CHAPTER 9

U.S. Extended Deterrence: How Much Strategic Force Is Too Little?

David J. Trachtenberg

"The objective of nuclear-weapons policy should not be solely to decrease the number of weapons in the world, but to make the world safer – which is not necessarily the same thing."
-- Herman Kahn

At the dawn of the 21st century's second decade, America finds itself on the cusp of what may be called the third atomic age. The first atomic age coincided with the period of the Cold War, which saw the United States transition from having a nuclear weapons monopoly to a superpower seeking to restore parity to the strategic balance in the wake of the Soviet Union's development and deployment of a massive, powerful and extensive nuclear weapons capability.

The second atomic age emerged with the disintegration of the Soviet Union and the end of the Cold War. It was characterized by a period of reassessment and restructuring of U.S. nuclear policies and forces to adapt them to a security environment that had changed dramatically and unexpectedly.

Today, a third atomic age emerges in which the role of nuclear weapons in U.S. national security strategy continues to diminish and the nuclear forces supporting that strategy shrink to historically low levels. However, the global proliferation of nuclear weapons and technologies has led others to move in the opposite direction – seeking to acquire the very nuclear weapons that many in the West view as increasingly irrelevant to contemporary security challenges. The potential ramifications of this development have led some analysts to suggest the world is now at a nuclear "tipping point."

Throughout both the Cold War and post-Cold War periods, the United States has relied ultimately on its nuclear potential to deter

aggression. During the Cold War, the primary mission of U.S. nuclear forces was to deter the Soviet Union. In the early days of this period, U.S. policy makers calculated deterrence could be effectively maintained with a nuclear capability sufficient to inflict a certain level of damage to the Soviet Union's industrial capacity and population, which would be deemed unacceptable. This "deterrence by punishment" calculus formed the basis of force sizing and planning for the U.S. nuclear arsenal for years to come. Yet a central fallacy in this approach was that it relied on *American perceptions* of what the Soviets would find "unacceptable," rather than on definitive knowledge of what the Soviets themselves would consider sufficient to deter them.

The debate over extended deterrence is similarly challenged by a need to understand that its effectiveness depends on how both allies and adversaries perceive the credibility of American commitments. American views of how others *should* perceive the credibility of U.S. nuclear threats are less relevant than how others actually perceive them. Moreover, the views of allies and adversaries can vary widely based on historical, cultural, and other unique circumstances.

As the nature of nuclear threats evolved, the U.S. nuclear force structure and size also evolved. With the end of the Cold War and the demise of the Soviet Union, the missions and purposes of U.S. nuclear forces were increasingly called into question. This included not only the utility of nuclear forces for deterring direct attack on the United States, but the efficacy of extending a nuclear deterrent to third parties as a means of preventing aggression by others.

The Bush administration's 2001 Nuclear Posture Review (NPR) postulated a world of extant and emerging nuclear powers posing qualitatively different nuclear threats to the United States and its allies than existed during the Cold War. While deterrence of nuclear attack remained a central goal of U.S. nuclear forces, the U.S. nuclear arsenal was considered to play a broader role in ensuring global security.

Along with traditional deterrence, the 2001 NPR articulated a role for nuclear weapons in "assurance," "dissuasion," and "defeat." (These concepts were previously posited in the 2001 Quadrennial Defense Review.) In other words, the NPR acknowledged that American nuclear forces play a major role in providing security guarantees to friends and

allies that lack their own nuclear weapons and face challenges from hostile neighbors or adversaries (i.e., assurance). The U.S. nuclear potential was also seen as having a dissuasive effect on adversaries who might contemplate actions contrary to American interests. And, of course, should deterrence fail – an increasingly plausible prospect in a world of rogue states and terrorist actors – U.S. nuclear forces must have the capacity to defeat any aggressor. Without this capacity, the credibility of the U.S. nuclear deterrent may be called into question, undermining the central deterrence goal of American nuclear forces.

This chapter focuses on the assurance aspect of U.S. nuclear forces, i.e., helping to assure friends and allies of the American commitment to their security. There are many ways to assure friends and allies and not all rely on threatening potential aggressors with nuclear destruction. These can include declaratory policy, creating or strengthening mutual defense agreements and military alliances, fostering broader political relationships, bolstering reliance on missile defenses and the forward deployment of conventional forces.[1]

None of these means is mutually exclusive, and a sound policy of assurance will deploy all of them, as appropriate, tailored to specific circumstances. Nevertheless, it is the nuclear deterrence aspect of assurance that is being questioned more widely as nuclear force levels are reduced and which is the focus of this chapter.

Importantly, the requirements for extended deterrence and assurance may not be identical. An adversary may be deterred from attacking an ally even though that ally does not perceive his security has been adequately "assured." Therefore, in certain cases, the requirements for assurance may exceed those of deterrence. Clearly, the answer to the question of "how much is enough (or too little)?" depends on the perception of both allies and adversaries.

In light of growing threats to the United States posed by the proliferation of nuclear and other weapons of mass destruction (WMD) capabilities to potential adversaries, the efficacy of American security guarantees also depends on how allies perceive the willingness of the United States to defend their security if doing so risks exposing the U.S. homeland to direct attack.

By extending its nuclear deterrent to other countries, the United States has historically provided a "nuclear umbrella" to others under which the United States sought to ensure their security. The prospect of a nuclear response by the United States to a third-party attack on a U.S. ally using nuclear or other weapons of mass destruction has for decades added a degree of uncertainty to the calculations of potential adversaries who may have contemplated such aggression. However, in a world of proliferating nuclear powers, a renewed American emphasis on arms control and further nuclear reductions, and a growing tension between American policies that support the elimination of nuclear weapons entirely and American adversaries who increasingly seek them, the continued viability and credibility of the U.S. extended deterrent deserves closer examination.

Some of the questions this chapter addresses include:

- How has extended deterrence worked in the past and what are the factors that influence its viability?
- Is there a link between extended deterrence and nonproliferation?
- How do allies in Europe and Asia perceive the requirements of extended deterrence?
- Is the size of the U.S. nuclear arsenal more relevant to extended deterrence than its composition?
- Are there alternatives to the extended deterrence provided by U.S. nuclear forces that can provide the same degree of assurance to friends and allies?
- What impact do nuclear reductions have on the ability of the United States to reassure allies of the credibility of American security guarantees?
- What are the implications for extended deterrence of current U.S. nuclear policies?
- And, as U.S. nuclear forces are reduced, is there some threshold level of nuclear capability beneath which the risks of aggression exceed the U.S. ability to deter it?

History of Extended Deterrence

At the dawn of the nuclear age, the United States confronted a numerically superior conventional army that had occupied the eastern half of Europe after World War II. As Cold War attitudes hardened and Soviet expansionist objectives became clearer, the United States sought to deter Soviet aggression by extending its nuclear deterrent abroad. The threat of an American nuclear response to a conventional invasion of Western Europe was integrated into U.S. military doctrine in the post-war era.

At a time when the United States possessed nuclear superiority over the Soviet Union, this extended deterrent was perceived as a credible threat sufficient to deter a move west by the Red Army. As the Soviets approached nuclear parity, and then surpassed the United States in the overall levels and capabilities of its nuclear forces, the credibility of U.S. threats to "go nuclear" to protect Western Europe against Soviet aggression became debatable.

Nevertheless, despite changes in the balance of nuclear forces between the two superpowers in the 1960s and 1970s, the U.S. nuclear arsenal remained sizable enough to give pause to any aggressor. At its peak, the U.S. deployed more than 10,000 "strategic" and "non-strategic" (i.e., "tactical") nuclear weapons on more than 2,000 delivery platforms. Although the Soviets maintained some significant advantages in nuclear firepower, throw weight, and other measures of nuclear capability, the sheer size of the American nuclear arsenal was thought by some to have an "existential" deterrent effect.[2]

As arms control became a central element of the bilateral superpower relationship, pressures emerged to reduce the size of nuclear stockpiles. Along with the Strategic Arms Limitations Talks (SALT) and Strategic Arms Reductions Talks (START), which resulted in treaties reducing the number of long-range nuclear weapons systems, the 1986 Intermediate-Range Nuclear Forces (INF) Treaty resulted for the first time in the negotiated elimination of an entire class of nuclear weapon delivery systems. This included the Pershing II ballistic and Ground-Launched Cruise Missiles deployed in Europe that were a visible part of the U.S. extended deterrent commitment.

