IT'S TIME FOR A U.S. NO-FIRST-USE NUCLEAR POLICY

Nina Tannenwald



In this featured roundtable essay for Vol. 2, Iss. 3, Nina Tannenwald discusses the arguments for and against adopting a no-first-use nuclear policy, arguing that the United States ought to unilaterally adopt such a policy and ask other nuclear-armed states to do the same.

eginning in the early days of the Cold War, the United States has relied on the threat to use nuclear weapons first as a way to deter both nuclear and non-nuclear attacks. Yet, the world has changed significantly since then. In the contemporary era, the dangers and risks of a first-strike policy outweigh the hopedfor deterrence benefits. The United States should join China and India in adopting a declared no-firstuse policy and should encourage the other nucleararmed states to do likewise. A no-first-use policy means that the United States would pledge to use nuclear weapons only in retaliation for a nuclear attack. The sole purpose of U.S. nuclear weapons would then be to deter — and, if necessary, respond to — the use of nuclear weapons against the United States and its allies and partners. To be credible, this declaratory pledge would need to be reflected in a retaliatory-strike-only nuclear force posture.

The most important goal for the United States today should be to prevent the use of nuclear weapons. Since the United States dropped atomic bombs on Hiroshima and Nagasaki in 1945 — the only use of nuclear weapons in warfare - it has established a nearly 74-year tradition of not using nuclear weapons. This tradition is the single most important fact of the nuclear age. Today, the risks of nuclear war are increasing. Heightened geopolitical tensions, a more complex calculus of deterrence in a multipolar nuclear world, renewed reliance on nuclear weapons, technological arms races in nuclear and non-nuclear systems, the collapse of arms control, and the return of nuclear brinkmanship have all resulted in highly dangerous deterrence policies that, through miscalculation or accident, could plunge the United States into a nuclear war with North Korea, Russia, or China. The nuclear-armed states urgently need to step back from this dangerous situation by adopting a no-first-use policy that would significantly reduce the risk of nuclear war.

International Relations Theory and No First Use

Several theoretical approaches in international relations help to illuminate why states choose to adopt a first-use versus a no-first-use (NFU) policy. A realist approach, which emphasizes the central role of material capabilities, would generally be skeptical of no-first-use pledges, which it would view as "cheap talk" and unenforceable. States that have made such pledges could still launch a nuclear weapon first in a conflict. Thus, NATO leaders and other observers expressed considerable skepticism during the final years of the Cold War that Russia's declaration of an NFU policy in 1982 had any real substance behind it.1 Today, while India has made an NFU pledge, analysts debate how constraining it really is. In turn, Indian Prime Minister Narendra Modi is sometimes dismissive of China's NFU policy.2

But some states — India, China, and the Soviet Union for a period — have nevertheless pledged no-first-use and, in the cases of India and China, have attempted to make those pledges credible. What explains these choices? The empirical record suggests that a state's choice regarding a nuclear first-use policy tends to be strongly influenced by asymmetries in the conventional military balance between nuclear-armed adversaries. Nuclear-armed states that face a conventionally superior military adversary will threaten to use nuclear weapons first because they depend more heavily on nuclear threats to defend themselves. In contrast, nuclear-armed states that possess overwhelming conventional superiority more likely to declare an NFU policy because it privileges their conventional advantage on the battlefield and might help to keep the conflict non-nuclear.

Thus India, which possesses a much larger

¹ Ankit Panda, "'No First Use' and Nuclear Weapons," Council on Foreign Relations, July 17, 2018, https://www.cfr.org/backgrounder/no-first-use-and-nuclear-weapons. In fact, there is some evidence that it was real and affected Soviet war planning. See Soviet Intentions, 1965-1985, (BDM Federal, Inc., 1995), chap. 3, 41–43, https://nsarchive2.gwu.edu/nukevault/ebb285/doc02_I_ch3.pdf.

