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U.S. Conventional Forces and Nuclear Deterrence: A China Case Study

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Summary

Congress and the Department of Defense (DOD) are engaged in an extended discourse over the future direction of U.S. defense strategy and military force structure. In the past, these discussions have focused almost exclusively on questions related to U.S. conventional military forces, with discussions about nuclear weapons held in separate fora. However, the 2005 Quadrennial Defense Review (QDR) examined both nuclear and conventional forces, a first in the QDR's history. This indicates that analysts both inside and outside government are beginning to review and assess the potential deterrent and operational relationship between conventional and nuclear weapons.

It appears that considerable pressure is building on DOD leaders to make strategy and force structure decisions with cost-effectiveness in mind. A key question for contemporary defense planners is what proportion of U.S. military capabilities should be focused on traditional military challenges and what proportion should be focused on non-traditional challenges, such as "irregular, disruptive and catastrophic" threats?

To effectively analyze the desired size and characteristics of tomorrow's military, some argue that we must take a hard look at feasible, real-world contingencies. A possible conflict with China attracts considerable attention from defense planners because it is a regional competitor today and could over time grow to be a "near-peer" competitor. Analysts can also easily identify flashpoints where the two nations might meet and feel compelled to defend national interests.

The analysis that follows seeks to explore the possible role that U.S. nuclear and conventional forces might play in four stages of potential conflicts: deterrence, prior to the start of the conflict; crisis stability in the early stages of the conflict; warfighting during the height of the conflict; and war termination, through either a negotiated settlement or a battlefield victory.

This report highlights a number of policy issues that may bear consideration in the ongoing debate regarding military investments. For example, this report suggests that nuclear and conventional military capabilities can simultaneously have positive effects on deterrence or warfighting and negative effects on crisis stability or war termination objectives. Therefore, changes in military force structure or capabilities to improve deterrence, for example, should consider potential effects on crisis stability, for example. Further, investments in military capabilities that may positively contribute to all potential stages of military conflict (e.g. deterrence, crisis stability, warfighting, and war termination), might be preferred to investments that have a mixed effect on the potential range of conflict. This report will not be updated.

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U.S. Conventional Forces and Nuclear Deterrence: A China Case Study

Introduction

Congress and the Department of Defense (DOD) are engaged in an extended discourse over the future direction of U.S. defense strategy and military force structure.¹ In the past, these discussions have focused almost exclusively on questions related to U.S. conventional military forces, with discussions about nuclear weapons held in separate fora. However, the 2005 Quadrennial Defense Review (QDR) examined both nuclear and conventional forces, a first in the QDR's history.² As a result, this indicates that analysts both inside and outside government are beginning to review and assess the relationship between conventional and nuclear weapons. The purpose of this report is to support this assessment, using possible conflict with China as a framework or case study.

DOD's attention to possible military conflict with China appears to have increased since the end of the Cold War. Such a potential conflict presents the challenge of a very complicated political/economic/social relationship among the participants. It also presents the noteworthy military challenges of defending a distant ally or friendly country from a proximate adversary, possessing large conventional forces and nuclear weapons capable of reaching the continental United States.

Many in DOD appear to consider military conflict with China to be a "pacing threat": the military capabilities required to successfully cope with this scenario are likely to be adequate to cope with other, and presumably less challenging state-on-state conflicts. Practical decisions regarding how the United States might most effectively equip its forces and develop strategies for their use to contend with possible military conflicts with China raise obvious issues concerning the structure of U.S. conventional forces and the role of nuclear deterrence.

¹ Examples of this "extended discourse" include the QDR process, the House Armed Services Committee's "Congressional Defense Review," DOD's Annual Report on China, implementation of a variety of measures designed to "transform" the military services, the Base Realignment and Closure (BRAC) and Overseas basing and realignment processes, and annual Congressional oversight of DOD's budget.

² *Quadrennial Defense Review Report*. U.S. Department of Defense. February 6, 2006. P. 49-51.

Interplay Between Conventional and Nuclear Forces

During the Cold War, assessments of the interplay between nuclear and conventional forces were most relevant, and most often debated, in scenarios that pitted the United States and its NATO allies against the Soviet Union and its Warsaw Pact allies. Defense planners recognized and calculated the effect a perceived balance or imbalance of conventional and nuclear forces might have on deterrence, crisis stability, and the outcome of potential conflicts in Europe. Specifically, the United States sought to “extend” deterrence and protect its NATO allies with both conventional and nuclear forces. For much of the Cold War, NATO’s conventional forces were perceived to be weaker than those of the Warsaw Pact and were allowed to stay that way in part, because nuclear weapons were seen as a less costly alternative to large conventional force structure. Many analysts argued that under these circumstances, the United States and NATO could deter a Soviet and Warsaw Pact attack by threatening to escalate the conflict to nuclear use. Others, however, questioned whether such threats were credible, in light of the fact that the Soviet Union could have responded with nuclear attacks of its own. As a result, analysts often argued the pros and cons of increasing NATO’s conventional force capabilities, and the potential this might have for enhancing deterrence and “raising the nuclear threshold.”³

DOD’s 2002 Nuclear Posture Review (NPR) constructed a “new triad” consisting of offensive strike weapons, missile defense, and the nuclear weapons infrastructure to describe the capabilities that are a part of the U.S. nuclear posture. The “old” nuclear triad consisted of land-based ICBMs, sea-launched ballistic missiles (SLBMs), and nuclear-armed long-range bombers. Thus, the new triad appears to be a much broader construct.

One noteworthy aspect of the new triad’s offensive strike component is the planned interplay between nuclear and conventional weapons. DOD seeks to integrate nuclear and conventional capabilities in some military plans and applications where hitherto only nuclear weapons were thought to play a role. Administration officials suggest that this integration may reduce potential U.S. reliance on nuclear weapons.

Studies and analyses subsequent to the NPR have sought to consider whether the addition of conventional weapons to U.S. nuclear plans might alter the role of nuclear weapons. Few appear to have asked, however, whether the integration implied in the new triad might alter the role or requirements for U.S. conventional weapons. Further, very few, if any of these considerations appear to have informed the debate over budget and procurement of conventional weapons.

³ Generally speaking, European NATO members resisted improvements to conventional force capabilities in part based on the argument that it would raise the nuclear threshold and make conventional war appear more “winnable” to the Warsaw Pact. The United States, in general, favored increasing NATO conventional military capabilities because if the nuclear threshold were breeched, both U.S. and NATO-nation cities would likely be attacked as a consequence.

Some DOD leaders say that today's conventional and nuclear forces are well suited to deter state-on-state conflict, and that the primary challenges are deterring non-state actors.⁴ This may be true. However, DOD currently faces a much more complicated "state-on-state" security environment than it did during the Cold War, when a possible war with the Soviet Union dominated planning and procurement activities. Many potential military challenges exist (e.g. North Korea) or could emerge (e.g. Iran, or a revanchist Russia), but a possible conflict with China is often mentioned as the military scenario of great concern to military planners.

Politico-Military Uncertainty

Conducting a review of military strategy and force structure today is likely to be dominated by two overarching themes. The first theme is uncertainty. Relative to the past, contemporary defense planners must now consider a broad and diverse menu of national security challenges when examining the relationship between conventional forces and nuclear deterrence, and assessing the most effective mix of forces.

During the Cold War, the threats confronting the United States were reasonably well understood and comparatively predictable. If the United States had the military capabilities to deter or defeat its most stressing threat (e.g. the Soviet Union), then these military capabilities were deemed adequate to address "lesser included cases" such as nation states with more modest military capabilities or even non-state actors, such as insurgents and terrorists. The terrorist attacks of September 11, 2001 graphically illustrated that today's non-state actors can exploit relatively inexpensive and commercially available technology to conduct very destructive attacks over great distances. Few observers today consider non-traditional threats to be "lesser included cases." Increasingly it is recognized that in many cases, combating non-state threats presents a different — and in many cases greater — set of challenges than combating a conventional military foe.

A key question for contemporary defense planners is what proportion of U.S. military capabilities should be focused on traditional military challenges and what proportion should be focused on non-traditional challenges, such as "irregular, disruptive and catastrophic" threats?⁵ Preparing for non-traditional threats will likely call for a much different "investment pattern" than a strategy that "seeks to further

⁴ Jason Sherman. "QDR Will Advance 'Tailored Deterrence' for Wide-Ranging Threats." *Inside the Navy*. December 19, 2005.

⁵ This nomenclature is found in *The National Defense Strategy of the United States of America*. March 2005. U.S. Department of Defense. Examples of irregular threats include terrorism, insurgency, and civil war. Examples of these threats can be found in *A Framework for Strategic Thinking: Building Top-level Capabilities*. Briefing to Senior Level Review Group. August 19, 2004. U.S. Department of Defense. Irregular threats include terrorism, insurgency, and civil war. Disruptive threats include bio or cyber warfare. Catastrophic threats include missile attacks on the United States, enemy employment of weapons of mass destruction.

leverage our superiority over any potential peer competitor.”⁶ How should risk be apportioned across this investment spectrum?

