


CSBA
Center for Strategic and
Budgetary Assessments

Nuclear- Conventional “Firebreaks”

May 30, 2013
Air Force Association



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Study Design

Terminology:

- A “wide” or “robust” firebreak means that a country’s leaders are highly reluctant to employ nuclear weapons.
- Equivalently, leaders perceive the nuclear threshold to be high and the psychological taboo against nuclear use strong

Research questions:

- What has actually been happening to various nuclear-conventional firebreaks since the Cold War ended?
- What does the proliferation of nuclear-conventional firebreaks suggest for sustaining the taboo against nuclear use for another 60 years?

Review/assess nuclear-conventional firebreaks

- Between the United States and the Soviet Union during the Cold War
- Between the United States & the Russian Federation since 1991
- Involving other nuclear powers and aspirants

CSBA One Area of Agreement

“As long as these weapons exist, the United States will maintain a safe, secure and effective [nuclear] arsenal to deter any adversary, and guarantee that defense to our allies—including the Czech Republic.”

— President Barack Obama, April 2009

“So long as nuclear dangers remain, . . . [the United States] must have a strong deterrent that is effective in meeting . . . [U.S.] security needs and those of . . . [U.S.] allies.”

— William Perry & James Schlesinger, May 2009

“[A]s long as nuclear weapons exist, the United States must sustain a safe, secure, and effective nuclear arsenal—to maintain nuclear stability with other major nuclear powers, deter potential adversaries, and reassure our allies and partners of our security commitments to them.”

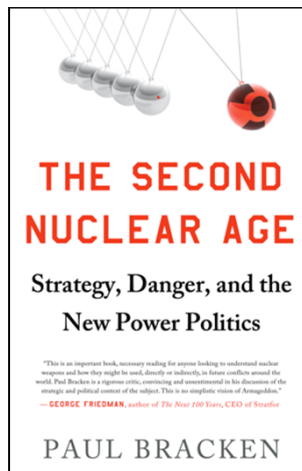
— Robert Gates, April 2010

“. . . our nuclear vigilance will never waver as long as nuclear weapons exist . . .”

— General C. R. Kehler, STRATCOM, March 2013

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CSBA The Second Nuclear Age



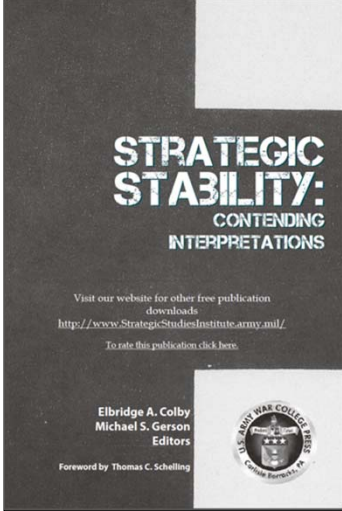
“The spread of the atomic bomb for reasons that have nothing to do with the cold war defines the second nuclear age.” (p. 94)

“. . . a country doesn't have to detonate a nuclear weapon to use it. It's a lesson from the first nuclear age as well, but it seems to have been forgotten . . .” (p. 20)

“Today, the problem isn't U.S. bombs, it is those of other countries.” (p. 36)

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Stability




“It took 12 years to begin to comprehend the ‘stability’ issue after 1945, but once we got it we thought we understood it. Now the world is so much changed, so much more complicated, so multivariate, so unpredictable, involving so many nations and cultures and languages in nuclear relationships, many of them asymmetric, that it is even difficult to know how many meanings there are for ‘strategic stability,’ or how many different kinds of such stability there may be among so many different international relationships, or what ‘stable deterrence’ is supposed to deter in a world of proliferated weapons.” (pp. vii-viii)

— Thomas Schelling, 2013

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Deterrence



“Most of what we . . . believed to be true about deterrence [during the first nuclear age] is of questionable value now because the stakes, the opponents, the context, and our deterrence goals are so dramatically different from those of the Cold War.” (pp. 12-13)