Extended deterrence was not limited to protecting European allies. For example, as Japan became one of the strongest post-war allies of the United States, the emerging nuclear weapons potential first of China, and then later North Korea, concerned Japanese officials, who became acutely sensitive to the role of the U.S. nuclear umbrella in assuring Japanese security.

After the Korean armistice in 1953, South Korea also enjoyed a degree of protection accorded by the American extended nuclear deterrent. U.S. nuclear weapons were stationed on South Korean territory. The painful shadow of Vietnam, however, and the fall of the Saigon government in 1975, led to questions about whether the United States would rather accept defeat in war than resort to the use of nuclear weapons.

Since then, the United States has deployed veiled nuclear threats in limited circumstances to bolster deterrence. For example, then-Secretary of State James Baker articulated such a threat to Saddam Hussein in an effort to deter the Iraqi dictator from using weapons of mass destruction against U.S. and coalition forces in the 1991 Gulf War. Even though Secretary Baker later admitted the United States had no intention of using nuclear weapons, the possibility they might be used was arguably a consideration in Saddam's decision not to launch chemical or biological attacks against Israel or coalition forces.

The importance of extended deterrence has been recognized even by those who favor the ultimate elimination of the nuclear capabilities on which it rests. Speaking in Prague in April 2009, President Obama reiterated his vision for a nuclear-free world, but noted "as long as these weapons exist, the United States will maintain a safe, secure and effective arsenal to deter any adversary, *and guarantee that defense to our allies*…."[3] (emphasis added) Today, however, as nuclear weapons come to be seen by some decision leaders increasingly as weapons that serve no purpose, will never be used in combat, and should be eliminated, the credibility of U.S. nuclear threats is likely to be diminished in the eyes of both potential adversaries and long-time friends and allies.

The Relationship Between Extended Deterrence and Nonproliferation

For a number of states, their own security rests on the viability and credibility of American nuclear assurances. Without the assurance – or reassurance – that the U.S. nuclear "umbrella" provides, these states may pursue their own acquisition programs for nuclear weapons. As one observer has noted, "…for allies such as Japan, South Korea and Taiwan, and some NATO states, the stability both of the U.S. deterrent and extended deterrence guarantees are a significant part of these countries' own strategic calculus."[4] Indeed, there have been numerous studies in recent years suggesting "the credibility and reliability of U.S. nuclear assurances are necessary to keep countries…from reconsidering their decisions to be nonnuclear states."[5]

In a 2007 study that linked U.S. extended deterrence with non-proliferation, the State Department's International Security Advisory Board (ISAB) concluded, "Nuclear umbrella security agreements, whether unilateral or multilateral, have been, and are expected to continue to be, effective deterrents to proliferation."[6] The ISAB report stated, "There is clear evidence in diplomatic channels that U.S. assurances to include the nuclear umbrella have been, and continue to be, the single most important reason many allies have foresworn nuclear weapons" and further suggested that "a lessening of the U.S. nuclear umbrella could very well trigger a [nuclear proliferation] cascade in East Asia and the Middle East."[7]

Secretary of Defense Robert Gates has acknowledged the importance of U.S. nuclear weapons to extended deterrence and nonproliferation. In his 2008 speech to the Carnegie Endowment for International Peace he declared, "As long as others have nuclear weapons, we must maintain some level of these weapons ourselves to deter potential adversaries and to reassure over two dozen allies and partners who rely on our nuclear umbrella for their security, making it unnecessary for them to develop their own."[8]

In 2009, the bipartisan Commission on the Strategic Posture of the United States concluded, "The U.S. nuclear posture must be designed to address a very broad set of U.S. objectives, including not just deterrence

of enemies in time of crisis and war but also assurance of our allies and dissuasion of potential adversaries. Indeed, the assurance function of the force is as important as ever."[9]

By some estimates nearly 30 countries rely for their ultimate security on the extended deterrent U.S. nuclear forces provide. Some of these countries are strong U.S. allies that do not feel sufficiently threatened by neighbors or adversaries to contemplate developing nuclear weapons of their own. Others have been dissuaded from doing so as a result of formal defensive alliances with the United States (such as NATO). Still others are friends with which the United States does not have a formal defense relationship but whose security is nevertheless important to the maintenance of stability and defense of American interests; therefore, the American nuclear umbrella has been extended to them.

Many of these countries can be found in dangerous or unstable regions with potentially hostile neighbors. If the American extended nuclear deterrent loses credibility, it is most likely to have significant repercussions among those states who may determine their own security is best served through the acquisition of their own nuclear weapons capability.

Allied Views of Assurance

The role of U.S. nuclear forces in extending deterrence to NATO allies is codified in NATO's Strategic Concept, promulgated in 1999. The document states: "Nuclear forces based in Europe and committed to NATO provide an essential political and military link between the European and North American members of the Alliance. The Alliance will therefore maintain adequate nuclear forces in Europe."

What constitutes "adequate" nuclear forces is a matter to be determined by the NATO members themselves. However, the Strategic Concept is clear on the inseparability of European and American security, noting the "unique contribution" of nuclear weapons to deterrence and declaring that they "remain essential to preserve peace."[10]

At the Strasbourg/Kehl NATO Summit in April 2009, Alliance members decided to update NATO's Strategic Concept before the next

summit meeting at the end of 2010. This process is expected to revisit the issue of extended deterrence and the role of U.S. nuclear forces in providing that deterrence to NATO.[11]

Nevertheless, it is clear a number of U.S. NATO and non-NATO allies consider the U.S. extended deterrent to be critical to their security. A group of former NATO military officials, including former military chiefs of the United States, Britain, France, Germany and the Netherlands, reaffirmed the importance of the extended deterrent role of U.S. nuclear forces and the credibility of nuclear escalatory threats by noting, "The first use of nuclear weapons must remain in the quiver of escalation as the ultimate instrument to prevent the use of weapons of mass destruction, in order to avoid truly existential dangers."[12]

For some, the value of the extended deterrent lies in the deployment of American nuclear weapons on their territory and the demonstration of resolve these deployments convey. In these cases, additional U.S. strategic offensive arms reductions may have less significance on allied perceptions of American credibility. For others, the value of extended deterrence lies more in the ability and willingness of the United States to maintain the effectiveness of its strategic nuclear arsenal. Therefore, additional strategic arms reductions may undermine the assurance value of American security guarantees.

In the past, some U.S. allies have expressed strong views regarding the U.S. extended deterrent. This includes non-NATO allies. For example, according to documents recently de-classified by Japanese officials, concern over a possible Sino-U.S. conflict in the mid-1960s led then-Japanese Prime Minister Sato Eisaku to press U.S. Secretary of Defense Robert McNamara for assurances the United States would be prepared to use its nuclear weapons against China.

In the wake of China's nuclear testing, Secretary McNamara subsequently expressed concern that without reassuring Japan of the American commitment to its security, Tokyo might seek its own nuclear weapons. Since then, other Japanese officials have sought to elicit similar American nuclear assurances, including comments by Foreign Minister Aso Taro after North Korea's nuclear test in 2006.[13]

South Korea also reportedly sought nuclear assurances from the United States after North Korea's nuclear test.[14] Reportedly, former South

Korean defense ministers approached the United States seeking the re-deployment of U.S. nuclear weapons in South Korea that had previously been withdrawn.[15]

In June 2009, President Obama and South Korean President Lee Myung-bak reaffirmed the U.S.-Republic of Korea security relationship included the "continuing commitment of extended deterrence, including the U.S. nuclear umbrella…."[16] During a subsequent visit to Seoul, Secretary of Defense Gates declared, "The United States is committed to providing extended deterrence using the full range of American military might," to protect South Korea, including "the nuclear umbrella."[17]

Obviously, allied views of extended deterrence will be shaped not only by what the United States does with respect to its nuclear forces but by the evolving global strategic situation. Although the Cold War division of Europe ended two decades ago, some allies in Europe grow increasingly concerned over what they perceive as a renewed aggressiveness in Russia's foreign and defense policies. The Russian military action in the summer of 2008 against Georgia - a country seeking NATO membership – suggested that extending U.S. nuclear guarantees to countries on Russia's periphery might be risky business. It also raised additional uncertainties on the part of Russia's other neighbors regarding the credibility of U.S. security guarantees.