Budgetary Constraints on Force Structure

The second theme affecting any current strategy and forces review is that of resource constraints. Owing to growing concerns about controlling the overall size of the federal budget, it appears that pressure is building on DOD leaders to make strategy and force structure decisions with cost-effectiveness in mind. For example, the cost of the ongoing operations in Iraq and Afghanistan could have a much higher price tag than the \$357 billion allocated to date.⁷ Some economists estimate that the final cost to U.S. taxpayers could be \$2 trillion.⁸ In the past, most of the funds for Iraq and Afghanistan have been provided through supplemental appropriations. The Office of Management and Budget (OMB) however, reportedly will resist any future large supplemental appropriations, which may increase turbulence within DOD’s annual spending plans.⁹ Further, in June 2006, the Senate passed an amendment of the FY2007 Defense Authorization bill that could restrict the use of emergency supplemental war funding.¹⁰

Long-term DOD spending plans are already experiencing intense pressure. The Congressional Budget Office (CBO) estimates that DOD’s spending plans are underfunded by \$50-150 billion *annually* during the years covered by the QDR.¹¹ Such projected shortfalls lead some observers to believe that DOD will increasingly be forced to make hard decisions about force structure, such as having to choose between purchasing new equipment and maintaining old equipment. Another choice may have to be made between purchasing new equipment and maintaining personnel end strength.¹²

Failure to adequately consider the possible interaction between nuclear weapons and nuclear strategy, on the one hand, and the size and capabilities of conventional weapons, on the other, (and a failure to plan for and budget against the potential interaction between them) could result in the acquisition of functionally redundant,

⁶ Dov. S. Zackheim. “The Quadrennial Defense Review: Some Guiding Principles.” Address to the Heritage Foundation. Conference on The War on Terrorism and Beyond. December 3, 2004.

⁷ For more information, see CRS Report RL33110, *The Cost of Iraq, Afghanistan and Enhanced Base Security Since 9/11*, by Amy Belasco.

⁸ Sally B. Donnelly. “Iraq: Counting the Costs.” *Time*. January 16, 2006.

⁹ David Fulghum. “Competing Demands on Defense Budget Produce ‘Desperate Crisis.’” *Aviation Week & Space Technology*. November 28, 2005.

¹⁰ Megan Scully. “Senate OKs Change in Future War Funding.” *National Journal’s Congress Daily AM*. June 15, 2006.

¹¹ Congressional Budget Office (CBO) *The Long-Term Implications of Current Defense Plans and Alternatives: Summary Update for Fiscal Year 2006*. October 2005.

¹² Scott Nance. “Continued Supplementals Will be Key for Army, Sullivan Says.” *Defense Today*. January 9, 2006.

unnecessary, or sub-optimized military forces and the development of military strategies ill-suited to the forces they are intended to guide. The need to address a complex and broad range of possible threats, combined with a more expeditionary orientation for U.S. forces, and intense projected budgetary shortfalls make cost effective decisions on force structure and strategy unusually important.

Nuclear Weapons Strategy and Doctrine

Understanding how nuclear weapons and deterrence might combine with U.S. conventional forces in a possible conflict with China, requires some understanding of both U.S. and Chinese nuclear strategy and doctrine. Forces and strategy are not static, but evolve over time. Thus, a general discussion of the subject may be useful.

United States

The U.S. nuclear strategy and doctrine has evolved over 50 years. It can be roughly divided into three distinct eras: Cold War, post-Cold War, and present, or, 21st century strategy.

Cold War.

Deterrence. During the Cold War, the Soviet Union was the primary country to be deterred by U.S. military forces. The United States sought to develop a policy and nuclear forces that it believed were needed to convince the Soviet Union that any nuclear attack on the United States would be met with a retaliatory attack against the full range of valued targets in the Soviet Union. Other countries, such as China and the countries of Eastern Europe, were covered by U.S. nuclear war plans, but their presence reflected their relationship with the Soviet Union more than any independent threat they might pose to the United States or its allies.

The United States also expected its nuclear weapons to deter a Soviet nuclear attack, conventional attack, or coercion aimed at U.S. allies in Europe and Asia.¹³ Many believed the United States needed to threaten nuclear retaliation to deter these threats because the Soviet Union and its Warsaw Pact allies had far greater numbers of conventional forces than did the United States and its NATO allies. According to this view, if a war was fought with only conventional weapons, U.S. and NATO forces could be overrun. Therefore, the United States fielded a variety of strategic, theater and tactical nuclear weapons that might be used to repel and defeat such an attack.

This doctrine came to be known as extended deterrence. The theory underlying this doctrine was that if any level of aggression against U.S. allies could escalate into a nuclear conflict that might involve attacks on the Soviet Union, then the Soviet Union might be deterred from all levels of aggression. This theory was not without critics, however, as some analysts questioned whether the Soviet Union would

¹³ *National Security Strategy of the United States*. The White House. January 1988. Washington. p. 13.

believe that the United States would use nuclear weapons to defend its allies, particularly if such use might invite a Soviet nuclear attack on the United States.

Strategic Doctrine and Targeting. During the 1950s, the strategic doctrine known as “massive retaliation” envisioned a “simultaneous, massive, integrated” U.S. nuclear strike against targets in the Soviet Union, Eastern Europe, and China if the Soviet Union or its allies initiated any nuclear or conventional attack against the United States or its allies.¹⁴

In the early 1960s, the United States developed a doctrine of “damage limitation,” which called for attacks against Soviet conventional and nuclear military forces. This “counterforce” strategy explicitly excluded attacks designed to destroy cities and focused instead on attacks that would impede the Soviet Union’s warfighting capability.¹⁵ In particular, it sought to destroy those weapons that the Soviet Union might use to attack U.S. cities. In the mid-1960s, DOD developed the doctrine of “assured destruction,” a strategy that was designed to convince the Soviet leadership that Soviet society would be destroyed if the Soviet Union launched an attack on the United States or its allies. But, by the early 1970s, many again questioned the credibility of a doctrine that called for massive strikes against Soviet society, particularly if the Soviet Union could threaten to strike back against U.S. cities. Therefore, the United States shifted its doctrine once again, to “Flexible Response” in the mid-1970s and “Countervailing Strategy,” in the late 1970s. These policies emphasized retaliatory strikes on Soviet military forces and war-making capabilities, as opposed to attacks on civilian and industrial targets, and they called for limited, focused attacks on specified military targets, instead of large-scale attacks on a greater number of sites.¹⁶

Post-Cold War.

Deterrence. In its 1995 National Security Strategy report, the Clinton Administration stated that “the dissolution of the Soviet empire has radically transformed the security environment facing the United States and our allies. The primary security imperative of the past half century — containing communist expansion while preventing nuclear war — is gone.”¹⁷ The Administration did,

¹⁴ “There was no calculated strategy for war winning or termination beyond that of producing as much destruction ... as possible in a single devastating blow.” See Rosenberg, David A. “U.S. Nuclear War Planning, 1945-1960.” In Ball and Richelson, *Strategic Nuclear Targeting*, pp. 44-45.

¹⁵ Desmond Ball. The Development of the SIOP, 1960-1983, in Ball and Richelson, *Strategic Nuclear Targeting*, pp. 62-65.

¹⁶ The types of targets the United States sought to destroy remained relatively constant throughout the Cold War. These included strategic nuclear forces, other military forces, military and political leadership, and economic and industrial facilities. For a description of the types of targets included in U.S. nuclear war plans see U.S. Congressional Budget Office. *The START Treaty and Beyond*. October 1991. Washington, U.S. Govt. Print. Off. 1991. pp. 11-12.

¹⁷ *A National Security Strategy of Engagement and Enlargement*. The White House, (continued...)

however, determine that Russia remained a concern for U.S. national security because it continued to control the only nuclear arsenal that could threaten the survival of the United States. The Clinton Administration also argued that “nuclear weapons served as a hedge against an uncertain future, a guarantee of our security commitments to allies and a disincentive to those who would contemplate developing or otherwise acquiring their own nuclear weapons.”¹⁸

The Clinton Administration did not consider China to pose a direct threat to the United States as a regional or global adversary. Nevertheless, DOD officials testified that China’s small nuclear force “is still formidable” and “China continues to make steady efforts to modernize those forces.” Assistant Secretary of Defense Ted Warner stated that the United States could not be sure that it would not need nuclear weapons to deter China in the future.¹⁹ The Clinton Administration also identified other threats to U.S. national security, specifically noting in its National Security Strategy Report for 1998, that “weapons of mass destruction pose the greatest potential threat to global stability and security.”²⁰

Strategic Doctrine and Targeting. Although the Clinton Administration maintained the U.S. focus on deterring a potential Russian threat, it did issue new guidelines for U.S. nuclear strategy in late 1997. In a document known as PDD-60 the Administration stated that “our military planning for the possible employment of nuclear weapons is focused on deterring a nuclear war rather than attempting to fight and win a protracted nuclear exchange.”²¹ In practice, this probably meant that the United States would not seek to cause as much damage against as wide a range of targets as it had planned on attacking in previous war plans. But Clinton Administration officials also noted that this did not alter the structure of U.S. nuclear war plans or the variety of options available to the President for a U.S. retaliatory strike.

Many press reports about PDD-60 highlighted the provisions covering the use of U.S. nuclear weapons to deter nations other than Russia, and viewed this as an “expansion” of the role of U.S. nuclear weapons. However, the United States has never maintained a “no first use” policy, and has always retained the option to use nuclear weapons in response to attacks by conventional, chemical, or biological weapons. These policies did not change in the 1990s.

¹⁷ (...continued)

February 1995. Washington, DC, p. 1.

¹⁸ *A National Security Strategy for a New Century*. The White House, October 1998. Washington, DC, p. 12.

¹⁹ Statement of the Honorable Edward L. Warner, III. Assistant Secretary of Defense for Strategy and Threat Reduction, Before the Senate Armed Services Subcommittee on Strategic Forces. April 14, 1999.