² Kumar Sundaram and M.V. Ramana, "India and the Policy of No First Use of Nuclear Weapons," *Journal for Peace and Nuclear Disarmament* 1, no. 1 (February 2018): 152–68, https://doi.org/10.1080/25751654.2018.1438737.

Rou

conventional military than Pakistan, declared an NFU policy in 1999, following its nuclear test in 1998. Pakistan, which relies heavily on its nuclear deterrent for its defense against India, has rejected Indian calls to adopt a no-first-use pledge.³ This logic also helps explain why, in 1993, Russia dropped its NFU pledge first made in 1982. After the collapse of the Soviet Union in 1989, as Russian conventional military forces deteriorated and the United States declined to reciprocate the NFU pledge, Russian leaders felt they had to rely more heavily on nuclear weapons.

Consistent with this logic, during the Cold War, the United States relied on a first-use threat to offset and counter the overwhelming conventional superiority of the Soviet conventional military threat in Europe. Today, the situation is reversed. The United States possesses overwhelming conventional superiority while Russia's conventional military has declined. Because U.S. conventional military power now vastly exceeds that of its largest adversaries, Russia and China, many argue that America's first-use policy is now unnecessary to deter conventional threats.⁴

China's NFU policy, on the other hand, while consistent with its small nuclear force, is less well explained by asymmetries in conventional forces. China adopted an NFU policy at the time of its first atomic bomb test in 1964, when its peasant army was still transitioning to a modern military force. Part of the explanation for this decision has to do with Mao's thinking about the nuclear bomb as a "paper tiger," but Chinese leaders have primarily seen an NFU policy as an effective way to signal the purely defensive nature of the small Chinese nuclear arsenal and to avoid a U.S.-Soviet-style arms race. An NFU policy also conveys the spirit of "peaceful coexistence" to which China is committed.

The theory that adopting an NFU policy is based on asymmetries in conventional forces is further complicated by the existence of other weapons of mass destruction. During the George W. Bush and Barack Obama years, the strongest argument for the United States to retain the first-use option

was that nuclear weapons are necessary to help deter and possibly retaliate against attacks with chemical and especially biological weapons. The Trump administration's 2018 Nuclear Posture Review has expanded the category of non-nuclear attacks that it will seek to deter with nuclear threats to include cyber attacks, a move that previous presidents had ruled out and that most observers view skeptically, given its dangerous escalatory potential.

A second theoretical perspective, "liberal institutionalism," emphasizes the role of rules and institutions, both domestic and international, in stabilizing expectations and behavior. According to this theory, even if no-first-use pledges are unenforceable, they are not necessarily meaningless. To be meaningful, an NFU pledge must be built into domestic institutions, that is, the structure of operational military capabilities. A genuine NFU policy would require that nuclear forces be consistent with an "assured retaliation" posture that eschews counterforce objectives — the ability to destroy an adversary's nuclear arsenal before it is launched.

This perspective thus emphasizes the value of an NFU pledge in structuring operational forces to make them smaller and less threatening. When Secretary of Defense Robert McNamara, soon after entering office in 1961, sent a directive to the Joint Chiefs of Staff about strategic force requirements, he stated that the first assumption shaping requirements was that "we will not strike first with such weapons."8 McNamara's directive was undoubtedly partly an effort to stem Air Force demands for a first-strike capability and the vast procurement of weaponry it would require. This directive, in effect, repudiated the extended deterrent doctrine that the United States would respond to a Soviet conventional attack in Europe with nuclear weapons.

At the international level, liberal institutionalists emphasize the value of rules and institutions to prevent nuclear war. They argue that NFU has become a de facto norm anyway and therefore should be declared publically and multilaterally.

³ Sadia Tasleem, "Pakistan's Nuclear Use Doctrine," Carnegie Endowment for International Peace, June 30, 2016, https://carnegieendowment.org/2016/06/30/pakistan-s-nuclear-use-doctrine-pub-63913.