“Numerous countries—including contemporary opponents and allies— perceive unique value in nuclear weapons . . . , whether or not U.S. domestic commentators believe it or want it to be true.” (p. 427)

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CSBA Nuclear Incentives

- **To Garner Political Prestige & Influence** (Russia, Britain, France, China, India, Pakistan, North Korea)
- **To Secure Great Power Status** (Russia, China)
- **To Achieve Regional Hegemony** (Russia, China, Iran)
- **To Offset to Conventional Inferiority** (Russia, Pakistan, North Korea)
- **To Prevent Conventional Regime Change** (Iran, North Korea)
- **To Hedge against a Repeat of Past Defeats/Catastrophes** (France, Israel)
- **To Extort Aid and Protection from Adversaries and Allies** (North Korea)
- **To Deter Limited or Existential Nuclear Attacks by Adversaries or Allies** (the United States, Russia, Britain, France, China, India, Pakistan, Israel, North Korea)

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CSBA Nuclear Attitudes Today

- **The policy of the U.S. government is tantamount to exiting the nuclear-weapons enterprise by taking concrete steps toward a world without nuclear weapons**
- **Nevertheless, the leaders of most of the other nations seeking or possessing nuclear weapons have seemingly “good,” understandable reasons for having nuclear arms**
- **Short of a fundamental transformation of the world political order, our nuclear future is more likely to be one of further proliferation rather than a long march toward nuclear abolition—unless a lot of minds can be changed in a number of foreign capitals**

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CSBA Doubts about Global Zero

One might hope that major war could not happen in a world without nuclear weapons, but it always did.

If a “world without nuclear weapons” means no mobilization bases, there can be no such world.

[A] “world without nuclear weapons” would be a world in which the United States, Russia, Israel, China, and half a dozen or a dozen other countries would have hair-trigger mobilization plans to rebuild nuclear weapons and mobilize or commandeer delivery systems, and would have prepared targets to preempt other nations’ nuclear facilities, all in a high-alert status, with practice drills and secure emergency communications. Every crisis would be a nuclear crisis, any war could become a nuclear war. The urge to preempt would dominate: whoever gets the first few weapons will coerce or preempt. It would be a nervous world.

— Thomas Schelling, *Daedalus*, Fall 2009, pp. 125, 127

CSBA Proliferation Dynamics

“Don’t fight the United States unless you have nuclear weapons.”

— Indian Prime Minister, 1991*

U.S. policy is to *reduce* dependence on nuclear weapons, which entails *increasing* dependence on conventional capabilities

This policy incentivizes prospective adversaries to develop or modernize nuclear weapons to offset U.S. conventional superiority

* Samuel Huntington, *Foreign Affairs*, Summer 1993, p. 46₁₀

CSBA Russian Nuclear Doctrine

Vladimir Putin is adamant that Russia “under no circumstances” will surrender its nuclear deterrent: “Only nuclear weapons allowed Russia to maintain its independence in the troubled 1990s”

Russia has two strategies of nuclear deterrence:

- the first is based on a threat of massive *launch-on-warning* and *retaliatory strikes* to deter nuclear aggression;
- the second is based on a threat of limited (in terms of targets and tasks) *demonstration and de-escalation strikes* to deter and terminate a large-scale conventional war

Russia has “overtaken the United States in the presumed nuclear arms race by developing and deploying a new generation of nuclear weapons,” including the “very-low-yield,” low-collateral-damage warheads that support of Russia’s “de-escalatory” theater doctrine

The Russian General Staff has exercised this doctrine against NATO and PRC conventional attacks (Zapad-1999, Vostok-2010, etc.)

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CSBA China’s 2nd Artillery Corps




“Since the day China had nuclear weapons, the Chinese government has solemnly declared that China would not first use nuclear weapons at any time and under any circumstances.”