²⁰ *A National Security Strategy for a New Century*. *Op. Cit.* p. 6.

²¹ *Ibid.* p. 12.

Present Environment.

Deterrence. The George W. Bush Administration has emphasized that nuclear weapons “continue to be essential to our security, and that of our friends and allies.”²² As the only weapons in the U.S. arsenal that can hold at risk the full range of targets valued by an adversary, they continue to play a key role in U.S. deterrent strategy. However, in contrast with the Clinton Administration’s focus on a potential Russian threat, the Bush Administration has stated that Russia and the United States are no longer enemies. Even though Russia retains thousands of nuclear weapons, the increased cooperation between the two nations has allowed a “new strategic framework” to replace the Cold War’s adversarial relationship. The Bush Administration has emphasized, however, that the United States faces threats from “multiple potential opponents, sources of conflict, and unprecedented challenges”²³ and that these challenges must be taken into consideration when the United States plans its nuclear weapons policy and force posture. According to the Administration, these adversaries could include non-state actors and terrorists as well as nations such as China,²⁴ Iran, North Korea, and others.

In the past, U.S. policy essentially viewed nuclear weapons apart from the rest of the U.S. military establishment, with nuclear weapons serving to *deter* a global nuclear conflict with the Soviet Union or Russia. In contrast, the Bush Administration has described a more comprehensive role for nuclear weapons, arguing that nuclear weapons, along with missile defenses and other elements of the U.S. military establishment, not only *deter* adversaries by promising an unacceptable amount of damage in response to an adversary’s attack, they can also *assure* allies and friends of the U.S. commitment to their security by providing an extended deterrent, *dissuade* potential adversaries from challenging the United States with nuclear weapons or other “asymmetrical threats” by convincing them that they can never negate the U.S. nuclear deterrent; and *defeat* enemies by holding at risk those targets that could not be destroyed with other types of weapons.²⁵

Doctrine and Targeting. In describing the future role of nuclear weapons, the Bush Administration has stated that the United States will not only rely on the threat of nuclear retaliation, but will also seek to deter and defeat adversaries with precision conventional weapons, which are hoped to be capable of destroying some targets that were assigned to nuclear weapons in the past, and ballistic missile defenses, which might deter attack by denying an adversary the ability to threaten

²² U.S. Senate. Committee on Armed Services. Statement of the Honorable Douglas J. Feith, Undersecretary of Defense For Policy. February 14, 2002.

²³ U.S. Department of Defense. Special Briefing on the Nuclear Posture Review. *News Transcript*. January 9, 2002.

²⁴ Condoleeza Rice, “Promoting the National Interest.” *Foreign Affairs*. January/February 2000. v. 79. p. 56.

²⁵ Special Briefing on the Nuclear Posture Review. *Op. Cit.* These are the same four general defense policy goals outlined in the 2001 QDR.

U.S. targets with ballistic missiles.²⁶ The Administration refers to this change as “tailored deterrence,” with the United States developing more specific responses that would rely on a broader range of military capabilities to respond to the threats posed by emerging adversaries.

Moreover, the Bush Administration has stated that the United States will no longer size and structure its nuclear forces to address the “Soviet threat.”²⁷ Instead, it will employ a “capabilities-based” strategy, where it would “look more at a broad range of capabilities and contingencies that the United States may confront” and tailor U.S. military capabilities to address this wide spectrum of possible contingencies.²⁸ Specifically, the United States would identify potential future conflicts, review the capabilities of its possible adversaries, identify those capabilities that the United States might need to attack or threaten with nuclear weapons, and develop a force posture and nuclear weapons employment strategy that would allow it to attack those capabilities. The Bush Administration has not discussed, publicly, how it will identify specific targets or allocate weapons in its “capabilities-based” strategy.

The most specific and visible change to emerge from this new targeting strategy has been the replacement of the Cold War SIOP (single integrated operational plan) with a new war plan known as OPLAN (operations plan) 8044. This document contains the major strike options and major contingency plans that had been included in the SIOP, but could also include plans for a wider range of options against a greater number of adversaries. Some press reports indicate that the Administration has also developed a companion contingency plan, CONPLAN 8022-22, which plans for the prompt U.S. response to a number of contingencies with nations other than Russia. Reports indicate that most of the options in this new plan call for the use of conventional weapons, but some also allow for the use of nuclear weapons early or at the start of a conflict.²⁹ As a result, it is evident that the Bush Administration has not altered the U.S. policy that permits the possible first use of nuclear weapons. Further, the Administration has stated that the United States would develop and deploy those nuclear capabilities that it would need to defeat the capabilities of *any* potential adversary whether or not it possessed nuclear weapons. The focus will be “on how we will fight, not who we will fight.”³⁰

²⁶ Ibid.

²⁷ Statement of the Honorable Douglas J. Feith, *Op. Cit.*

²⁸ Ibid. DOD is also using a “capabilities based” approach to justify its conventional weapons modernization programs.

²⁹ Bill Arkin, “Not Just a Last Resort.” *Washington Post.com*. May 12, 2005. See, also, Kristensen, Hans M. Preparing for the Failure of Deterrence. SITREP, A Publication of the Royal Canadian Military Institute. November/December 2005. pp. 10-12.

³⁰ Special Briefing on the Nuclear Posture Review. *Op. Cit.*

Table 1: U.S. Strategic Force

	Deployed Number	Attributed Warheads
Minuteman-III, Peacekeeper ^(a) ICBM	550	1700
Trident-I/II SLBM	432	3168
B-1, B-2, B-52 Heavy Bombers	243	1098
Total	1225	5966

Source: Department of State, “START Aggregate Numbers of Strategic Offensive Arms,” April 1, 2006.

- a. The United States has deactivated all 50 Peacekeeper ICBMs, and their 500 warheads are no longer operational. But it has not eliminated the silos, so they still count against the START Treaty limits.

China

China’s nuclear force structure and public statements about nuclear policy are consistent with a nuclear strategy known as “minimum deterrence.” Under this strategy, a nation seeks to deter nuclear attacks against its territory by threatening to respond with its own nuclear weapons if such an attack were to occur. To be certain that it can retaliate after a nuclear attack, a nation with a minimum deterrent would need forces that could survive a direct assault by another nation’s nuclear weapons. This strategy of threatening retaliation against major population centers with even a small number of nuclear weapons is assumed to be sufficient to deter a nuclear attack. However, U.S. estimates of the PRC’s evolving nuclear forces have been uncertain, including both over-estimates of the speed of deployment of new missiles as well as concern over China’s ability to surprise with undetected military modernization.³¹ In their frequent reevaluations of the Chinese People’s Liberation Army’s (PLA) capabilities, U.S. experts have questioned whether the PLA has shifted or considered shifting its nuclear doctrine to one of “limited deterrence.”³² The two countries lack dialogue over their respective strategic nuclear forces and doctrine as well as confidence-building measures.³³

³¹ Jeffrey Lewis, “The Ambiguous Arsenal,” *Bulletin of Atomic Scientists*, May/June 2005; Robert Norris and Hans Kristensen, “Chinese Nuclear Forces, 2006,” *Bulletin of Atomic Scientists*, May/June 2006.

³² See, for example, Alastair Iain Johnston, “China’s New ‘Old Thinking’,” *International Security*, Winter 1995/1996. The concept of limited deterrence is treated in detail on p. 12 of this report.

³³ There were some discussions on nuclear weapons during the Clinton Administration. After Secretary of Defense Donald Rumsfeld visited the headquarters of China’s strategic missile force, the Second Artillery, in October 2005, the two militaries started to explore a strategic dialogue. See CRS Report RL32496, *U.S.-China Military Contacts: Issues for Congress*, by Shirley Kan.

Nuclear Forces. China has deployed a relatively small number of nuclear warheads on operational delivery systems. The Department of Defense reports that China has deployed approximately 20 silo-based, liquid-fuel CSS-4 intercontinental ballistic missiles (ICBMs) for its “primary nuclear deterrent” and about 20-24 liquid-fuel, shorter-range CSS-3 ICBMs for its “regional nuclear deterrent.” China also deployed 14-18 CSS-2 intermediate-range ballistic missiles and 19-50 CSS-5 medium-range ballistic missiles.³⁴ The PLA also has 10-14 JL-1 submarine-launched ballistic missiles (SLBMs), but the operational status of the single Xia-class ballistic missile submarine has been questionable. China is developing new rail- or road-mobile DF-31 and DF-31A ICBMs and JL-2 SLBMs (12 on each new Type 094 ballistic missile submarine) for greater survivability.³⁵

As for the evolution of the nuclear force, the Director of Central Intelligence estimated in 2002 that the PRC’s strategic nuclear force could grow by 2015 to about 75 to 100 warheads deployed primarily against the United States.³⁶ Still, U.S. government estimates have changed, and China could deploy significant new capabilities, such as multiple warheads. Also, some experts have charged U.S. intelligence with over-estimating dramatic improvements, as the modernization of China’s missile force has been slower than predicted for about 15 years.³⁷

China employs a variety of basing modes, such as hardened silos and mobile launchers, along with concealment and deception techniques, to ensure that its missiles can survive a first strike. These basing modes can add hours or days to the amount of time that China would need to prepare its missiles for launch. This long launch time could seriously hamper any effort by China to use these missiles in a first strike against the United States, because the United States would be able to detect launch preparations and, possibly, preempt the attack. However, these basing modes could ensure the survivability of China’s missiles in the event of a U.S. attack and help to guarantee that China would be able to launch a retaliatory strike.