⁴ Although the Trump administration rejected an NFU pledge in its 2018 *Nuclear Posture Review*, increasing calls in recent years for the United States to adopt an NFU policy from former government officials, members of Congress, and civilian analysts, as well as serious consideration by the Obama administration itself in 2016, draw on this logic.

⁵ Zhenqing Pan, "A Study of China's No-First-Use Policy on Nuclear Weapons," *Journal for Peace and Nuclear Disarmament* 1, no. 1 (May 2018): 124, https://doi.org/10.1080/25751654.2018.1458415.

⁶ For its part, India has a carve-out in its NFU pledge for chemical and biological weapons attacks.

⁷ Ronald Mitchell, "Regime Design Matters: Intentional Oil Pollution and Treaty Compliance," *International Organization* 48, no. 3 (Summer 1994): 425–58, https://www.jstor.org/stable/2706965.

Memo, McNamara to Chairman, Joint Chiefs of Staff, "Task Force Reports," Feb. 20, 1961, U.S. Nuclear History, 00307, National Security Archive, 1.

As Morton Halperin, who later became deputy assistant secretary of defense for arms control, wrote as early as 1961, "There now exists a powerful informal rule against the use of nuclear weapons," and it would be advantageous to the United States to transform this tacit understanding into a formal agreement.9 Indeed, the "negative security assurances" first issued by the United States and the other P5 countries in 1978 and renewed periodically — commitments to non-nuclear states that are members of the Nuclear Nonproliferation Treaty not to use or threaten to use nuclear weapons against them - already constitute a partial NFU regime. Liberal institutionalists would also point out that constantly touting the value of a nuclear threat for security sends signals that nuclear weapons are useful and undermines nonproliferation goals.10

Finally, constructivists, who focus on the role of norms, identity, and discourse, emphasize that a declared NFU policy is an important way to strengthen norms of nuclear restraint and the nearly 74-year tradition of non-use. Strong statements from leaders about the need to avoid using nuclear weapons can help reduce tensions, just as irresponsible tweets can increase them. In the constructivist view, an NFU policy is also a diplomatic tool that can be used to signal that a state is a responsible nuclear power. As Modi recently put it, "India is a very responsible state. We are the only country to have a declared NFU [sic]. It's not because of world pressure, but because of our own ethos. We will not move away from this, whichever government comes to power."11 Indeed, India's NFU pledge has proved useful for portraying Pakistan as a relatively irresponsible custodian of its nuclear arsenal. Likewise, Indian leaders use their NFU pledge as a way to resist pressures to sign any treaties that would restrict India's nuclear arsenal.

The Weak Case for a First-Use Policy

A first-use policy is based primarily on the belief that the threat of nuclear escalation continues to serve as a deterrent to large-scale conventional war or the use of chemical and biological weapons. ¹² Critics of NFU argue that the United States should not make any promise that might make it easier for an opponent to plan an effective military action, a strategy known as "calculated ambiguity." As the Defense Department recently explained,

Retaining a degree of ambiguity and refraining from a no first use policy creates uncertainty in the mind of potential adversaries and reinforces deterrence of aggression by ensuring adversaries cannot predict what specific actions will lead to a U.S. nuclear response. Implementing a no first use policy could undermine the U.S. ability to deter Russian, Chinese, and North Korean aggression, especially with respect to their growing capability to carry out nonnuclear strategic attacks.¹³

In addition, skeptics believe that an NFU promise would be especially costly for the United States, given its wide-ranging extended deterrence commitments.¹⁴

These arguments are not compelling for four reasons. First, a policy of calculated ambiguity is unnecessary. Today, there are very few missions that the United States could not accomplish with conventional weapons. Indeed, U.S. conventional capabilities are more than sufficient to deter and respond to anything but a nuclear attack. None of the United States' most likely adversaries — Russia, China, North Korea, and Iran — can hope to defeat the United States and its allies in a protracted non-nuclear conflict.