In local high-tech warfare under “informationalized” conditions, new conventional military technologies—computers, precision guidance, long-range strike, space, etc.—“can bring about strategic effects similar to that of nuclear weapons,

and at the same time it can avoid the great political risk possibly to be caused by transgressing the nuclear threshold.”


“With the further development of information technology, and its influence on the role of nuclear weapon[s], the discharge of nuclear energy will be controlled by information and be employed to seek information dominance. For instance, the electromagnetic pulse weapon still in [the] laboratory stage is a kind of nuclear weapon. It is possible for nuclear weapons to move from deterrence into warfighting.”

— Peng & Yao, *The Science of Military Strategy*, pp. 17, 23-24, 404¹²




Pakistan


DigitalGlobe - ISIS
2nd Reactor
June 2005



DigitalGlobe - ISIS
3rd Reactor
June 2007



4th Reactor
April 2011




“These three new reactors [at Khushab] will roughly double Pakistan’s annual ability to build nuclear weapons to about 19-26 nuclear weapons per year.

“Pakistan appears to want the plutonium to improve the quality of its nuclear arsenal and build a new generation of lighter, more powerful weapons. Plutonium-based weapons can have more explosive yield in smaller, lighter packages than weapons based on weapon-grade uranium. Pakistan appears to want warheads small enough to fit on cruise missiles it is currently developing. It also may want larger yield (50-100 kiloton) fission weapons that can cause far more damage to Indian cities than its current relatively low-yield weapons. In addition, plutonium-based fission weapons could enable Pakistan to build deliverable thermonuclear weapons (i.e., hydrogen bombs).”

— David Albright and Paul Brannan, May 2011

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Should Nuclear Use Occur

One possibility is that international revulsion against breaking the nuclear taboo will be so strong and widespread that it will precipitate the necessary transformation of world politics to render nuclear abolition possible, regardless of Schelling’s judgment that future conventional conflicts between major powers will not only occur but be “won” by the belligerent able to reconstitute a nuclear capability first.

Another, darker, possibility is that limited use of low-yield nuclear weapons will become the “new normal” and produce a second nuclear age whose dangers and uncertainties will dwarf those of the first.

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Back-Ups

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CSBA A Policy Perspective

... much U.S. writing about the inutility or “senselessness” of nuclear weapons is misplaced, unfounded, and based on a failure to take into account the evidence of other governments’ thinking and policies. Russia is by no means the only government whose programs must be seriously considered. Those who argue that nuclear weapons are only good for deterring nuclear attacks might profit by more serious study of Russia, Pakistan, China, and Israel, to cite only a few examples. . . .

... Until such time as we or others can persuade other states that they do not need nuclear weapons to defend themselves against us or anyone else, the mere repetition of the incantation that nuclear weapons serve no useful purpose in utter defiance of the facts is merely an invitation to a disaster.

— Stephen J. Blank, *Russian Nuclear Weapons: Past, Present, and Future*, 2011

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CSBA Policy Suggestions

Declare as U.S. nuclear policy:

**No nuclear first use, but
guaranteed second use***

or

**No nuclear first use, but
guaranteed “strategic” response**

Promote “rules of the road” among the secondary nuclear powers (e.g., India & Pakistan) aimed at stigmatizing/discouraging/precluding/preventing nuclear use anywhere, anytime, by anyone

