

Nuclear Deterrence and Disarmament

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Deterrence

- Prevention of action by fear of consequences
 - A state of mind in one's adversary
 - Brought about by credible threat of unacceptable counteraction
- Credibility = capability + will
- Purpose: convince a party not to take some action
 - By threatening the destruction of something he considers to be of great value (deterrence by punishment)
 - Or by denying him achieving his objectives (deterrence by denial)

Deterrence Catechism

- Who is to be deterred?
- What actions are to be deterred?
- How are we going to do that?
- Requirements:
 - At least 2 parties in “cooperative” relationship
 - Communication of intent
 - Rational actors, utility maximizers
 - Assured vulnerability
 - Identify what the adversary values and target it
 - Affect adversary’s cost-benefit analysis

Extended Deterrence

- Providing security for another state through the threat of punishment against a third party
 - Logical extrapolation of deterrence theory
- Two sides of same coin: deterrence and reassurance
- During Cold War typically equated with nuclear weapons
 - Nuclear weapons alone do not ensure the credibility of deterrence, but they may be indispensable
 - Credibility requires not only forces in being, but the political will to maintain, reconstitute, and if necessary, *use* those weapons, plus the development of policies and personnel to do all those
 - One definition: *Credible guarantees and supporting arrangements to employ nuclear weapons in defense of an ally if no alternative protection proves sufficient*

Extended Deterrence

- Guarantees provide ultimate security for Alliance since 1949
 - During Cold War equated with forward deployed nuclear forces
 - Nuclear weapons alone do not ensure the credibility of deterrence, but they may be indispensable
 - Credibility requires not only forces in being, but the political will to maintain, reconstitute, and if necessary, *use* those weapons, plus the development of policies and personnel to do all those
- Provide security for allies
 - Convince potential adversaries (primarily the USSR) that US security commitments were genuine
- But also:
 - Create caution among nuclear players
 - Reduce adventurism
 - Prevent nuclear proliferation by allies (the grand alliance bargain)
 - e.g., Germany, Turkey, Japan, South Korea

Recipients of US Extended Deterrence

- 30-40 US allies
 - Europe
 - NATO
 - Asia
 - Japan
 - South Korea
 - Australia
 - Taiwan? (not officially)
 - Middle East
 - Israel (implicitly)
 - Some discussion about extending to friendly Sunni states
 - Former regional treaties
 - e.g. ANZUS, CENTO, SEATO
 - Other defense relationships, key trading partners, etc?



B61 on loader at Whiteman AFB

US Nuclear Policy

- There remains a mission for non-strategic nuclear weapons
 - Highlighted in Obama Prague Speech, NPR, NSS, and NATO DDPR
 - 2010 NPR calls for continued provision of extended deterrence to allies in Europe and Asia using forward-deployable tactical and strategic aircraft
 - Implication: DCA version of F-35
 - Obama's Jan 2012 "Priorities for 21st Century Defense" called for maintaining capabilities to deny the objectives of, or impose unacceptable costs on, any aggressor
 - Since the 1940s this has been code for "nuclear deterrence"

Global Zero

- Disarmament has a long history
 - Particularly strong movement early in Cold War
 - Arose again early 1980s in opposition to Reagan and dual-track NATO decision
- Concept rejuvenated by President Obama
 - April 2009 Prague Speech made it US policy to pursue a world without nuclear weapons
 - NPR recognizes goal but states that nuclear weapons will remain a key component in national security policy for foreseeable future

Global Zero Motivations

- NPT Article VI makes discussions by NWS toward eventual disarmament a legally binding requirement
- Elimination of weapons enhances proliferation efforts
- Global zero would reduce the possibility of nuclear accidents, unauthorized use, or theft
- Global zero would reduce worries over nuclear war
- Global zero would remove one element of inequitable domination of world affairs by nuclear weapons states

Necessary Pre-Conditions for Achieving Global Zero

- End arms race, eliminate all nuclear weapons
- Establish robust global verification regime
- Create mechanism for peaceful resolution
- Create global enforcement mechanism
- Achieve general and complete conventional disarmament
- Renounce use of force as means for resolving conflict

Obstacles to Global Zero

- Nuclear weapons still seen as essential to national security
- Regional tensions create disincentives to give up NWs
- Verification challenges
- Danger of instability during transition phase
- Possibility of conventional war
 - M.Thatcher: “Villages all over France bear monuments to the failure of conventional deterrence.”
- Lack of political will
- How put the genie back in the bottle?
- Uncertainty if replacing NWs with advanced conventional weapons is good or bad idea

Considerations

- Not all countries will endorse global zero, thus creating inequities
- Advocating global zero makes it more difficult to maintain an effective nuclear infrastructure
 - Current trends in both arms control and the global zero movement raise questions about the future efficacy of the US nuclear deterrence force
 - Pursuit may undermine credibility of US extended deterrence as allies lose assurances
 - Pursuit could undermine credibility of US deterrence more generally as others begin to doubt US capabilities and will

Nuclear Missions and Forces at Lower Numbers

- What will be the impact on current nuclear forces and missions as we move to lower numbers?

Nuclear Missions

- Three core missions of US nuclear weapons today:
 - Deter
 - Prevail
 - Assure
- Each mission requires a slightly different set of qualitative characteristics

International Actors

- Five types of actors that US nuclear strategy must accommodate
 - *Peer adversaries*
 - *Near-peers*
 - *Regional powers*
 - *Armed non-state actors*
 - *Allies*

Qualitative Characteristics of Nuclear Weapons

- Our 2011 study identified 4 “foundational” characteristics and 8 variable characteristics of nuclear weapons
- Foundational characteristics
 - These are essential to the viability of any nuclear force regardless of size
 - *Command and control*
 - *Reliability*
 - *Safety/security/surety*
 - *Sustainability*

Qualitative Characteristics II

- Variable characteristics
 - Importance or value of these may vary depending on the number of weapons deployed or other variables
 - *Ability to defeat defenses*
 - *Ability to retarget*
 - *Ability to reconstitute*
 - *Ability to signal*
 - *Accuracy*
 - *Promptness*
 - *Survivability*
 - *Variety of yield options*

Arms Control Implications

- ▶ At lower numbers, qualitative considerations become as important as quantitative measures in nuclear arms control talks
 - ▶ Must retain *all* existing qualitative characteristics given current US national strategic objectives
 - ▶ This does not preclude numerical reductions, but must attempt to balance reductions with preservation of range of qualitative characteristics
 - ▶ Must protect the ability to field diverse delivery options (e.g., more than one delivery platform)
 - ▶ Must protect the ability to deliver a range of effects (various types of warheads)
 - ▶ Must protect *survivability* as a quality across entire force

Arms Control Implications II

- U.S. negotiators must protect “foundational” characteristics
 - Experts uncertain U.S. can maintain balance between continuing reductions and sustaining robust nuclear enterprise
- Follow-on arms control initiatives will likely be increasingly multilateral
 - As U.S. reduces forces, it will face more “peers” and “near-peers”
 - Need to include third parties in talks when a near-peer can threaten the survivability of U.S. forces (due to U.S. reductions or near-peer buildup)
- Missile Defenses and CPGS
 - Avoid linking missile defenses or CPGS to future force reductions
 - Confidence-building measures may serve to address peer concerns

Key Finding

- As numbers go lower, the qualitative characteristics of today's strategic force will remain critical to the ability to carry out all current nuclear missions
 - But maintaining those characteristics will become more difficult
 - This requires that policymakers and arms control negotiators pay attention to qualitative characteristics as well as numbers