The PRC has expressed strong opposition to U.S. plans to deploy ballistic missile defenses. U.S. national and theater missile defenses, even with limited numbers of interceptor missiles and limited capabilities, could possibly undermine the credibility of China’s deterrent by denying its missiles the ability to reach U.S.

³⁴ The PLA has more missiles than launchers for the CSS-3 and CSS-2 ballistic missiles. These launchers can be re-loaded to launch additional missiles, but such preparations may take several hours.

³⁵ Secretary of Defense, *The Military Power of the People’s Republic of China*, May 23, 2006. Also, The Office of Naval Intelligence depicted in *Worldwide Maritime Challenges 2004* 12 missile launch tubes for the Type 094.

³⁶ Director of Central Intelligence, “Foreign Missile Developments and the Ballistic Missile Threat Through 2010,” January 9, 2002 (unclassified version of a National Intelligence Estimate).

³⁷ Jeffrey Lewis, “The Ambiguous Arsenal,” *Bulletin of Atomic Scientists*, May/June 2005; Robert Norris and Hans Kristensen, “Chinese Nuclear Forces, 2006,” *Bulletin of Atomic Scientists*, May/June 2006.

targets in theater or in the United States a retaliatory strike.³⁸ Chinese concerns about missile defense have grown as many analysts in the United States and some officials in the Bush Administration have linked plans for U.S. missile defenses to their concerns about China's military modernization and possible expansion of China's ballistic missile forces.

Table 2: China's Strategic Missile Force

	Launchers	Missiles
CSS-4 ICBM	20	20
CSS-3 ICBM	10-14	20-24
Total missiles / warheads capable of reaching the United States: 40-44		

Source: Secretary of Defense, report to Congress, "PRC Military Power," May 2006. China is believed to have deployed single nuclear warheads on its missiles.

Note: China also fields ballistic missiles of regional range.

Nuclear Strategy. China has declared a "no first use" policy, stating that it would not use nuclear weapons first against any nation and that it would never threaten to or actually use nuclear weapons against non-nuclear nations.³⁹ China has not, however, ruled out the use of nuclear weapons in retaliation for a nuclear attack. This is the essence of a minimum deterrent strategy.

Some observers note that declaratory policy is a poor measure of nuclear strategy, because policy statements need not be consistent with actual military plans or warfighting. Others however, believe that China is sincere in this policy of no-first-use because its nuclear forces lack commonly recognized first strike capabilities. Because of their propellant type, and current deployment patterns, China cannot launch its missiles promptly, upon warning of an attack or early in a crisis, and add that the missiles lack the accuracy to destroy an enemy's retaliatory forces, which could be a key objective of a nuclear force strike. The PLA's strategic nuclear modernization, however, combined with the occasional statements by some PRC officials about China's ability to strike the United States, have led some to question whether China will change its minimum nuclear deterrent.

Some have questioned whether China might pursue a more proactive "limited deterrence" strategy with its nuclear weapons.⁴⁰ This strategy presumes that nuclear weapons can deter both nuclear and conventional conflicts and that, if deterrence fails, a nation could use nuclear weapons to control escalation and compel the enemy

³⁸ Conceivably, China could respond to a U.S. attack by striking U.S. forces in Japan. In this context, regional missile defenses could reduce the deterrent value of Chinese theater nuclear forces.

³⁹ The PRC does not consider Taiwan a country.

⁴⁰ Alastair Iain Johnston, "China's New 'Old Thinking'," *International Security*, Winter 1995/1996.

to back down. With this strategy, China might not wait for an adversary to use nuclear weapons before it employed its own nuclear forces. It could respond to conventional attacks with nuclear weapons or it could threaten nuclear attack to compel an adversary to cease hostilities or other actions short of war that it perceived as threatening to its interests. Many analysts believe that such a strategy would be more useful to China if it sought to deter U.S. intervention in a crisis with Taiwan, particularly if it feared that the United States could achieve its objectives with advanced conventional weapons and without resorting to nuclear attacks. Such a strategy also would address some of China's concerns about U.S. missile defenses, because a Chinese first strike might contain more warheads than a retaliatory strike and, therefore, might be more capable of penetrating U.S. missile defenses.

However, a "limited deterrence" strategy would place added demands on China's nuclear forces. They would need to do more than simply survive and retaliate against cities or wide-area targets after an attack. China would need a variety of delivery vehicles and warheads types, along with relatively high accuracies on its weapons, so that it could credibly threaten to attack the full range of targets, from forces in the field to military facilities and urban areas. It would also need to develop relatively complex warfighting strategies and would need advanced command and control capabilities so that it could direct its attacks and monitor their effects. China might seek to develop these capabilities in the longer term, but DOD reports no evidence that China's "no first use" doctrine has actually changed.⁴¹

China's nuclear force capabilities and nuclear doctrine have been monitored closely. Many observers were concerned, for example, when in July 2005, PLA Major General Zhu Chenghu, told Western journalists in Beijing that "if the Americans draw their missiles and position-guided ammunition into the target zone on China's territory, I think we will have to respond with nuclear weapons." Zhu also dismissed China's declared "no first use" policy, saying that the policy applied only to non-nuclear states and could be changed.⁴²

Some argued that Gen. Zhu's comments were a reaction to China's concerns about the growing challenges presented by U.S. defense policy and nuclear strategy.⁴³ Others downplayed Zhu's remarks, saying they reflected his personal opinion. For example, the Commander of the PLA's nuclear forces assured Defense Secretary Rumsfeld that China would not be the first to use nuclear weapons.⁴⁴

⁴¹ Secretary of Defense, "Report to Congress on PRC Military Power," May 2006.

⁴² Jason Dean, "Chinese General Lays Nuclear Card on U.S.' Table," *Wall Street Journal*, July 15, 2005; Danny Gittings, "General Zhu Goes Ballistic," *Wall Street Journal*, July 18, 2005.

⁴³ World Security Institute China Program, "Opening the Debate on U.S.-China Nuclear Relations," *China Security*, Autumn 2005.

⁴⁴ "Rumsfeld Visits China; The Chinese Side Reiterates It Will Not Use Nuclear Weapons First," *Zhongguo Tongxun She* [New China News Agency], October 20, 2005.

Political-Military Relations

The status and tenor of political and military relations among the United States and the primary actors in East Asia will strongly affect the options considered and pursued to deter or defeat any aggression in the region. U.S. policymakers face the challenge of balancing U.S. relations with the PRC, Taiwan, and Japan, in particular.

U.S.-China Relations

Measuring the deterrent value of U.S. military forces vis-a-vis China is difficult. Unlike the U.S.-Soviet relationship during the Cold War, the U.S.-China relationship is marked not only by competition and tension, but also by cooperation and interdependence. The potential economic and political fall-out from a military conflict between China and the United States would be significant. China is the third-largest U.S. trading partner.⁴⁵ China is a permanent member with veto power at the United Nations Security Council, and has played an important role on policy priorities of the United States, including nuclear nonproliferation in North Korea and Iran.⁴⁶ Would China jeopardize this economic partnership and potentially economic relations with other countries by initiating military operations against Taiwan or Japan? Similarly, would the United States jeopardize its economic and political interests in a cooperative China by going to war against China?

Some long-term ambivalence is apparent in the Bush Administration's policy. In September 2005, Deputy Secretary of State Robert Zoellick called on China to be a "responsible stakeholder" in his search for a deeper framework for the bilateral relationship.⁴⁷ President Bush issued his latest National Security Strategy on March 16, 2006, declaring that if China keeps its commitment to "peaceful development," the United States will welcome the emergence of a China that is "peaceful and prosperous and that cooperates with us to address common challenges and mutual interests." The new strategy also criticized China's continuing "military expansion in a non-transparent way." It explicitly declared a "hedging" strategy against China, which was first indirectly noted in the Quadrennial Defense Review (QDR), issued on February 6, 2006. In that QDR, the Administration argued that it had a "balanced approach" in seeking cooperation, but also "hedged" against the possibility that cooperative approaches might fail to preclude future conflict. At the same time, the QDR states that the U.S. goal is for "China to continue as an economic partner and emerge as a responsible stakeholder and force for good in the world." Some have concerns that mutual hedging between Washington and Beijing is counterproductive

⁴⁵ See CRS Report RL33536, *China-U.S. Trade Issues*, by Wayne Morrison.

⁴⁶ See CRS Report RL31555, *China and Proliferation of Weapons of Mass Destruction and Missiles: Policy Issues*, by Shirley A. Kan.

⁴⁷ Robert Zoellick, "Whither China: From Membership to Responsibility?" September 21, 2005. These sentiments were echoed more recently by Thomas Christensen, deputy assistant secretary of state for East Asian and Pacific Affairs: Jane Morse. "China's Growing Global Influence Not a Threat, U.S. Officials Says." *Press Release*. (arms-control@lists.state.gov) U.S. Department of State. August 5, 2006.

for promoting a cooperative relationship with China that fosters Asian stability, while others call for carrying out a coherent and active “hedging strategy” against China.⁴⁸

The QDR, issued on February 6, 2006, stated that “of the major and emerging powers, China has 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.” The Department of Defense estimates that the PLA has accelerated its modernization since the mid-1990s, with a determined focus on possible conflict with Taiwan and intervening U.S. forces. The Defense Secretary’s 2006 report to Congress on PRC military power notes that “China is pursuing long-term, comprehensive military modernization to improve its capabilities for power projection and access denial.”⁴⁹ Specific PLA investments include an expanding force of ballistic missiles, cruise missiles, submarines, advanced aircraft, and other modern systems. Because of China’s status as a nuclear weapon state, the United States has concerns that any intervention in the Taiwan Strait has the potential of Beijing and/or Washington escalating conflict into a nuclear war. Both sides have made implicit and explicit warnings over the years.