On top of this, Russia has revised its military doctrine to place increased reliance on its nuclear forces, continued to pursue an aggressive nuclear weapons modernization program, resumed Cold War style exercises of its strategic nuclear forces, threatened some of its former satellite states with nuclear attack, and publicly proposed developing new "offensive weapons systems" to counter the United States.[18]

In the wake of Russian statements and actions, the concerns of Russia's neighbors and their desire to be integrated into the security perimeter of the United States are understandable. So, too, is concern that Washington's desire to "reset" its relationship with Moscow in the wake of Russia's increasing assertiveness may actually lead others to question the attractiveness of, and confidence in, American security guarantees.

Ukraine, a former Soviet state, has been wary of Russia and has sought the security guarantees that would accrue to it from NATO membership. Yet the new Ukrainian government has changed course

from its predecessor, declaring Kiev's preference for neutrality and non-alignment, rejecting the previous government's push for NATO membership, and seeking greater accommodation with Russia.[19]

Nevertheless, as more countries pursue the path to NATO membership, the United States will likely find itself extending its nuclear umbrella to additional states in what was formerly viewed as Russia's "sphere of influence." Future reductions in European-based U.S. tactical nuclear forces, along with NATO's prior assurances to Russia that new NATO members would not host U.S. nuclear weapons on their territories[20], may complicate the mission of extended deterrence. Indeed, when coupled with the movement toward significant reductions in U.S. strategic nuclear forces, it may become increasingly difficult to explain credibly how nuclear deterrence can be effectively extended to a greater number of states at a lower level of forces.

In Asia, the developing nuclear capabilities of North Korea have also sparked concern among America's regional friends and allies. Japan, in particular, has encouraged the United States not to back away from its extended nuclear deterrent. After North Korea's 2006 nuclear test, one Japanese press report stated that "Defense Minister Fumio Kyuma spoke in no uncertain terms about strengthening the deterrence of U.S. nuclear weapons. The strongest deterrence would be when the United States explicitly says, 'If you drop one nuclear bomb on Japan, the United States will retaliate by dropping 10 on you,' he said."[21]

Japan is increasingly sensitive over the credibility of U.S. security guarantees. Japan's 2004 Defense Program Outline declared "to protect its territory and people against the threat of nuclear weapons, Japan will continue to rely on the U.S. nuclear deterrent," a posture explicitly reflected in the country's official Defense Program Outline since 1976.[22] A U.S.-Japan Joint Statement issued after a meeting of the bilateral Security Consultative Committee in May 2007 reaffirmed "U.S. extended deterrence underpins the defense of Japan and regional security" and this includes "the full range of U.S. military capabilities – both nuclear and non-nuclear strike forces and defensive capabilities."[23]

Yukio Satoh, Vice Chairman of the Japan Institute of International Affairs and former Japanese diplomat recently expressed his country's views of the importance of the U.S. extended deterrent by noting:

> …the importance for Japan of the American nuclear deterrence has increased since the end of the Cold War, as the country has become exposed to a diversity of conceivable nuclear threats, such as North Korea's progressing nuclear and missile programs, China's growing military power, and Russia's strategic reassertiveness. These developments are making Japan increasingly vulnerable to possible or potential threats by nuclear and other weapons of mass destruction (WMD). Ensuring American commitment to extend deterrence against such threats is therefore a matter of primary strategic importance for Japan….
>
> In recent years, the Japanese have become growingly sensitive to the credibility of the American commitment. Exposed to a series of dangerous actions by Pyongyang, particularly its test-shooting of a missile over Japan in 1998, its nuclear testing in 2006, and yet another test of a long-range missile, the Japanese have come to realize anew the importance of the American extended deterrence for their security, and this has made the Japanese more sensitive than ever to Washington's attitude to North Korea.[24]

Ambassador Satoh, a supporter of the "Global Zero" movement to eliminate nuclear weapons, also recognized the potential hazards the move toward nuclear disarmament could pose for Japanese security, noting: "Even the propositions advocated by eminent American strategists to pursue 'a world free of nuclear weapons' have given rise to some anxiety about the possible negative impact on the American extended deterrence…. Furthermore, the Japanese concern about the credibility of the American extended deterrence could increase if the U.S. government were to unilaterally move to redefine the concept of nuclear deterrence, particularly to reduce dependence upon nuclear weapons in providing deterrence, without proper consultations."[25]

Satoh noted, "There have been no official consultations between Washington and Tokyo on how American extended deterrence should function, nor even any mechanism put in place for such consultations." He stated "the time has come for us to create some kind of mechanism through which we can discuss the common strategy, particularly if the United States is going to reduce dependence upon nuclear weapons in their strategy."[26]

Does Size Matter?

Assurance considerations may be affected not only by the size of the American extended nuclear deterrent, but by its composition. Some countries may not consider additional numerical reductions in U.S. strategic nuclear forces to be especially significant with respect to the credibility of American security guarantees unless those reductions impact the levels or operational utility of the types of nuclear forces those countries consider most useful to deter threats to their security.

For example, the threatened use of land-based ICBMs deployed on American soil in defense of allies may be seen as less credible than SLBMs on submarines that can deploy to crisis areas, especially since a strike using forces based in the United States may increase the risk of direct retaliation against the United States. For this reason, allies may consider the United States less willing to come to their defense by employing U.S. central strategic forces. Bombers, however, may provide the highest level of reassurance to allies, since unlike ICBMs they are mobile and unlike nuclear ballistic missile-armed submarines (SSBNs) they are visible. The bomber leg of the strategic Triad is the most flexible for signaling intentions, which can provide reassurance to allies in times of crisis.

Nevertheless, the overall level of U.S strategic nuclear forces may convey to allies a sense of how the United States views the relevance of these forces in the contemporary security environment. Strategic force reductions, if pursued for example as part of a bilateral U.S.-Russia effort to diminish reliance on nuclear weapons for strategic deterrence purposes, may have unintended negative consequences for assurance and extended deterrence.

The Role of Strategic and Non-strategic Nuclear Forces in Extended Deterrence

Discussions of "strategic" and "non-strategic" nuclear forces tend to obscure the fact that for the countries whose security depends on them, all nuclear weapons are strategic. The distinction is somewhat artificial and was derived to conform to an arms control process that focused on regulating arsenals based on the range of their delivery systems. Nevertheless, both longer-range and shorter-range systems have relevance for extended deterrence.

Today, the United States maintains a minimum number of non-strategic nuclear weapons stationed in Europe. Most European-based U.S. nuclear forces were removed as a result of the 1986 INF Treaty, which eliminated the Pershing II missile and GLCMs, or as a result of the 1991 Presidential Nuclear Initiative (PNI), which led to the withdrawal of nuclear artillery shells, naval anti-submarine nuclear weapons, and short-range ballistic missile nuclear warheads.[27]

In 1971, 11 types of nuclear weapons systems were deployed in Europe.[28] Today, the number of non-strategic nuclear weapons in NATO Europe has been reduced by more than 97 percent from 1970's levels. The only remaining U.S. nuclear weapons in Europe are air-delivered gravity bombs that reportedly can be deployed on dual-capable aircraft in Turkey, Italy, Germany, Belgium, and the Netherlands.

The deployment of these non-strategic nuclear weapons in Europe has always been seen as a means of reinforcing America's extended nuclear deterrent by providing a critical link between conventional forces in Europe and American strategic nuclear forces. This is recognized in NATO's Strategic Concept, which notes "adequate sub-strategic forces based in Europe…provide an essential link with strategic nuclear forces, reinforcing the transatlantic link."[29] They have also provided a visible and tangible expression of American solidarity with host countries, which some believe has strengthened their deterrent value.