Second, threats of first use are dangerous. As Michael Gerson has argued, they undermine crisis stability in multiple ways. 15 The large, highly

⁹ Morton Halperin, "Proposal for a Ban on the Use of Nuclear Weapons," Institute for Defense Analyses, Special Studies Group, Study Memorandum No. 4 (Washington DC: IDA, 1961), 12, iv.

¹⁰ Scott D. Sagan, "The Case for No First Use," Survival 51, no. 3, (2009): 163-82, https://doi.org/10.1080/00396330903011545.

¹¹ The interview can be seen here: "PM Shri Narendra Modi's Interview to India TV: 04.05.2019," YouTube video, May 4, 2019, https://www.youtube.com/watch?v=-6tb2e8o9P4&feature=youtu.be.

¹² Amy F. Woolf, "U.S. Nuclear Weapons Policy: Considering 'No First Use," Congressional Research Service, March 1, 2019.

^{13 &}quot;Dangers of a Nuclear No First Use Policy," U.S. Department of Defense, April 2019, https://media.defense.gov/2019/Apr/01/2002108002/-1/-1/1/DANGERS-OF-A-NO-FIRST-USE-POLICY.PDF.

¹⁴ Parris H. Chang, "No-First Use Would Only Embolden China," Bulletin of the Atomic Scientists, Sept. 21, 2016, https://thebulletin.org/roundtable_entry/no-first-use-would-only-embolden-china/.

¹⁵ Michael S. Gerson, "No First Use: The Next Step for U.S. Nuclear Policy," *International Security* 35, no. 2 (Fall 2010): 9, https://doi.org/10.1162/ISEC_a_00018.

accurate U.S. nuclear arsenal, along with missile defenses and new dual-use precision-strike weapons, may lead leaders in Russia and China to believe that the United States is capable of conducting a disarming first strike against them. Furthermore, the entanglement of nuclear and conventional weapons in deterrence strategies could inadvertently increase the chance of nuclear war, while new, smaller nuclear warheads, along with doctrines of "escalate to de-escalate" appear to be lowering the threshold for nuclear use. In a crisis, Russian or Chinese leaders might come to believe that the United States might attempt a disarming strike, forcing them, in turn, to contemplate acting preemptively.

Third, although supporters of calculated ambiguity fervently believe it maximizes deterrence, the evidence for such a claim is hardly definitive. Nuclear weapons did not deter the 9/11 attacks; the rise of the Islamic State; Russian interventions in Georgia, Ukraine, or Syria; or North Korean nuclear and ballistic missile tests. Nor have Indian and Pakistani nuclear weapons deterred risky conventional crises between the two countries over Kashmir, most recently in February 2019. The calculated ambiguity argument gained some support from the perception that during the 1991 Gulf War a U.S. nuclear threat had helped deter Iraqi leader Saddam Hussein from using chemical weapons against U.S. and coalition forces or Israel.18 As Scott Sagan has persuasively argued, however, it is highly unlikely that a nuclear threat in fact deterred Saddam from using chemical weapons.19 Indeed, recent research suggests that the threat to use nuclear weapons first against non-nuclear states has little credible coercive power.20

Fourth, even in the very small number of

scenarios where nuclear weapons might seem to be necessary — for example, knocking out North Korean mobile missiles or underground command centers — opening the Pandora's box of nuclear use would likely lead to uncontrolled escalation. There is no scenario in which using nuclear weapons first can make a bad situation better. As James Doyle, a former staffer at Los Alamos National Laboratory, has argued, "It is folly to believe that the use of nuclear weapons could deescalate a conflict."²¹