Even military matters between the United States and China are not always clearly adversarial. During a Senate Armed Services Committee hearing, for example, Senator Carl Levin asked Admiral William Fallon, Commander of the Pacific Command “Is it a foregone conclusion that China and the United States are going to be at odds over security in the Pacific or even globally?” Admiral Fallon responded “no” and emphasized the countries’ “common interests” as well as his push to increase military-to-military contacts between the United States and China.⁵⁰

U.S. Policy Toward Taiwan

The Taiwan Relations Act (TRA), P.L. 96-8, has governed U.S. security assistance to Taiwan since 1979, when the United States recognized the People’s Republic of China (PRC) instead of the Republic of China (ROC).⁵¹ (The ROC is commonly called Taiwan.) The TRA is not a formal commitment to Taiwan’s defense, and therefore the United States is not *legally* compelled to extend deterrence to, or otherwise defend Taiwan. The TRA specifies that it is U.S. *policy*, to consider any non-peaceful means of determining Taiwan’s future to be “a threat” to the peace and security of the Western Pacific and of “grave concern” to the United States; “to provide Taiwan with arms of a defensive character;” and “to maintain the capacity

⁴⁸ See, for example, Evan Medeiros, “Strategic Hedging and the Future of Asia-Pacific Stability,” *Washington Quarterly*, Winter 2005-06; John Tkacik, “Hedging Against China,” Heritage Foundation Backgrounder, April 17, 2006.

⁴⁹ Secretary of Defense, “Military Power of the People’s Republic of China, May 2006.

⁵⁰ “Senate Armed Services Committee Holds Hearing on FY2007 Budget: Department of Defense.” March 7, 2006. CONGRESSIONAL TRANSCRIPTS. Congressional Hearings. *Congressional Quarterly*.

⁵¹ See CRS Report RL30341, *China/Taiwan: Evolution of the “One China” Policy — Key Statements From Washington, Beijing, and Taipei*, Shirley A. Kan, and CRS Report RL30957, *Taiwan: Major U.S. Arms Sales Since 1990*, also by Shirley A. Kan.

of the United States to resist any resort to force or other forms of coercion” jeopardizing the security, or social or economic system of Taiwan’s people.

The TRA also specifies a congressional role in decision-making on security assistance for Taiwan. Section 3(b) stipulates that both the President and the Congress shall determine the nature and quantity of such defense articles and services based solely upon their judgment of the needs of Taiwan. Section 3(b) also says that “such determination of Taiwan’s defense needs shall include review by United States military authorities in connection with recommendations to the President and the Congress.” In passing the TRA, Congress did not specify what U.S. response might be to a future situation in the Taiwan Strait.

U.S. policy statements have added more nuanced qualifications regarding Taiwan’s defense. Some argue that U.S. policy regarding Taiwan is vague, although successive U.S. presidents contend their policies are “clear.” In March 1996, President Clinton deployed two aircraft battle groups to waters off Taiwan in response to Chinese ballistic missile tests. In April 2001, President Bush said that he would do “whatever it took to help Taiwan defend herself” if China attacked. Supporters have viewed such clarity as needed to prevent miscalculations in Beijing and deter attacks against Taiwan. However, critics have argued that Bush encouraged provocations from Taiwan and weakened willingness in Taiwan to strengthen its own defense. At a hearing in April 2004, Assistant Secretary of State James Kelly sought to clarify U.S. policy, saying that the United States intends to fulfill the defense responsibilities under the TRA “to the extent necessary;” “we oppose actions that would unilaterally alter Taiwan’s status;” leaders in Taiwan “misunderstood” if they believe that President Bush supports whatever they do; and “decisions of war and peace are made by the president with consultation with Congress.”

U.S. Defense Relationship with Japan

There has also been rising concern about Sino-Japanese tensions.⁵² Despite its contributions to regional stability for decades, the U.S.-Japan alliance is viewed by China with increasing skepticism about whether its continuation benefits China’s interests. The historic hostility between Chinese and Japanese peoples, rising military capabilities, territorial disputes, and emotional nationalism make Sino-Japanese tensions have a dangerous potential for conflict that could involve U.S. armed forces.

In contrast to the U.S.-Taiwan relationship, Japan and the United States are military allies under a security treaty concluded in 1951 and revised in 1960. Under the treaty, Japan grants the United States military base rights on its territory in return for a U.S. legal commitment to protect Japan’s security. Japan has also cooperated

⁵² CRS Report RL33436, *Japan-U.S. Relations: Issues for Congress*, by Emma Chanlett-Avery. Kent Calder, “China and Japan’s Simmering Rivalry,” *Foreign Affairs*, March/April 2006; Minxin Pei and Michael Swaine, “Simmering Fire in Asia: Averting Sino-Japanese Strategic Conflict,” Carnegie Endowment Policy Brief, November 2005.

with the United States in development of weapon systems, including missile defense systems.⁵³

In general, Japan's U.S.-drafted constitution remains a major obstacle to closer U.S.-Japan defense cooperation because of a prevailing constitutional interpretation of Article 9 that forbids engaging in "collective defense." Article 9 outlaws war as a "sovereign right" of Japan and prohibits "the right of belligerency." It provides that "land, sea, and air forces, as well as other war potential will never be maintained."

In February 2005, Secretaries Rice and Rumsfeld, along with their Japanese counterparts, outlined a more global and integrated vision of their mutual interests, specifically mentioning the "peaceful resolution" of issues related to the Korean Peninsula and the Taiwan Strait as "common strategic objectives." Japanese defense officials continue to stress, however, that the Japanese military will not be involved in combat missions but instead limit its contributions to logistical support for counterterrorism operations or to humanitarian and reconstruction efforts.

Illustrative Scenarios

Requirements for military force structure and capabilities are often expressed in terms of the number and type of conflicts that can be addressed by that force. For example, DOD's 1993 *Bottom Up Review* found that "The United States must field forces sufficient to fight and win two nearly simultaneous major regional conflicts."⁵⁴ Subsequent reviews recommended different formulas, such as the "1-4-2-1" formula: U.S. forces should be able to defend the U.S. homeland, operate in four key forward regions, engage in two nearly simultaneous regional contingencies, and swiftly prevail in one of those conflicts.⁵⁵ Debate rages over such formulas because they "are euphemisms for bread-and-butter issues, such as larger or smaller fighter aircraft forces, a bigger or smaller Army, and whether to spend more money on space systems or on ground equipment."⁵⁶

In the 2005 *National Defense Strategy of the United States of America*, DOD describes how it has adopted a "new approach for planning to implement our strategy." DOD's "capabilities-based" planning is intended to focus more on how adversaries may challenge us, than on whom those adversaries might be. Some find "capabilities-based" planning to be artificial or misleading. In the end, analysis always returns to the question of *which* countries or non-state actors we may need to fight. To effectively analyze the desired size and characteristics of tomorrow's

⁵³ For more information, see CRS Report RL33436, *Japan-U.S. Relations: Issues for Congress*, by Emma Chanlett-Avery, Mark E. Manyin, and William H. Cooper.

⁵⁴ *The Bottom-Up Review: Forces for a New Era*. September 1, 1993. U.S. Department of Defense. Can be found at [<http://thomas.loc.gov/lxx/lxx/93.14234.doc.pdf>]

⁵⁵ None of these strategy reviews considered the role of nuclear deterrence and nuclear weapons, or factored in the impact of nuclear weapons into these capability formulas.

⁵⁶ Barry Blechman. "U.S. Defense Planning: It's Not That Complicated." *Defense News*. September 5, 2005.

military, some argue that we must take “a hard look at feasible, real-world contingencies.”⁵⁷

Examining feasible contingencies, or scenarios, can be useful in determining the preferred size and characteristics of U.S. military forces in various contexts. Do some scenarios place a greater emphasis on air and naval forces? Do others require greater commitment of ground forces? Perhaps more important, how relevant are nuclear weapons in particular scenarios, and how exactly might they influence the conflict or crisis? For example, some observers contend that the availability of nuclear weapons can help de-escalate a conflict by reminding all the parties of the risks of escalation; others argue that a nation’s ability to strike critical targets at the start of a conflict can place pressure on the other nation to preempt such a potential attack, escalating the crisis and possibly complicating efforts to end it short of all-out war.

DOD’s 2006 Report to Congress on China’s military capabilities notes that China’s current options to prevent Taiwan from claiming formal independence include persuasion and coercion. If China were to resort to overt military force, the DOD report outlines four possible “courses of action” the PLA would be likely to take: missile strikes and information operations, an air and missile campaign, a naval blockade, and an amphibious invasion.

DOD’s scenarios are not exhaustive, however, as additional sources of conflict could emerge between the United States and China. For example, Taiwan, in expectation of a Chinese attack, could take the initial overt military action in the conflict. Further, possible conflicts between China and Japan might unfold and draw in the United States. Illustrative scenarios that capture these additional dynamics are addressed below.

Examining these scenarios can contribute to an understanding of U.S. force requirements and the potential dynamics of the conflict. This assessment focuses on the possible interaction between conventional and nuclear forces, rather than on the specific order of battle and force levels the United States might need in each particular scenario.