The importance of maintaining U.S. non-strategic nuclear forces in Europe was highlighted in a 2008 report by the Secretary of Defense Task Force on DoD Nuclear Weapons Management, which noted:

> The Allies believe in the U.S. nuclear deterrent as a pillar of the Alliance. Some Allies have been troubled to learn that during the last decade some senior U.S. military leaders have advocated for the unilateral removal of U.S. nuclear weapons from Europe. These Allies are convinced that the security of the United States is 'coupled' to that of Europe. Moreover, these allies are aware of the greater symbolic and political value of allied aircraft employing U.S. nuclear weapons…. USEUCOM (U.S. European Command) argues that an "over the horizon" strategic capability is just as credible. It believes there is no military downside to the unilateral withdrawal of nuclear weapons from Europe. This attitude fails to comprehend—and therefore undermines—the political value our friends and allies place on these weapons, the political costs of withdrawal, and the psychological impact of their visible presence as well as the security linkages they provide…. DCA (dual-capable aircraft) fighters and nuclear weapons are visible, capable, recallable, reusable, and flexible and are a military statement of NATO and U.S. political will. These NATO forces provide a number of advantages to the Alliance that go far beyond USEUCOM's narrow perception of their military utility. Nuclear weapons in Europe provide a continuous deterrence element; as long as our allies value their political contribution, the United States is obligated to provide and maintain the nuclear weapon capability.[30]

Should these forces be withdrawn completely, the willingness of the United States to "go nuclear" on Europe's behalf could be called into question. It could also place increasing stress on the U.S. strategic nuclear forces by adding additional mission responsibilities (especially if the number of NATO countries protected under the U.S. nuclear umbrella continues to increase as a result of the NATO enlargement process) at a time when those forces are also likely to decline further.

It is plausible the requirements of extended deterrence may also necessitate the retention of certain types of nuclear forces that might otherwise be withdrawn or retired. As the Congressional Commission on

the Strategic Posture of the United States noted, "Assurance [of allies] that extended deterrence remains credible and effective may require that the United States retain numbers or types of nuclear capabilities that it might not deem necessary if it were concerned only with its own defense."[31]

The Commission also reported some European allies believe modernization of European-based nuclear forces is "essential to prevent nuclear coercion by Moscow" and for "restoring a sense of balance" in the face of Russia's own nuclear modernization efforts.[32]

In addition, Turkey has reportedly been concerned over the potential removal of nuclear gravity bombs that can be carried by dual-capable aircraft based on its territory. As recently as August 2009, Turkish officials reportedly expressed concern that Iran's efforts to acquire nuclear weapons would lead Turkey to do the same.[33]

Some Asian officials have expressed particular concern over the potential elimination of the U.S. TLAM-N cruise missile, one of the few non-strategic nuclear weapons remaining in the U.S. nuclear arsenal. This was noted by the Congressional Commission on the Strategic Posture of the United States.[34]

One account of the concerns expressed by a "particularly important ally" indicated should the United States decide to eliminate TLAM-N, "we would like to be consulted in advance with regard to how the loss of this capability for extended deterrence will be offset."[35] Additionally, the Commission noted the views of one ally, expressed privately, that "the credibility of the U.S. extended deterrent depends on its specific capabilities to hold a wide variety of targets at risk, and to deploy forces in a way that is either visible or stealthy, as circumstances may demand."[36]

Some analysts have suggested the TLAM-N has little military utility and its importance to countries like Japan is overstated. One challenged the Strategic Posture Commission's conclusions in this regard, calling the notion TLAM-N is critical to extended deterrence in Asia "odd."[37] In particular, the deployment of other capabilities to the Pacific region, including aircraft carriers, submarines and long-range bombers, is seen by some as a sufficient deterrent to aggression.

As one analyst noted, "Why, given these extensive U.S. forces earmarked for the Pacific region, anyone in Tokyo, Washington, Beijing or Pyongyang would doubt the U.S. capability to project a nuclear

umbrella over Japan – or see the TLAM-N as essential – is puzzling."[38] Such reasoning, however, reflects a decidedly *American* perspective based on *American* views of what *should* be reassuring to allies. But clearly reassurance is in the eye of the reassured, and allied views may differ from ours, based on unique historical, cultural or other factors. These factors should be taken into account if the purpose of the U.S. extended deterrent is to reassure allies of the American commitment to their security.

Since the change in Japan's government in 2009, questions have been raised about that country's views of the importance of the TLAM-N for extended deterrence. Japan's Foreign Minister Katsuya Okada has noted, "…the Japanese government is not in a position to judge whether it is necessary or desirable for [the U.S.] government to possess particular [weapons] systems…. Nevertheless, if TLAM-N is retired, we hope to receive ongoing explanations of [the U.S.] government's extended deterrence policy, including any impact this might have on extended deterrence for Japan and how this could be supplemented."[39]

Indeed, as a result of its recent review of the U.S. nuclear posture, the Obama administration has now decided to retire the TLAM-N arguing it "serves a redundant purpose in the U.S. nuclear stockpile" and its deterrence and assurance roles "can be adequately substituted" by other means including forward-deployed aircraft and U.S. central strategic forces.[40] At the same time, however, the administration has declared "No changes to U.S. extended deterrence capabilities will be made without continued close consultation with allies and partners."[41]

With respect to the continued deployment of non-strategic nuclear forces in Europe, the Obama administration's April 2010 Nuclear Posture Review argues such decisions should be made in consultation with NATO allies and states the United States "is committed to making consensus decisions through NATO processes."[42] Moreover, it declares, "Any changes in NATO's nuclear posture should only be taken after a thorough review within – and decision by – the Alliance."[43]

Despite the expressed U.S. commitment to consult closely with countries that benefit from America's extended deterrent, some observers have argued the views of allies should not drive the United States to maintain nuclear weapons that have little military utility. They argue doing so would essentially hold American nuclear deployments "hostage"

to the whims of other countries.[44] Nevertheless, it is clear American strategic interests are best served by considering Allied views – though these views may not be determinative – prior to any future decisions regarding the appropriate level or composition of U.S. nuclear forces.

Although a number of European and Asian allies share similar views of the importance of extended deterrence, there are also important nuances. For example, it is generally the case that European allies put great value in the deployment of U.S. non-strategic nuclear weapons on European soil, whereas a number of Asian allies would prefer to keep U.S. nuclear weapons, both strategic and non-strategic, "on call."[45]

Extending Deterrence by Other Means

Extended nuclear deterrence worked well during the Cold War. NATO's deployment of U.S. nuclear weapons on European soil, coupled with its refusal to preclude the first use of nuclear weapons in response to Soviet conventional aggression, arguably helped convince Soviet leaders of the seriousness of America's nuclear guarantees to its European allies. In the post-Cold War world, however, some have questioned the value of extended deterrence, suggesting other capabilities are capable of providing the deterrent value that U.S. nuclear forces once provided.

Third Party Nuclear Capabilities

In the European context, both the U.K. and France maintain their own independent nuclear forces and could presumably extend their nuclear deterrent to the rest of Europe. However, neither country is likely to do so for a variety of political and strategic reasons. These include the difficulty of persuading their populations they should not only use their independent nuclear deterrents to protect their own citizens but other

European countries as well, especially in a post-Cold War world where pressures to reduce reliance on nuclear forces continue to mount.

UK strategic nuclear deterrent policy continues to be based on a 2006 White Paper[46] and supports a minimum nuclear deterrent, although it does recognize British nuclear weapons can play an important role in NATO's collective security. British nuclear forces have been reduced by 75 percent since the end of the Cold War and the British deterrent now consists of "no more than 160 operationally available warheads."[47] British Prime Minister Gordon Brown, in a July 2009 report to Parliament, noted a "minimum nuclear deterrent remains an essential element of our national security," and declared Britain "will continue to contribute our strategic nuclear deterrent to NATO's collective security" but noted the UK "would only consider using nuclear weapons in self-defense (including the defense of our NATO allies), and even then only in extreme circumstances."[48]

In his 2006 speech to the Strategic Air and Maritime Forces at Ile Longue, French President Jacques Chirac reiterated the importance of France's nuclear deterrent, calling it "the ultimate guarantor of our security" and declared there should be no doubt "about our determination and capacity to resort to our nuclear weapons. The credible threat of their utilization permanently hangs over those leaders who harbor hostile intentions against us." But he also suggested defending France's vital interests could extend beyond the country's borders as a result of "the growing interdependence of European countries and also by the impact of globalization."