* Bracken, *The Second Nuclear Age*, pp. 262-267

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CSBA Weapon Technology

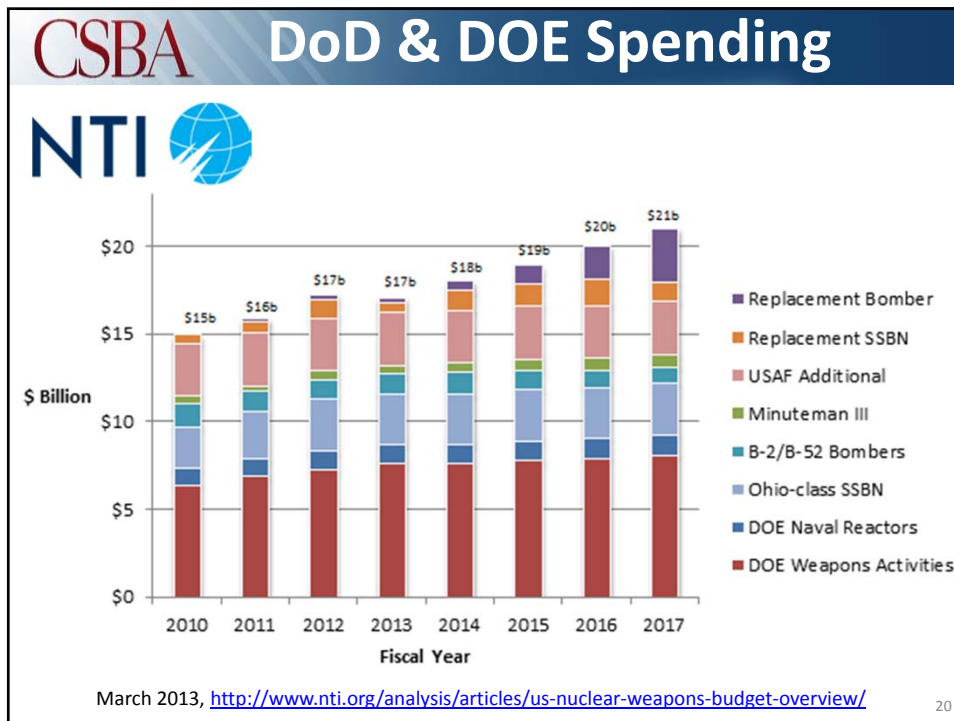
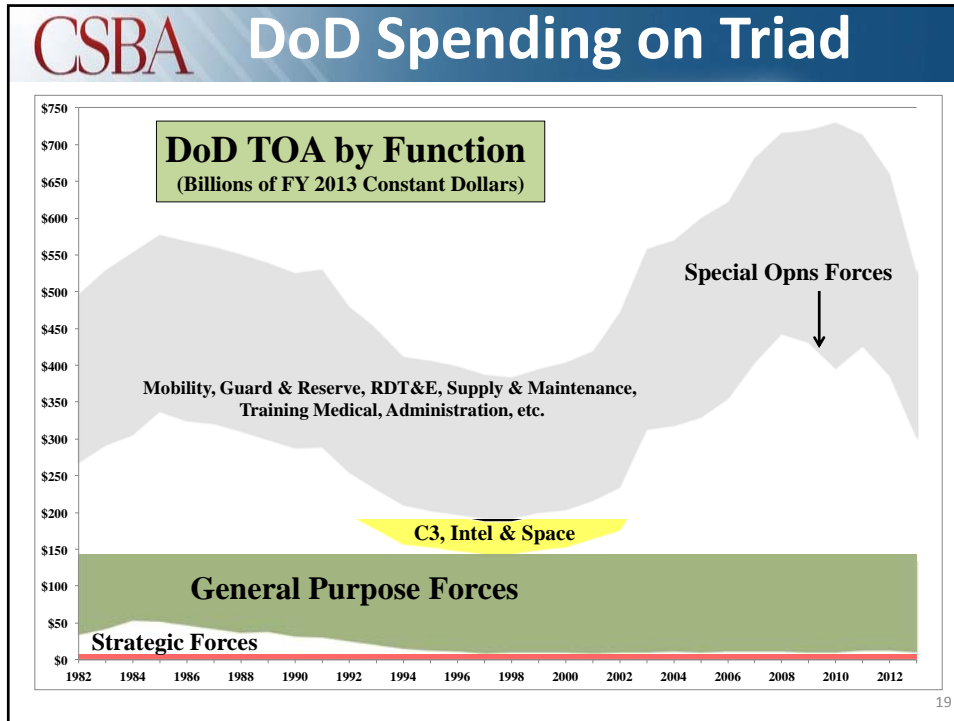
“... the same revolution in accuracy that has transformed conventional warfare has had equally momentous consequences for nuclear weapons and deterrence. Very accurate delivery systems, new reconnaissance technologies, and the downsizing of arsenals from Cold War levels have made both conventional and nuclear counterforce strikes against nuclear arsenals much more feasible than ever before. Perhaps most surprising, pairing highly accurate delivery systems with nuclear weapons permits target strategies that would create virtually no radioactive fallout, hence, vastly reduced fatalities.”