Scenario A: SOF Infiltration of Taiwan

China attempts to insert military special operations forces (SOF) into Taiwan. The total number of troops involved could be somewhere between 100 and 1,000. The method of attempted infiltration is small boats, submarines, and helicopters. SOF forces cooperate with covert PRC intelligence operatives already in Taiwan to conduct disruptive attacks on Taiwan’s political, economic, communications, and military centers of gravity. Specific targets could include political and military leaders, power generation and transportation infrastructure, early warning radars, and command and control facilities. The purpose of these actions could be to foment fear and unrest in the Taiwanese population in an attempt to undermine Taiwan’s government. Another potential purpose of this infiltration may be to facilitate a

⁵⁷ *Ibid.*

follow-on combined arms attack by the PLA. This attack could be preceded or accompanied by cyberwarfare, or an information operations campaign against Taiwan's political and military organizations.

Scenario B: Maritime Conflict Between China and Japan

China's People's Liberation Army Navy (PLAN) deploys a destroyer, two submarines, and other ships to support Chinese oil-drilling operations near islands in the East China Sea that are claimed by China, but controlled by Japan (called Senkaku by Japan, Diaoyu by China). Japan deploys P-3 maritime patrol aircraft, two Aegis destroyers, and F-15 fighters to monitor PLAN activities. A night-time collision between a Chinese submarine and a Japanese destroyer results in damage to both vessels and numerous casualties. Japanese forces attempt to assist the severely damaged submarine, and a Chinese destroyer interprets the action as hostile. It fires two anti-ship missiles, which are intercepted by the Aegis destroyer's defenses. Naval forces in the area separate, and no further shots are fired. The Chinese submarine sinks with no additional casualties. Both Japan and China prepare to dispatch additional forces to the region. Japan's Ambassador to the United States requests a personal meeting with the President to discuss the U.S. Japanese Mutual Security Treaty.

Scenario C: Full-Scale, Combined Arms Attack on Taiwan

This scenario is the military conflict that is most often discussed in defense circles, and may represent the worst case for both Taiwan and the United States. In this scenario China would employ air, land, and naval forces in an attempt to invade Taiwan, defeat the Taiwanese military, and impose military control over the island. One of China's military objectives would likely be to prosecute a successful attack as quickly as possible to reduce the ability of the United States or potentially other allies from intervening in the conflict.

Scenario D: Pre-Emptive Attack by Taiwan on PRC Military Forces

Fearing that a PLA / PLAAF / PLAN exercise is actually a de-facto mobilization and the prelude to an imminent attack on Taiwan, Taipei launches an attack on Chinese forces and infrastructure across the Taiwan Strait. Specific military actions by Taiwan include air and missile attacks on Chinese ports, airfields, ballistic missile sites, and ground forces in southern China. Taiwan's Navy conducts attacks on PLAN ships operating in Chinese territorial waters. Taiwanese SOF forces are reported to severely damage a PLAN submarine believed to carry long range ballistic missiles.

Analysis

The analysis that follows seeks to study the role that U.S. nuclear and conventional forces might play in four stages of each potential conflict: deterrence prior to the start of the conflict; crisis stability in the early stages of the conflict; warfighting during the height of the conflict; and war termination. Objectives and potential challenges or shortcomings are identified.

Deterrence

Deterrence is based on a threat or promise. To be effective, this threat or promise must appear credible to the actor to whom it is directed. Studies of deterrent theory suggest that credibility is something of a national-level “mind game.” Perception of intent and capability is more important to deterrence than actual intent and capability. In some instances a clear indication of military capabilities and intentions has more deterrent value than an ambiguous indication of capabilities and intentions. In other instances reverse is true. Finally, cultural, societal, linguistic, historical and other qualitative differences between countries play a role in what might deter conflict, and what does not.

Given these uncertainties, it appears that *U.S. deterrence objectives* in these illustrative scenarios may be to field nuclear and conventional forces 1) that are more capable than the Chinese forces, 2) that are postured in a way that makes their use appear credible, and 3) cast doubt on whether China would be able to satisfy its military or political objectives, at an acceptable cost.

In some circumstances, the mere existence of military capabilities may be sufficient to deter military aggression. Some analysts argue that U.S. and Chinese nuclear weapons can overshadow all interaction between the two nations, and “deter” behaviors that might lead to a conflict that could escalate to nuclear use. This school of thought appears to apply to Scenario C (Combined Arms Attack), and Scenario D (Taiwan preempts) the most overt uses of military force.

Whether U.S. nuclear forces actually would serve as the key deterrent in Scenario C is unclear. While superior U.S. nuclear forces are clearly capable of severely punishing China for attacking Taiwan, China’s ability to respond with a nuclear attack on the United States, albeit a limited one, could be sufficient to deter the United States from credibly threatening a nuclear response to China’s conventional attack. Similarly, many fear that Scenario D is plausible because of the questionable credibility of U.S. extended deterrence to Taiwan.

Scenario A (SOF infiltration) and Scenario B (Maritime Conflict), however represent crises where nuclear threats may not be credible and nuclear capabilities may not play an active role in deterrence because the level of violence is too low. Direct threat of nuclear use appears even less credible because the circumstances do not pose a dire threat to national survival. Conventional U.S. military capabilities also appear to have limited deterrent value in these scenarios. In Scenario A, there is unlikely to be unambiguous warning upon which to act, and it is not clear that U.S.

conventional forces would be more effective than Taiwanese forces. Because Scenario B is the result of an accident, it, by definition cannot be deterred.

Crisis Stability

Once a conflict begins, participants can feel pressure to act quickly, to control events and to manage the crisis in a way that meets its interests. This, in turn, can make the crisis escalate quickly and unpredictably. For example, if its command and control systems were protected from attack and offered redundant capabilities, and its forces were not vulnerable to an early strike by the adversary, then a nation could delay its response, await further information, and possibly seek alternate means to resolve the conflict.

On the other hand, if a country's command and control infrastructure and its key forces were vulnerable to attack early in a conflict, then it might feel compelled to act quickly, using those forces before it lost them to attack, and before it had complete information about the intent and capabilities of its adversary in pursuing the conflict. Preferably, the capabilities or posture of a nation's conventional and nuclear forces would not inherently add to this instability.

Specific *U.S. crisis stability objectives* in these scenarios may include fielding forces that 1) are not vulnerable, and do not make Chinese forces vulnerable to "use it or lose it" pressures, and 2) do not appear to be either vulnerable to or capable of political or military decapitation.

Both the United States and China have currently deployed their long-range nuclear forces in ways that would not leave them vulnerable to a first strike, and therefore, appear unlikely to undermine stability in a crisis. Chinese forces lack the accuracy to attack U.S. land-based forces and cannot effectively track and engage U.S. submarines that carry ballistic missiles (called SSBNs). Chinese long-range missiles are deployed in deeply buried silos, protected by rough terrain and mountains, or deployed on mobile launchers. Therefore, neither the United States nor China would experience pressure to use these weapons before losing them. Early warning and command and control systems, could, however, still be vulnerable to disruption on both sides. Therefore, efforts to disrupt these assets, or other factors, such as a desire to achieve tactical surprise, could stimulate prompt or accelerated responses as soon as a crisis unfolds.

Today's conventional forces do not appear to have capabilities or to be postured in ways that inherently erode crisis stability. Currently, the great distance that most U.S. forces must travel to address these scenarios imply that they will not effect the conflict immediately. In Scenario A, the forces that might most usefully contribute to Taiwan's defense might be surveillance, intelligence, or information operations resources. Because these assets could be deployed and employed unobtrusively they appear unlikely to exacerbate a crisis.

Scenario B represents a classic unstable crisis. It was caused by an accident, but the stakes rise quickly as each side tries to defend its interests and becomes more entrenched. The nature of this crisis probably would not be affected, at least in the early stages, by U.S. forces or the doctrine guiding their use, as each nation focused

only on the actions of the other. As the crisis unfolds, U.S. decision makers may not experience pressure to use its forces quickly to help resolve this crisis. Current U.S. forces could be employed on a purposefully long time line to allow the situation to cool and to give both countries time to find a diplomatic, face-saving way to resolve the crisis.

Both scenarios C and D evolve into conflicts so quickly that it is unlikely that nuclear forces would either exacerbate or calm the crisis. However, if the United States maintained the ability, with its conventional forces, to attack critical targets in China and to disrupt China's ability to prosecute the conflict, China might feel compelled to move quickly to achieve its objectives. This, however, may be more of an issue for consideration in the "warfighting" phase of the conflict than the "crisis stability" phase.

Warfighting

If the United States found itself drawn into a military conflict with China via any of the illustrative scenarios above, it would wish to prosecute this conflict on its own terms. Specific *warfighting objectives* would likely include 1) limiting collateral damage to allied or friendly populations, 2) minimizing U.S. / Taiwanese / Japanese casualties, 3) emphasizing warfare in which the United States excels (e.g. aviation and naval engagements) and avoiding warfare that presents obvious challenges (e.g. urban warfare), and 4) avoiding protracted conflict. Are current U.S. nuclear and conventional forces and doctrine well suited to achieve these warfighting objectives?

U.S. conventional military involvement in Scenario A could present many of the challenges experienced in recent conflicts in Somalia, or Iraq: urban warfare in the midst of a civilian population. Presumably no civilians would form large or well armed militias in opposition to the Taiwanese government such as the experience in Iraq. Nevertheless, the uncertainty regarding the number of Chinese SOF forces, and the difficulty of separating friend from foe, and the need to severely limit civilian casualties could make it difficult to achieve the objectives above.

Scenario B presents no obvious challenges to today's conventional military forces in terms of achieving the warfighting objectives above. There appears little chance for collateral damage, for example. Managing crisis stability may be the biggest challenge in this scenario.