Chirac noted, "Safeguarding our strategic supplies or the defense of allied countries are, among others, interests that must be protected." He also declared France's nuclear deterrent to be "a core element in the security of the European continent."[49]

Nevertheless, this statement was offered in the context of a NATO Strategic Concept that continues to rely on American nuclear capabilities for extended deterrence. It was not meant to suggest French nuclear forces could substitute for American capabilities. Moreover, some European countries have in the past been disinclined to stake their own security on France's nuclear deterrent.[50] This may, in part, reflect political as well as military concerns.

As a practical matter, extending deterrence to European allies through exclusive reliance on the relatively small independent UK or French nuclear deterrents is unlikely to convey the same measure of credibility as using U.S. nuclear forces. In addition, neither the British nor French nuclear capabilities are seen as sufficient to extend deterrence to Asian allies against a growing Chinese nuclear capability.[51]

Non-nuclear Capabilities

Some believe the contemporary strategic environment no longer requires American nuclear threats to be made on behalf of allies, if it ever did, and non-nuclear means can be equally effective as a deterrent to aggression. As a 2008 RAND Project paper on deterrence argued, "The United States, even when resting extended deterrence almost entirely on nuclear weapons, was always extremely circumspect about even obliquely threatening their use; this was no less the case during the 1950s when it still retained a near-monopoly on long-range nuclear weapons. In addition, at present and for the near term, U.S. conventional capabilities greatly reduce the need to rely on nuclear weapons for extended deterrence relative to the 1950s."[52]

Nuclear weapons deter by threatening severe punishment to a potential attacker. The effectiveness of this type of deterrence requires the ability to hold at risk those assets an adversary values most. Although in certain cases modern conventional weapons can accomplish military objectives once thought possible only by the use of nuclear weapons, they cannot substitute for nuclear weapons in all cases.

For example, potential adversaries like North Korea and Iran have placed their most valuable strategic assets underground, in highly protected areas, beyond the reach of conventional strike capabilities. Removing the threat of a nuclear retaliatory strike would grant sanctuary to those assets or capabilities that could no longer be held at risk. Rather than deter aggression, this might provoke it if an adversary believes his most valuable assets could be spared from destruction.

Moreover, some of the bloodiest conflicts in history, including two conventional World Wars, were fought as a consequence of the failure of

pre-nuclear deterrence. In the words of one analyst, "The historical record of conventional deterrence is not encouraging."[53]

One reason to question the ability of conventional forces to substitute for nuclear forces in providing extended deterrence is sufficient conventional forces may not be forward-deployed in time to regions where they can function as an effective deterrent. Moreover, while the United States continues to seek a prompt global strike capability that would allow swift and accurate strikes anywhere on the globe using non-nuclear weapons, those potential capabilities are not sufficiently mature to expect they can credibly serve the extended deterrence function that nuclear weapons do today.

In addition to the strictly military aspects of deterrence, there are psychological ones at play as well. Nuclear weapons are perceived to be the ultimate weapons and the punishment they can exact is without equal. The psychological impact of a threat to employ a weapon with such significant damage potential may, in and of itself, bolster deterrence in ways the threat of conventional retaliation cannot.

While the effectiveness of deterrence rests on the adversary's perception of the consequences of aggression, and it is impossible to know with absolute certainty how an adversary perceives nuclear threats, it is nevertheless plausible conventional deterrence alone will carry less impact than deterrent threats that include a nuclear component. As General Kevin Chilton, former commander of U.S. Strategic Command, testified last year, "The nuclear weapon has a deterrent factor that far exceeds a conventional threat."[54]

Aside from reliance on non-nuclear weapons capabilities, it is possible that extended deterrence can be bolstered through a more robust American presence on allied territory. This can take the form of troop deployments, military facilities, or other types of visible linkages that bind friends and allies more tightly to the United States.

However, the very visibility of an expanded American presence on the territories of sovereign states may also occasion negative political repercussions, especially in times of heightened tensions. Hence, the value of this means of assurance may be more susceptible to short-term fluctuations in internal host-nation politics that impact the credibility of American security guarantees.

Missile Defenses

In addition to the threat of punishment, deterrence can also be achieved through the ability to deny a potential attacker the objectives of his attack. This "deterrence through denial" strategy can be reflected in defensive measures – either as a substitute for or adjunct to – offensive retaliatory means.

The 2001 NPR reintroduced defenses into the calculus of deterrence by advocating the deployment of ballistic missile defenses. The ability to protect and defend against attack should deterrence fail was seen as a critical element of a sound nuclear strategy and a policy that reinforced deterrence by complementing the offensive threat of "punishment" with a defensive strategy of "denial."

By adding strategic defenses to the deterrent mix, the 2001 NPR argued reliance on nuclear weapons could be reduced. This did not mean, however, it could be eliminated entirely.

Ultimately, an adversary decides what best deters him from a particular course of action. For some aggressors, the threat of denial may be less of a deterrent than the threat of punishment. But it is impossible to know with certainty what will work best in all circumstances and under all scenarios.

Therefore, a prudent strategic posture should seek to maximize the effectiveness of deterrence by maintaining the capability to both punish and deny. Like advanced conventional weapons, missile defenses can be an important adjunct to a deterrence policy that includes nuclear weapons, but defenses alone cannot be a substitute for them.

Robustness of the Nuclear Enterprise

Regardless of whether nuclear deterrence relies on offensive punitive measures, defensive systems or a combination of both, the capabilities to punish or deny must be viewed as credible to be effective. In large measure, the credibility of a nuclear deterrent arsenal lies not only in a willingness to employ it if necessary but in its perceived reliability, i.e., its ability to accomplish its mission if employed.

As the American nuclear arsenal continues to age and as the United States continues to abide by the unilateral nuclear test moratorium imposed nearly two decades ago, there has been a rising chorus of concern expressed over the continued reliability and efficacy of the U.S. nuclear weapons stockpile.

Some observers have suggested American decisions over nuclear weapons modernization and sustainment of the U.S. nuclear weapons enterprise have consequences for extended deterrence. While acknowledging the importance of the actual nuclear weapons in ensuring deterrence, the viability of the nuclear weapons complex is also seen as central to ensuring deterrence.

As two Los Alamos National Laboratory officials put it, "It is not only the capabilities of the forces themselves that assure allies and deter potential adversaries, it is also the capability to sustain and modernize these forces, while also demonstrating that ability to rapidly respond to new or emerging threats."[55] This suggests a failure to modernize and to adapt the U.S. nuclear infrastructure to contemporary security threats may cast doubt on the credibility of the U.S. extended deterrent.

A similar point was made in a recent study of extended deterrence published by the Center for Strategic and International Studies, which noted, "…perceived challenges to the credibility of U.S. deterrence capabilities in the long-term could have shorter-term consequences for assurance. Perceptions of the long-term viability of the U.S. stockpile and infrastructure and of the prospects for a national consensus on the future of the U.S. deterrent are salient factors affecting allies' confidence in the durability of the U.S. commitment. Allies are paying close attention to American nuclear policy debates. Arguments from both sides of the ideological divide can undermine assurance by skewing allies' perceptions of U.S. intentions and capabilities."[56]

There is also some evidence to suggest European allies view the continued viability of the overall U.S. nuclear enterprise to be more relevant to extended deterrence than either the levels or composition of U.S. nuclear forces.[57] Indeed, the significant decline in the U.S. strategic nuclear arsenal since the height of the Cold War, the removal of almost all non-strategic nuclear forces in Europe, the suspension of underground nuclear testing, the loss of nuclear design and engineering competence and

talent in the national laboratories, the congressional prohibitions on nuclear modernization, the aversion to any "new" nuclear weapons, and the general lack of attention to nuclear matters are symptomatic of a trend that suggests a diminished overall utility for nuclear weapons. These developments may also suggest to allies there is reason for additional concern over the efficacy of America's extended deterrent.

