between the U.S. defense industrial base and their own defense industries. The primary objective of the Third Offset is to improve the combat effectiveness of U.S. forces in challenging – and potentially contested – operational environments. However, the role of allies and their industrial bases in complementing U.S. efforts, as Robert Work alluded to in his 2015 remarks, is also critical for the success of the Third Offset.⁵⁶ Currently, the U.S. has a bilateral defense industrial dialogue and cooperation mechanism with Japan and South Korea, led by the DOD. For the purpose of facilitating a dialogue on leveraging innovation in the defense sector, it may be useful to pursue consultations on defense innovation among the U.S., Japan, and South Korea. Restrictions on releasing information about sensitive technology will continue to present a challenge for such a dialogue, however. To this end, the U.S. needs to continue to work with Japan and South Korea to ensure that they will have a reliable framework to credibly address U.S. concerns for the security of sensitive technological information.

As the U.S. continues to calibrate its responses, efforts to leverage the technological capacity of not only the U.S. private sector but also the industrial bases – both defense and non-defense – of the allied countries through export control reform, acquisition reform, and the DII must continue. In this context, the

current process of reorganizing the Office of the Under Secretary of Defense for Acquisition, Technology and Logistics, mandated by the 2017 National Defense Authorization Act, can present a critical opportunity.⁵⁷ These defense enterprise-wide efforts need to be opened to enable participation by the industries of allied countries, including attempts to establish a process for moving from joint R&D to joint production of the systems for which the U.S. and its allies have common operational requirements.

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and that the reality was far more nuanced. For the debates over the drivers for major military innovation, see, for example: Lang, Kurt. "Military Organizations." In *Handbook of Organizations*, edited by James G. March, 838-878. Chicago: Rand McNally, 1965; Posen, Barry R. *The Sources of Military Doctrine: France, Britain, and Germany Between the World Wars*. Ithaca: Cornell University, 1984; and Rosen, Stephen Peter. "New Ways of War: Understanding Military Innovation." *International Security* 13, no. 1 (Summer 1988): 134-168. For a fuller discussion, see: Rosen, Stephen Peter. *Winning the Next War: Innovation and the Modern Military*. Ithaca: Cornell University, 1994.

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11. One of the major challenges for discussions of RMA is the difficulty of theorization. For example, see: Metz, Steven, and James Kievit. *Strategy and the Revolution in Military Affairs: From Theory to Policy*. Strategic Studies Institute. U.S. Army War College. June 27, 1995. Metz and Kievit argue that the analysts of RMA "have not fully agreed on its meaning" (2). They describe, for example, Krepinevich's characteristics of RMA, "when the application of new technologies into a significant number of military systems combines with innovative operational concepts and organizational adaptation in a way that fundamentally alters the character and conduct of conflict," as too restrictive (3). They argue that the RMA analysts agree that the "defining characteristics" of RMA are "alteration of the relationship of accuracy and distance in the application of military force," "an increasing interest in information warfare," and "reduction in both casualties and the collateral damage," but most thinkers of RMA have not attempted to place the RMA debate in a theoretical and historical context (3-5).

12. Michael Horowitz introduces the "adoption-capacity theory" to explain why some attempts for military innovation succeed and spread widely, while others fail. Drawing from economics and sociology, Horowitz argues that the introduction of advanced technological concepts alone is not enough to trigger a military innovation that has a profound impact. Neither, he argues, is it enough for a state to be the first to introduce a new technology to gain comparative advantage vis-à-vis other countries. He argues that being the first to introduce a new technology is one thing, but fully integrating such new technologies into broader national strategy is quite another. See: Horowitz, Michael C. *The Diffusion of Military Power: Causes and Consequences for International Politics*. Princeton: Princeton University, 2010.

13. The term "military-technical revolution" (MTR) was the term Soviet military strategists used in their writing in 1970s and 1980s as they observed the way the U.S. military integrated its advanced weapon systems into its military strategy. For a detailed discussion of MTR by Soviet military strategists, see: Krepinevich, Andrew F., Jr. *The Military-Technical Revolution: A Preliminary Assessment*. Center for Strategic and Budgetary Assessments. 2002. The report was originally prepared for the Office of Net Assessment in 1992. <http://csbaonline.org/uploads/documents/2002.10.02-Military-Technical-Revolution.pdf>.

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LOST

IN TRANSLATION?

U.S. Defense Innovation and Northeast Asia

The United States must ensure that its military can adapt to an evolving threat environment to maintain its relative advantage vis-à-vis potential adversaries. Should the U.S. tackle this task unilaterally, however, the perception of relative U.S. decline will only aggravate uncertainties in Japan and South Korea about U.S. defense commitments – and in China about U.S. intentions in Asia. The views of U.S. allies and partners are shaped in part by the debate in the United States about future defense technology and concepts, a debate that is perceived to be more thinking-aloud than substantial policy. This report examines Northeast Asian perceptions of the risks posed by disruptive technologies in the military sphere and recommends a series of policy steps to minimize these risks.