Although most discussions of nuclear weapons focus on their ability to deter conflict, deterrence rests on the adversaries perception that nuclear weapons can achieve U.S. warfighting objectives that cannot be otherwise achieved by conventional weapons. U.S. nuclear weapons could be used under a wide range of circumstances, but they would probably have the most to contribute, in Scenario C, the combined arms attack. If the United States determined that this level of warfare between China and Taiwan threatened vital U.S. interests, it could be prepared to take whatever steps were necessary to defend its interests. For example, the United States might believe that it had to use nuclear weapons to destroy targets in China that were critical to China's ability to achieve its objectives, that could only be reliably damaged or destroyed by nuclear weapons. These might include, for example, hardened or deeply buried bunkers housing weapons or command facilities.

The United States would likely explore all possible conventional options for disabling or destroying these targets, but that it would not rule out the use of nuclear weapons. Casualties are likely to be high regardless of the specific targets. Nuclear employment could bring the conflict to an abrupt end, but the long-term political consequences from using nuclear weapons under any circumstances is unpredictable, but feared to be considerable. This could also defeat overarching U.S. politico-military goals, such as regional stability and international support and consensus.

The challenges of achieving U.S. warfighting objectives with conventional forces in this scenario are well documented.⁵⁸ It appears likely that airpower would be used to defeat China's air force engaged in military action vs. Taiwan, to destroy or degrade the invasion force, and to destroy or disrupt the PLA's command, control and communications. The forces most likely to be employed include land- and sea-based fighter and attack aircraft, long range bombers, command and control aircraft, aerial refueling aircraft, strategic and theater airlift aircraft, and intelligence gathering aircraft.

The United States would use naval forces principally to destroy or degrade the invasion force. Naval forces would clear mines, engage PLAN ships in transit and in port, attacking targets in China, and defend against missile attacks. The Navy would probably employ forces that included carrier battle groups (aircraft carriers, attack submarines, destroyers, cruisers, frigates), and Marine Corps Amphibious Ready Groups. The air wings on these aircraft are composed of tactical combat aircraft and helicopters. Long range maritime patrol aircraft, and mine countermeasures ships could also plausibly be employed. Of primary concern in Scenario C are China's anti-access weapon systems (e.g. advanced air defenses, fighter aircraft, naval mines, anti-ship cruise missiles, theater ballistic missiles) designed to impede U.S. operations in the theater; the United States would seek to disable, defeat, or destroy these capabilities early in the conflict.

Like the nuclear force balance between the U.S. and China, it is generally accepted that U.S. conventional forces are superior to China's conventional forces.⁵⁹ Unlike nuclear forces, however, geographical distance and the resulting operational challenges of timeliness and sustainment put U.S. conventional forces at a distinct disadvantage. Further, the potential for high numbers of U.S. casualties may diminish the U.S. appetite for large scale conventional warfare, which may be required to prevail in Scenario C.

⁵⁸ *The Military Power of the People's Republic of China 2006*. Op. Cit. p.40. The Federal News Service, Inc. "Hearing of the House Armed Services Committee on China's Military Power." July 27, 2005. Rebecca Grant. "The Chinese Calculus." *Air Force Magazine*. February 2006. Gary Schmitt and Dan Blumenthal. "Wishful Thinking In Our Time: The Pentagon Looks at China and Blinks." *American Enterprise Institute*. August 1, 2005. Available at [http://www.aei.org/publications/pubID.22922,filter.all/pub_detail.asp]

⁵⁹ For more information about the U.S. / PRC conventional order of battle, see CRS Report RL30700, *China's Foreign Conventional Arms Acquisitions: Background and Analysis*, by Shirley Kan, Christopher Bolkcom, and Ronald O'Rourke, and CRS Report RL33153, *China Naval Modernization: Implications for U.S. Navy Capabilities — Background and Issues for Congress*, by Ronald O'Rourke.

War Termination

If the United States found itself drawn into a military conflict with China, it would benefit from nuclear and conventional forces that would facilitate war termination on favorable terms. *War termination objectives* that appear to be appealing include 1) decisive victory, 2) long-term improvement in the key regional politico-military relationships, and 3) no long-term need for increased U.S. basing / presence / commitment in the region.

Achieving these objectives in Scenario A appears to be difficult. The threat of escalation, possibly to the use of nuclear weapons, could play a role in bringing the conflict in Scenario A to an end. Such action may appear decisive. However, threatening nuclear attacks is unlikely to improve the regional relationships, and may not appear credible. Employment of U.S. conventional forces may succeed in rolling back the Chinese SOF incursion and deterring or preventing escalation by the PLA. However, once deployed, it may be difficult to avoid a long-term presence in or near Taiwan to enforce or guarantee the peace conditions.

Achieving war termination objectives in Scenario B appears more promising. By brandishing its conventional and nuclear capabilities and reminding China of the U.S. commitment to Japan, the United States could possibly play a significant role in ending the crisis on terms favorable to Japan (or at least not unfavorable to Japan). Nonetheless, the threat to leap to nuclear attack, even in defense of a treaty partner, could seem extreme, particularly if both China and Japan were amenable to a “face-saving” way out of this accidental conflict. Deploying or using conventional forces could also demonstrate U.S. commitment to Japan, possibly with greater credibility. In either case, no increased presence or commitment by U.S. forces is likely to be required.

The threat of escalation to nuclear weapons could play a significant role in the termination of a conflict in Scenario C, and may achieve U.S. objectives of decisive victory, and no long-term increased U.S. presence in the region. Whether terminating this major conventional conflict by threatening the use of nuclear weapons will contribute to long term stability is unclear. Terminating the conflict with actual use of nuclear weapons appears likely to achieve the first objective of decisive victory, but only if China does not retaliate with an attack on the United States. As with Scenario A, terminating this conflict with conventional weapons capabilities appears advantageous, but may risk the need for increased long-term U.S. presence in the region.

Scenario D appears to present noteworthy challenges to achieving war termination objectives. This conflict would be very difficult to terminate without allowing either Taiwan or China to “win.” Once this conflict had begun, the stakes for both China and Taiwan would be so high as to make it difficult to return to the status quo ante. A rapid and sustained deployment of a large contingent of U.S. or coalition forces might re-assure Taiwan sufficiently to terminate its attacks on the PLA. However, the long-term costs of adopting such an obligation are probably unacceptable to the United States, and the resulting “peace” could be so unstable — China is unlikely to support a large and long-term U.S. military presence on or near Taiwan — as to raise concerns about the likelihood of continuing conflict with even

greater numbers of U.S. forces at risk and an even greater chance of escalation to nuclear use.⁶⁰

Potential Implications

A possible conflict with China attracts considerable attention from defense planners because it is a regional competitor today and could over time grow to be a “near-peer” competitor. Analysts can also easily identify flashpoints where the two nations might meet and feel compelled to defend national interests. The United States has a long-standing nuclear deterrent relationship with China. However, during the Cold War, managing this relationship was far less important than managing the relationship with the Soviet Union. With the demise of the Soviet Union and the improved relationship between the United States and Russia, the nuclear equation between the United States and China raises its own series of questions:

- Are existing U.S. capabilities sufficient to deter or defeat China or other potential challengers?
- Would added or different capabilities enhance the U.S. position in a conflict, by enhancing deterrence, easing crisis instabilities, or hastening the end of hostilities on terms favorable to the United States and its allies?

The answers to these questions can inform decisions about the balance of nuclear and conventional capabilities in the U.S. military force structure.

In a time of growing budget scrutiny, investment in several conventional weapon systems or concepts is frequently justified by their perceived utility in a possible conflict with “near-peer” competitors such as China.⁶¹ Often, these weapon systems are among the more expensive programs in DOD’s budget. Examples of these weapons or concepts include ballistic missile defense, prompt long-range conventional strike, the F-22A *Raptor* advanced combat aircraft, and the Airborne Laser. The desired number of U.S. Navy aircraft carriers, attack submarines, anti-submarine warfare ships and aircraft is also frequently linked to a need to effectively counter potential Chinese military action.

Although not explicitly linked to China, other U.S. weapon systems programs appear to be geared toward large-scale conventional war during a time of increasing

⁶⁰ See, for example, the discussion on the role of “dissuasion” in Roberts, Brad. *Operationalizing Dissuasion of China: Practicalities and Pitfalls*. Institute for Defense Analyses. April 2005.

⁶¹ See for example: Robert Dudney. “Back to Demolition Derby?” *Air Force Magazine*. August 2006. Michael Fabey. “After Cold War, USAF Searched for Relevance.” *Defense News*. May 22, 2006. William Matthews. “After 20 years, Much is Familiar.” *Defense News*. May 22, 2006. William Matthews. “Forbes, Caucus Keep Their Eyes on China.” *Defense News*. May 13, 2006. Robert Dudney. “China Rising.” *Air Force Magazine*. June 2005.

threats from non-state actors. Examples of these weapon system programs include the Navy's conversion of Trident nuclear missile submarines into conventional guided-missile delivery systems (SSGN). After reviewing the scenarios, and using the weapon system programs above as examples of potential future investments, the following questions arise:

- What potential do these weapons offer for enhanced deterrence, crisis stability, warfighting or conflict termination?
- Are the potential enhancements to deterrence, crisis stability, warfighting or conflict termination worth the estimated costs of developing and fielding these weapons?
- Are the potential enhancements in one situation offset by potential liabilities in other situations?
- Might other investments offer more promise at lower costs?
- What linkages exist between nuclear and conventional forces?