The Impact of the Obama Administration's Nuclear Policies

The Obama administration has made the global elimination of nuclear weapons a key national security goal. In the same Prague speech in which he reiterated the importance of extending nuclear deterrence to U.S. allies, President Obama also declared the United States – as the only nation to have used nuclear weapons in anger – has a "moral responsibility" to work for their elimination. One year later, the President signed a "New START" treaty with Russia that would reduce the level of strategic nuclear offensive forces – both warheads and their associated delivery vehicles – to levels below those agreed to in the 2002 Strategic Offensive Reductions Treaty (a.k.a. Moscow Treaty). In addition, he committed the administration to pursuing significantly lower levels of nuclear forces with Russia as part of a follow-on arms control agenda.

Subsequent to the signing of "New START," the administration released its own Nuclear Posture Review. This new, congressionally-mandated NPR articulated the rationale and provided the underpinning for decisions that will affect the size and composition of the American nuclear arsenal over the next decade.

As expected, the 2010 NPR reaffirmed the importance of extended deterrence, noting, "The United States remains committed to providing a credible extended deterrence posture and capabilities."[58] And it suggested a role for U.S. central strategic forces in the extended deterrence mission. In particular, it stated "nuclear-capable bombers are important to extended deterrence of potential attacks on U.S. allies and partners. Unlike ICBMs and SLBMs, heavy bombers can be visibly forward deployed, thereby signaling U.S. resolve and commitment in crisis."[59]

The 2010 NPR's recognition of the role U.S. central strategic forces can play in extending deterrence to allies and strategic partners

raises the prospect that the demands on U.S. nuclear forces may grow beyond the ability to meet them. This includes the possible extension of U.S. nuclear guarantees to countries that heretofore have remained outside the formal protection of the U.S. nuclear umbrella. In November 2008 it was reported the United States might extend an explicit nuclear guarantee to Israel in the event Iran acquired nuclear weapons.[60]

In July 2009, Secretary of State Hillary Clinton appeared to broaden that guarantee by stating the United States might consider extending "a defense umbrella" over the Middle East region as a deterrent to a nuclear-armed Iran.[61] Although she did not explicitly refer to an extended nuclear deterrent, the implication was clear and was seen as an attempt to dissuade countries in the region such as Saudi Arabia and other Gulf states from seeking nuclear weapons as a counterbalance to Iran's nuclear weapons potential.

It seems odd at a time when American nuclear forces decline the United States may consider extending its nuclear deterrent to other non-NATO states with no formal alliances with the United States. The prospect of a nuclear-armed Iran has raised concerns among Iran's immediate and regional neighbors. Countries like Saudi Arabia may feel threatened by a nuclear weapon in the hands of the leaders of the Islamic Republic. A heightened level of insecurity among countries in this volatile region may propel some toward acquisition of their own indigenous nuclear weapons capability. Such a prospect would not only be a setback to U.S. nonproliferation policy, but could ignite regional tensions that threaten American friends and interests.

Seeking an Appropriate Nuclear Threshold

Global strategic developments and U.S. policy may move the United States in a potentially risky direction. The proliferation to dangerous actors of nuclear weapons and technologies is creating conditions where U.S. allies and friends place greater stresses on, and increasingly question the credibility of, American security guarantees. For example:

- Additional European states seek security against a resurgent Russia through NATO membership that conveys the protection of the American nuclear umbrella;
- U.S. allies in Asia are wary of China's nuclear modernization programs, as China increasingly invests in developing its regional nuclear capabilities;
- North Korea's development of nuclear weapons continues unabated, fueling concerns over how the United States will ensure regional security; and
- Iran's determined pursuit of nuclear weapons may lead Middle Eastern countries – some of whom do not even get along with one another – to quietly solicit American protection.

In all of these circumstances, the extended deterrent provided by U.S. nuclear weapons may assume greater prominence and importance. Yet, the U.S. nuclear arsenal has shrunk to its lowest levels since the Eisenhower Administration and is slated to be reduced even further consistent with an American policy whose stated objective is the complete elimination of nuclear weapons.

It may be difficult to convince those who today see their own security guaranteed by the American nuclear umbrella and those who believe their future security depends on tying themselves more tightly to the safety American nuclear weapons provide that the shift toward other measures of assurance (e.g., advanced conventional capabilities, missile defenses, etc.) is not merely an attempt to justify policy decisions made in the absence of allied consultation and without sufficient understanding of the allies' perceptions of their own vulnerabilities.

As the number of strategic nuclear weapons and delivery platforms declines, the burdens on the residual nuclear forces for implementing extended deterrence will rise. These burdens are unlikely to diminish given the strategic realities noted above. A decline in U.S. strategic nuclear forces may also impact the ability of the United States to forward deploy such forces to theaters of crisis.

For example, although it may be seen as useful to forward deploy strategic bombers or submarines to the Pacific region as a signal of U.S. resolve, pressures to reduce these forces significantly – or even to abandon

the traditional Triad and move to a "Dyad" or "Monad" – may mitigate against such deployments and diminish the credibility of extended deterrence in the eyes of allies, friends, and adversaries.

In Europe, the future disposition of remaining U.S. nuclear forces will likely be addressed in NATO's revised Strategic Concept. Though NATO publics are generally receptive to the goal of nuclear disarmament, NATO governments may be increasingly reluctant to abandon those remaining U.S. nuclear weapons on European soil in light of the Alliance's enlargement, growing concerns over Russian policy and behavior directed against its neighbors to the West, and the traditionally anemic defense investment of individual NATO countries who prefer that the United States continue to assume the lion's share of the burden for their ultimate security. Having suffered the consequences of a failed conventional deterrence that led to two World Wars on the continent, Europeans may not yet be ready to abandon the implements of deterrence that have successfully prevented a third World War for more than six decades.

Any changes to America's strategic nuclear posture should not occur in the absence of detailed, robust consultations with allies and friends. Such consultations will be easier to implement with European allies, as mechanisms have long existed to involve NATO governments in the nuclear planning process. The modalities for adapting this consultative process to Asian allies and friends is more complex, however, as they have not been integrated into U.S. nuclear planning activities in the same way as NATO countries.

How Little Is Too Little?

Deterrence is an art, not a science. For these reasons, it is not possible to declare with certainty a particular level of nuclear weapons is sufficient to guarantee the effective functioning of deterrence – or extended deterrence – in all cases, at all times, against all possible adversaries. Indeed, what may be considered sufficient for deterrence today may prove insufficient tomorrow, as the strategic environment is highly dynamic.[62]

In the past, assurance considerations have factored into decisions regarding the overall size of the U.S. strategic nuclear arsenal. This was certainly true with respect to the strategic force reductions postulated in the 2001 NPR. Consistent with its guidance, U.S. strategic forces have been reduced to their lowest levels in many decades. Despite these reductions, however, the range of 1,700 – 2,200 operationally deployed strategic nuclear weapons subsequently codified in the Moscow Treaty was chosen as "an assurance-related requirement for U.S. nuclear forces that they be judged second to none."[63]

To date, there has been no explanation of whether or how the reduced nuclear force levels of 1,550 warheads on 700 deployed delivery systems agreed to in the April 2010 "New START" accord have incorporated the assurance requirements of allies. The reductions required by New START, coupled with the Obama administration's declared intent to reduce U.S. nuclear weapons even further on a path toward their eventual elimination, may complicate the long-term viability of extended deterrence. As one observer noted, "…as numbers go down extended deterrence concerns go up…."[64]

Assuming continued reductions in U.S. strategic nuclear forces, is there a threshold level beneath which the risks of aggression exceed the U.S.'s ability to deter it? There can be no definitive answer to this question, as the answer will vary depending upon the specifics of the scenario postulated. However, the ultimate answer to this question depends primarily on the perceptions of allies and adversaries, not on American calculations and theories.