— Keir Lieber and Daryl Press, *Strategic Studies Quarterly*, Spring 2013, p. 3

“The principal determinant of success in future strategic engagements may not be the absolute power of our weapons but the accuracy of our intelligence and our ability to deliver small weapons with precision.”

— Stephen Younger, *The Bomb*, p. 116.

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CSBA 2012 Global Zero Report



**GLOBAL
ZERO**

A WORLD WITHOUT
NUCLEAR WEAPONS

“No sensible argument has been put forward for using nuclear weapons to solve any of the major 21st century problems we face—threats posed by rogue states, failed states, proliferation, regional conflicts, terrorism, cyber warfare, organized crime, drug trafficking, conflict-driven mass migration of refugees, epidemics or climate change. A large standing Cold War-like nuclear arsenal cannot productively address any of these dangers—for instance, it is unable to reliably deter or defeat terrorists with no return address, and its impact on proliferation may be largely counterproductive.” (p. 2)

- Currently, the U.S. stockpile of nuclear warheads is less than 25% of what it was in 1991
- Are U.S. *conventional* capabilities any more likely to “solve any of the major 21st century problems” facing the United States than *nuclear* capabilities?

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THE WALL STREET JOURNAL
ONLINE

A World Free of Nuclear Weapons

By GEORGE P. SHULTZ, WILLIAM J. PERRY, HENRY A. KISSINGER and SAM NUNN
January 4, 2007

Nuclear weapons today present tremendous dangers, but also an historic opportunity. U.S. leadership will be required to take the world to the next stage—to a solid consensus for reversing reliance on nuclear weapons globally as a vital contribution to preventing their proliferation into potentially dangerous hands, and ultimately ending them as a threat to the world.

Nuclear weapons were essential to maintaining international security during the Cold War because they were a means of deterrence. The end of the Cold War made the doctrine of mutual Soviet-American deterrence obsolete. Deterrence continues to be a relevant consideration for many states with regard to threats from other states. But reliance on nuclear weapons for this purpose is becoming increasingly hazardous and decreasingly effective.

... [T]he world is now on the precipice of a new and dangerous nuclear era. Most alarmingly, the likelihood that non-state terrorists will get their hands on nuclear weaponry is increasing. In today's war waged on world order by terrorists, nuclear weapons are the ultimate means of mass devastation. And non-state terrorist groups with nuclear weapons are conceptually outside the bounds of a deterrent strategy and present difficult new security challenges.

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CSBA David Cameron's Views

HMS Victorious, 100th Patrol



“ . . . we need our nuclear deterrent as much today as we did when a previous British government embarked on it over six decades ago. . . . The Soviet Union no longer exists. But the nuclear threat as not gone away. In terms of uncertainty and potential risk it has, if anything, increased.”

“ . . . To those who say we cannot afford a nuclear deterrent, I say that the security of our nation is worth the price. Of course, the deterrent is not cheap—no major equipment programme is. But our current nuclear weapons capability costs on average around 5-6 percent of the current defence budget. . . . It is a price which I, and all my predecessors since Clement Attlee, have felt is worth paying to keep this country safe.”

– April 2013