The answers to these questions can also inform decisions about the balance of nuclear and conventional capabilities in the U.S. military force structure.

Nuclear Deterrence

As described earlier in this report, it is too narrow to conclude that the United States and China have not engaged in an open, armed conflict simply because each is deterred by the nuclear capabilities of the other. Potential "flashpoints" (e.g. Taiwan, other territorial disputes) have not ignited because both nations apparently recognize that, on many fronts, the costs of a conflict would far exceed the benefits. The U.S. Defense Department, for example, contends that China is deterred from using overt military force against its neighbors by concerns over potential economic repercussions and fear of domestic instability.⁶²

Some argue that as China's economic and political interests in Asia expand and as China's military continues to develop, the possibility of conflict could increase. Others, however, believe that the possibility of conflict is likely to decrease, or at least not increase, because the United States and China may find as many potential areas for cooperation as they do for competition. There is no doubt that this calculation could change if the political and military factors associated with the flashpoints were to change. As one part of this broad calculation, however, China's assessment of the costs of conflict would hinge heavily on its assessment of whether the United States would intervene, and its assessment of whether the conflict might escalate to the use of nuclear weapons.

The Bush Administration has indicated, and many agree, that the United States can and should alter its nuclear force structure and nuclear doctrine so that they can play a more prominent role in U.S. national security policy. Others, however, question whether the threat of nuclear weapons employment would be credible if the United States did not face dire threats to its national survival.

⁶² *The Military Power of the People's Republic of China 2006. Op. Cit. p.40.*

Concerns about the credibility of a more prominent role of nuclear weapons in U.S. national security policy are magnified when questions of extended deterrence for Taiwan or Japan come up because, as noted above, China could retaliate against U.S. cities with its own nuclear weapons. However, China's threats of nuclear retaliation could also inspire questions about credibility. China could launch a small number of nuclear weapons at U.S. territory if attacked by the United States, but the United States could retaliate against China with a far greater number of weapons and far broader nuclear attack. Hence, it is possible that each could be deterred from escalating the conflict, and any conflict would remain conventional. Moreover, the possibility that China could invite far greater destruction if it used its nuclear forces after the United States used a relatively small number of nuclear weapons against discrete targets has led some to argue that the current and foreseeable nuclear relationship between China and the United States suffices to deter conflict. For example, one observer states "We are not going to fight Russia, China, or India. The main reason we're not going to fight these guys is that they all have nuclear weapons."⁶³ Some have suggested that China might employ nuclear weapons to conduct an electromagnetic pulse (EMP) attack on the United States or U.S. forces. Others, however doubt the likelihood of such an attack because it would affect China's forces as well as U.S. forces. It is also unclear whether an adversary would interpret an EMP attack as crossing the nuclear weapons threshold, and how the adversary would respond.

Much of the debate above is reflected in proposals to develop ballistic missile defense capabilities. Some argue that missile defenses — including boost phase weapons like the Airborne Laser — could increase the deterrent value of U.S. nuclear weapons. Even limited missile defenses could make the U.S. threat to escalate more credible because it would undermine China's confidence in its ability to retaliate against the United States or its allies. Knowing this, it is argued, China would be deterred from initiating a conflict that might draw in a U.S. response. Missile defense proponents also note that military conflict can evolve from accidents or miscalculations rather than cogent cost-benefit analysis. Therefore, missile defenses could enhance crisis stability and the U.S. ability to conduct the conflict on its own terms if China and the United States unexpectedly found themselves caught up in a quickly escalating conflict.⁶⁴

Others believe that the U.S. development of ballistic missile defenses could upset the current stable balance in the U.S.-China nuclear deterrence equation. In particular, the United States does not yet have a capable long-range missile defense system. China could perceive U.S. missile defenses as effectively swinging the military balance too much toward the United States, and may thus decide to pursue military options against Taiwan sooner, rather than later, while it could still deter

⁶³ Chet Richards. "Neither Shall the Sword." Center For Defense Information Press. January 2006. Washington, DC.

⁶⁴ For a discussion of the role that defenses can play in a strategy of deterrence and denial see. U.S. Nuclear Policy in the 21st Century. A Fresh Look at National Strategy and Requirements. Center for Counterproliferation Research, National Defense University. January 2001, pp. 3.37-3.44.

U.S. nuclear attacks on its territory with the threat of retaliation.⁶⁵ Thus, the potential for future missile defenses, it is argued, could be destabilizing in a crisis. Further, the U.S. pursuit of ballistic missile defenses could motivate China to develop more capable missiles, or missile defense countermeasures (such as decoys or early release sub-munitions), or to field more missiles to increase its retaliatory capabilities. Consequently, any warfighting advantages that missile defense advocates desire, it is argued, are unlikely to be realized, particularly if China could build additional ballistic missiles or field missile defense countermeasures more quickly than the United States could field effective missile defenses.

New or Improved Conventional Weapons or Capabilities

As mentioned above, the principal justification for many new, and in some cases costly, conventional military capabilities is that they are required to address a possible conflict with China.⁶⁶ For example, DOD is exploring options for fielding prompt global strike (PGS) capabilities. These options include, for example, conventionally armed Inter Continental Ballistic Missiles (ICBMs) or Submarine Launched Ballistic Missiles (SLBMs)⁶⁷, and new hypersonic air vehicles that would be capable of accurately striking trans-continental targets within 60 minutes.⁶⁸

DOD argues that PGS systems would be able to hold at risk targets that, at present, can only be destroyed with high confidence by nuclear weapons. Examples could include mobile, buried or hardened targets or command and control (C²) facilities. They could also attack promptly at the start of a conflict, destroying an enemy's air-defenses or other "anti-access" forces. Therefore, prompt global strike capabilities might enhance deterrence because these conventionally armed weapons would be more useable, and therefore more credible, than nuclear weapons. China could still retaliate against the United States or its allies, but, with its no-first use policy in place and forces consistent with a minimum nuclear deterrent, it may not be able to respond with nuclear weapons. Thus, supporters argue that the United States might have greater credibility when extending deterrence to its friends and allies.

If, through accident or miscalculation, a war were to break out, conventional weapons could offer improved warfighting capabilities that would allow the United States to prevail conventionally, and raise the threshold for the employment of nuclear weapons. For example, China's ballistic missiles, long-range air defenses, long-range surveillance radar, and anti-ship cruise missiles are widely considered

⁶⁵ These same arguments were made against ballistic missile defenses, and in favor of the Anti ballistic Missile Treaty (ABM) during the Cold War.

⁶⁶ It may be interesting to note that the original rationale for developing many of these same weapon systems was to address threats from the Soviet Union.

⁶⁷ For more information, see CRS Report RL33067, *Conventional Warheads For Long-Range Ballistic Missiles: Background and Issues for Congress*, by Amy F. Woolf.

⁶⁸ Stephen Trimble. "Global Strike Concept Raises Hopes and Fears." *Flight International*. February 7, 2006. Michael Bruno. "Defense officials outline long-range, global strike plans." *Aerospace Daily & Defense Report*. April 20, 2006.

problematic for DOD. These weapons are expected to strongly impinge on DOD's freedom to maneuver in this theater, and overcoming these capabilities are likely to engender significant U.S. casualties. Advocates argue that in a warfighting context, PGS and the F-22 Raptor (by virtue of its stealth, speed, advanced sensors, and avionics) will be able to destroy or defeat these targets more effectively and with much less attrition than current weapon systems.

While these new conventional weapons might enhance deterrence, they might also detract from crisis stability if a conflict were to occur. For example, in Scenario C (combined arms attack), neither U.S. nor Chinese nuclear forces appear postured in a way that would exacerbate a crisis over Taiwan. Neither is vulnerable to a first strike from the other. However, the same may not be true of conventional forces. China may believe that its forces are vulnerable to an attack by either Taiwan or the United States., and that such an attack is about to occur. It may then believe that, in spite of the risk of escalation and possible attacks (conventional or nuclear) on its own territory, that it would be better off initiating the conflict during the crisis. In essence, then, the U.S. ability to defend Taiwan by attacking targets, especially "centers of gravity," in China could actually make a crisis worse, and could spur China to begin or expand its attack on Taiwan.

It can also be argued that potent conventional forces, those that truly overmatch China's defenses, may weaken deterrence. As described in the background section of this report, during the Cold War, relatively weak U.S. conventional forces were viewed by many as consistent with strong deterrence because the United States would have to quickly fall back on nuclear weapons if attacked by more potent Warsaw Pact forces in Europe.

Conclusion

This report highlights a number of policy issues that may bear consideration in the ongoing debate regarding investments in conventional and nuclear forces:

- It appears that China and the United States currently have a stable deterrent relationship.
- This deterrence appears to be based on a complicated nexus of economic, political, and military factors.
- Despite this deterrent relationship, military conflict might ensue either as part of a consciously planned strategy or due to mistakes, misperception, or accident.
- Together, U.S. nuclear and conventional capabilities contribute to military deterrence, and therefore it appears that it would be worthwhile to consider the interplay of nuclear and conventional capabilities in force structure and strategy decisions.

- Nuclear and conventional military capabilities can simultaneously have positive effects on deterrence or warfighting, and negative effects on crisis stability or war termination objectives. Therefore, it may be overly simplistic to make changes in military force structure or capabilities to improve deterrence, for example, without considering potential effects on crisis stability, for example.
- Investments in military capabilities that may positively contribute to all potential stages of military conflict (e.g. deterrence, crisis stability, warfighting, and war termination), might be preferred to investments that have a mixed effect on the potential range of conflict.