Likewise, it is difficult to ascertain the appropriate level of forward-deployed non-strategic nuclear forces necessary to ensure the continued credibility of extended deterrence. For Europe, NATO's new Strategic Concept will need to address this in the context of shifting perceptions of threats, Alliance membership changes, and unique national circumstances.[65]

In some cases, allies may feel extending a purely defensive umbrella (e.g., through deployment of active missile defenses on their territory), hosting the deployment of American troops, or other measures may provide sufficient deterrence against aggression from hostile neighbors or powers.

Yet this is an untestable proposition. Deterrence may succeed, but it is not possible to know with absolute certainty what accounted for its success. On the other hand, if it fails we will know with certainty that the measures we relied upon for it to work were insufficient.

Preserving the credibility of U.S. security guarantees will always be challenging. Some of the difficulties were noted by two Lithuanian analysts who argued, "…security guarantees from third nations always suffer from credibility problem (sic.). History provides many examples when extended deterrence fails (e.g. British and French security guarantees did not deter Germany from attacking Poland in 1939). Extended *nuclear* deterrence is even more difficult to implement. For the United States, the United Kingdom or France to prove to other nations that they are ready to risk nuclear holocaust for the sake of the Baltic states is extremely difficult."[66]

Indeed, on whose behalf the United States should risk "nuclear holocaust" is a matter of considerable dispute. Some argue the U.S. nuclear umbrella should not be extended to countries that do not share fundamental values with the United States. Others believe American nuclear security guarantees should only be extended to countries whose security is considered absolutely vital to U.S. survival.

If, how and to whom the United States should extend additional nuclear guarantees should be carefully considered. As the nuclear umbrella shrinks, and the number of countries seeking protection under it grows, the implications for credible extended deterrence loom large. The benefits for deterrence must be balanced against the potential risks to the United States should it fail. This is not an easy task, and there are no simple answers. But decisions on whether to extend U.S. nuclear deterrence to other states should be decided on a case-by-case basis, taking a range of country-unique and alliance-specific military, political, diplomatic, and other variables into account.

Despite these challenges, it is clear from the statements of some allies that reliance on the U.S. extended deterrent is more important than ever, especially in light of changes in the strategic environment they perceive as directly threatening their security. It is also evident additional reductions to U.S. nuclear forces may have negative consequences for the

ability to assure allies that the United States is unwavering in its commitment to their security.

Conclusions

Extended nuclear deterrence has a long and relatively successful history. But most of that history was written during the Cold War under strategic circumstances that have been fundamentally altered. The demise of the Soviet Union, the rise of other nuclear armed states, the proliferation of nuclear threats, the restructuring of alliance relationships, and continued downward pressures on nuclear weapons and force levels suggest that extended deterrence, to be effective, must operate in new and challenging conditions unlike in the past.

Despite this new strategic environment, extended deterrence remains an important element of U.S. security strategy. Its continued relevance has been recognized by the Obama administration through the statements of senior spokespersons like the Secretary of State and Secretary of Defense and including the President himself. It has also been reaffirmed in the 2010 NPR.

Yet, at the same time, the credibility of the U.S. nuclear umbrella may be strained as a result of the desire to rid the world of those weapons upon which it is based. Simultaneously, the number of states seeking or obtaining the protection offered by the U.S. extended deterrent may increase as the size of U.S. nuclear forces providing that extended deterrent diminishes.

Determinations of the appropriate size and composition of the U.S. nuclear arsenal must necessarily reflect the varied requirements of extended deterrence and assurance. Given the emergence of new threats, different regional security environments, and continuing challenges to reliance on nuclear weapons for deterrence purposes, it is not possible to posit with certainty a static level of nuclear forces that can simultaneously accomplish all necessary missions. However, it does appear plausible that additional U.S. nuclear force reductions will complicate achieving these missions. For this reason, future decisions regarding the size and composition of U.S. nuclear forces should be informed by comprehensive

consultations with friends and allies whose security depends on the viability of the U.S. nuclear deterrent.

Integrating allies into the formal consultative process on these issues may also have the attendant benefit of providing a form of reassurance. In the absence of such consultations, U.S. policies intended to strengthen deterrence may actually hasten its failure. The consequences of such could be unprecedented and catastrophic for all.

Notes

[1] For a more detailed examination of options for providing assurance, see "Nuclear Guarantees, Extended Deterrence, and the Assurance of Allies," *Planning the Future U.S. Nuclear Force: Volume II: Foundation Report*, National Institute for Public Policy (October 2009), 55-58.
[2] This notion of "existential deterrence" was popularized by McGeorge Bundy in the 1980s and reflected a belief that the destructive power of nuclear weapons made them militarily useless and the possession of merely a handful of them would be a sufficient deterrent to any potential aggressor.
[3] Remarks by President Barak Obama, Hradcany Square, Prague, Czech Republic (April 5, 2009).
[4] See Josiane Gabel, "The Role of U.S. Nuclear Weapons after September 11," *The Washington Quarterly*, Volume 28:1 (Winter 2004-2005), 193.
[5] Ibid., 193-194. This includes Kurt M. Campbell, Robert J. Einhorn, and Mitchell B. Reiss, eds., *The Nuclear Tipping Point: Why States Reconsider Their Nuclear Choices*, Brookings Institution, Washington, D.C., (2004).
[6] U.S. Department of State International Security Advisory Board, *Report on Discouraging a Cascade of Nuclear Weapons States* (Oct. 19, 2007), 23.
[7] Ibid., 15.
[8] Secretary of Defense Robert M. Gates, "Nuclear Weapons and Deterrence in the 21st Century," speech before the Carnegie Endowment for International Peace (Oct. 28, 2008).
[9] William J. Perry, James R. Schlesinger, et. al., *America's Strategic Posture: The Final Report of the Congressional Commission on the Strategic Posture of the United States*, Washington, DC, U.S. Institute of Peace Press (2009), xvii.
[10] "The Alliance's Strategic Concept," approved by the Heads of State and Government participating in the meeting of the North Atlantic Council in Washington D.C., (April 23-24,1999), http://www.nato.int/cps/en/natolive/official_texts_27433.htm.
[11] For an excellent discussion of this process as it relates to extended deterrence, see David Yost, "Assurance and U.S. Extended Deterrence in NATO," *International Affairs*, volume 85:4 (2009), 755-780.
[12] General Dr. Klaus Naumann, General John Shalikashvili, Field Marshal The Lord Inge, Admiral Jacques Lanxade, and General Henk van den Breemen, *Towards a Grand Strategy for an Uncertain World: Renewing Transatlantic Partnership*, Noaber Foundation, Lunteren, the Netherlands (2007), 94.
[13] Cited by James L. Schoff, in "Does the Nonproliferation Tail Wag the Deterrence Dog?," *PacNet*, Pacific Forum CSIS, Number 9 (Feb. 5, 2009).
[14] Ibid.
[15] Recounted in Keith Payne, "On Nuclear Deterrence and Assurance," *Strategic Studies Quarterly* (spring 2009), 54-55.
[16] "Joint Vision for the Alliance of the United States of America and the Republic of Korea," Office of the Press Secretary, The White House (June 16, 2009).
[17] Speech by Secretary of Defense Robert M. Gates, Yongsan Garrison, Seoul, Republic of Korea (Oct. 21, 2009).
[18] For example, see Russian Prime Minister Vladimir Putin's statement in "Russia 'Must Counter U.S. Defenses'," BBC News (Dec. 29, 2009),
http://news.bbc.co.uk/2/hi/europe/8433352.stm.
[19] See, for example, Valentina Pop, "Ukraine Drops NATO Membership Bid," http://euobserver.com/13/30212.
[20] This assurance is often referred to as the "three no's" and reflects NATO's earlier commitment to Russia that it has "no intention, no plan, and no reason to deploy nuclear weapons on the territory of new members." See the Founding Act on Mutual Reductions, Cooperation and Security Between NATO and the Russian Federation, Paris, France (May 27, 1997).
[21] Yomiuri, "North Korea's Nuclear Threat: Reinforcing Alliance With U.S. Helps Bolster Nuclear Deterrence," JPP20070323969090 Tokyo *The Daily Yomiuri*, (Internet version-WWW) in English (March 24, 2007), cited in "Nuclear Guarantees, Extended Deterrence, and the Assurance of Allies," *Planning the Future U.S. Nuclear Force: Volume II: Foundation Report*, op. cit., 48.
[22] See comments of Yukio Satoh, "Are the Requirements for Extended Deterrence Changing," Panel Discussion at Carnegie Endowment International Nonproliferation Conference (April 6, 2009).
[23] Joint Statement of the U.S.-Japan Security Consultative Committee (May 1, 2007), http://tokyo.usembassy.gov/e/p/tp-20070502-77.html.
[24] Satoh comments, op. cit.

[25] Ibid.
[26] Ibid.
[27] Joseph F. Pilat, "Nonproliferation, Arms Control and Disarmament, and Extended Deterrence in the New Security Environment," *Strategic Insights*, Volume VIII, Issue 4 (September 2009).
[28] Vaidotas Urbelis and Kestutis Paulauskas, "NATO's Deterrence Policy – Time for Change?," *Baltic Security and Defense Review*, Volume 10 (2008), 87.
[29] "The Alliance's Strategic Concept," op. cit.
[30] James R. Schlesinger, et. al., *Report of the Secretary of Defense Task Force on DoD Nuclear Weapons Management, Phase II: Review of the DoD Nuclear Mission* (December 2008), 14-15, 59-60.
[31] Strategic Posture Commission Final Report, op. cit., 13.
[32] Ibid., 20.
[33] See, for example, Alexandra Bell's report, "Turkey's Nuclear Crossroads," http://www.good.is/post/turkeys-nuclear-crossroads/, posted on Aug. 25, 2009. This account is also referenced in Miles A. Pomper, William Potter, and Nikolai Sokov, *Reducing and Regulating Tactical (Nonstrategic) Nuclear Weapons in Europe*, Monterey Institute of International Studies, (December 2009), 22. In addition, a February 2008 report to the Senate Foreign Relations Committee cited a meeting with Turkish politicians who argued that without strong American commitments to Turkey's security, the development by Iran of a nuclear weapons capability would make it "compulsory" for Turkey to follow suit. See *Chain Reaction: Avoiding a Nuclear Arms Race in the Middle East*, Report to the Committee on Foreign Relations, United States Senate, (February 2008), 41.
[34] Strategic Posture Commission Final Report, op. cit, 26.
[35] See "Nuclear Guarantees, Extended Deterrence, and the Assurance of Allies," in *Planning the Future U.S. Nuclear Force, Volume II: Foundation Report*, op. cit., 55.
[36] Strategic Posture Commission Final Report, op. cit, 20-21.
[37] James M. Acton, "Extended Deterrence and Communicating Resolve," *Strategic Insights*, Volume VIII, Issue 5 (December 2009).
[38] Hans M. Kristensen, "Japan, TLAM-N, and Extended Deterrence," Federation of Atomic Scientists Strategic Security Blog (July 2, 2009),
http://www.fas.org/blog/ssp/2009/07/tlam.php.
[39] Reported in Jeffrey Lewis, "Japan Hates TLAM-N,"
http://www.armscontrolwonk.com/2601/japan-hates-tlam-n.
[40] U.S. Department of Defense, *Nuclear Posture Review Report* (April 2010), 28.
[41] Ibid., 28.
[42] Ibid., 27.
[43] Ibid., 32.
[44] For example, as Jeffrey Lewis has argued: "Would you do something dumb just because the Japanese asked you to? Of course not. That some Japanese officials irrationally focus on irrelevant capabilities to measure our commitment to Japan is a symptom of a much bigger problem that needs to be addressed with more than hardware." See "Japan ♥ TLAM-N," http://www.armscontrolwonk.com/2284/japan-tlamn.
[45] A discussion of this point can be found in "Nuclear Guarantees, Extended Deterrence, and the Assurance of Allies," *Planning the Future U.S. Nuclear Force: Volume II: Foundation Report*, op. cit., 64.
[46] *The Future of the United Kingdom's Future Deterrent*, Cm6994, (December 2006).
[47] See The Road to 2010: Addressing the Nuclear Question in the Twenty First Century, U.K. Cabinet Office (July 2009), 5.
[48] Ibid., 38-39.
[49] Speech by Jacques Chirac, President of the French Republic, to The Strategic Air and Maritime Forces at Landivisiau / L'Ile Longue (Jan.19, 2006).
[50] For example, former Defense Minister of the Federal Republic of Germany Manfred Wörner stated in 1985, "France's nuclear capability is insufficient to protect the Federal Republic. We will have to continue to rely on the American nuclear umbrella." Cited in Yost, op. cit., 761.
[51] See Mark Schneider, "The Future of the U.S. Nuclear Deterrent," *Comparative Strategy*, Volume 27 (2008), 345-360.
[52] Austin Long, *Deterrence From Cold War to Long War: Lessons from Six Decades of RAND Research* (2008), 63.
[53] Pilat, op. cit.

[54] Testimony of General Kevin Chilton, Commander, U.S. Strategic Command, before the Strategic Forces Subcommittee of the House Committee on Armed Services (March 16, 2010).
[55] Joseph C. Martz and Jonathan S. Ventura, "Nuclear Deterrence in the 21st Century: The Role of Science and Engineering," a paper produced by the Principal Associate Directorate for Nuclear Weapons, Los Alamos National Laboratory, LA-UR-08-05019 (2008)
[56] Clark A. Murdock, et. al., *Exploring the Nuclear Posture Implications of Extended Deterrence and Assurance: Workshop Proceeding and Key Takeaways*, Defense and National Security Group, Center for Strategic and International Studies, Washington, D.C., (November 2009), 2.
[57] For a discussion of this point, see David Yost, op. cit, 755-780.
[58] U.S. Department of Defense, *Nuclear Posture Review Report*, op. cit., 28.
[59] Ibid., 24.
[60] Aluf Benn, "Obama's Atomic Umbrella: U.S. Nuclear Strike if Iran Nukes Israel," *Haaretz* (Nov. 12, 2008).
[61] For an interesting perspective on this statement and an analysis of U.S. efforts to extend deterrence to Middle East states, see James A. Russell, "Extended Deterrence, Security Guarantees, and Nuclear Weapons: U.S. Strategic and Policy Conundrums in the Gulf," *Strategic Insights*, Volume 8, Issue 5 (December 2009), http://www.nps.edu/Academics/centers/ccc/publications/OnlineJournal/2009/Dec/russellDec09.pdf.
[62] Unlike previous arms control treaties that established precise numerical ceilings on nuclear force levels, the 2002 Moscow Treaty allowed both the United States and Russia to maintain a range of between 1,700 and 2,200 operationally deployed strategic nuclear weapons. This flexibility was arguably more appropriate and relevant to the variable and evolving requirements of deterrence, including extended deterrence.
[63] Responses by Secretary of Defense Donald H. Rumsfeld and General Richard B. Myers to questions submitted for the record by the Senate Foreign Relations Committee in *Treaty on Strategic Offensive Reduction: The Moscow Treaty*, S. Hrg. 107-622, 107th Congress, Second Session, GPO, Washington, D.C., (2002), http://www.gpo.gov/fdsys/pkg/CHRG-107shrg622/pdf/CHRG-107shrg622.pdf.
[64] Chris Jones, "The Shades of Extended Deterrence," Center for Strategic and International Studies (Jan. 4, 2010), http://csis.org/blog/shades-extended-deterrence.
[65] As one analyst has noted, "Because NATO has not identified targets for its nuclear forces since the 1990s, it is a challenge to specify and analyze the 1999 Strategic Concept's requirement for 'adequate nuclear forces in Europe'…. The minimum level may derive more from judgments about an appropriate level of risk- and responsibility-sharing among allies, and about what is necessary to demonstrate continuing U.S. engagement and commitment, than from a quantitative analysis of potential contingencies." Yost, op. cit., 758.
[66] Urbelis and Paulauskas, op. cit., 99.