As for threatening to use nuclear weapons first in support of extended deterrence commitments, such a policy lacks credibility because the costs of starting a nuclear war would vastly outweigh the benefits. As Henry Kissinger once said, "Great powers don't commit suicide for their allies."²² Thus, as a number of analysts have persuasively argued, extended deterrence based on a conventional military response to a conventional threat is much more credible. Moreover, constantly arguing that nuclear weapons are necessary reduces the credibility of the United States' more usable conventional deterrent.²³

The Benefits of a No-First-Use Policy

As Kingston Reif and Daryl Kimball of the Arms Control Association have argued, "a clear U.S. nofirst-use policy would reduce the risk of Russian or Chinese nuclear miscalculation during a crisis by alleviating concerns about a devastating U.S. nuclear first-strike."²⁴ This would mean that the United States would rely on nuclear weapons only to deter nuclear attacks. Adopting this approach would involve more than "cheap talk," for it would require meaningful doctrinal and operational

¹⁶ James M. Acton, "Escalation Through Entanglement: How the Vulnerability of Command-and-Control Systems Raises the Risks of Nuclear War," International Security 43, no. 1 (Summer 2018): 56–99, https://doi.org/10.1162/isec_a_00320; Fiona S. Cunningham and Taylor M. Fravel, "Why China Won't Abandon Its Nuclear Strategy of Assured Retaliation," Policy Brief, U.S.-China Project (Institute for Security and Conflict Studies, Elliott School of International Affairs, February 2016).

¹⁷ Gerson, "No First Use," 9.

¹⁸ Keith B. Payne, "Strategic Hubris," in "Forum: The Case for No First Use: An Exchange," *Survival* 51, no. 5 (October/November 2009): 27–32, https://doi.org/10.1080/00396330903309840.

¹⁹ Scott Sagan, "Reply: Evidence, Logic and Nuclear Doctrine" in "Forum: The Case for No First Use," 30–41.

²⁰ Todd S. Sechser and Matthew Fuhrmann, Nuclear Weapons and Coercive Diplomacy (Cambridge, UK: Cambridge University Press, 2017).

²¹ James E. Doyle, "Nuclear No First Use (NFU) Is Right for America," Real Clear Defense, July 12, 2016, https://www.realcleardefense.com/articles/2016/07/13/nuclear_no-first-use_nfu_is_right_for_america_109556.html.

²² Quoted in Elbridge Colby, "If You Want Peace, Prepare for Nuclear War," Foreign Affairs 97, no. 6 (November/December 2018): 30, https://www.foreignaffairs.com/articles/china/2018-10-15/if-you-want-peace-prepare-nuclear-war. China can afford to declare an NFU policy more easily than the United States because it lacks the kind of wide-ranging extended deterrence commitments of the United States.

²³ Sagan, "No First Use"; Steve Fetter and Jon Wolfsthal, "No First Use and Credible Deterrence," *Journal for Peace and Nuclear Disarmament* 1, no. 1 (April 2018): 102–14, https://doi.org/10.1080/25751654.2018.1454257.

²⁴ Kingston Reif and Daryl Kimball, "Rethink Old Think on No First Use," *Bulletin of the Atomic Scientists*, Aug. 29, 2016, https://thebulletin.org/2016/08/rethink-oldthink-on-no-first-use/.

changes.²⁵ Specifically, it would allow the United States to adopt a less threatening nuclear posture. It would eliminate first-strike postures, preemptive capabilities, and other types of destabilizing warfighting strategies. It would emphasize restraint in targeting, launch-on-warning, alert levels of deployed systems, procurement, and modernization plans. In other words, it would help shape the physical qualities of nuclear forces in a way that renders them unsuitable for missions other than deterrence of nuclear attacks.²⁶

Implementing these steps would significantly reduce the risk of accidental, unauthorized, mistaken, or preemptive use. The removal of threats of a nuclear first strike would also strengthen strategic and crisis stability.²⁷ Of perhaps equal importance, adopting an NFU policy would help address humanitarian concerns and reduce the salience of nuclear weapons.²⁸ Likewise, it would "be more consistent with the long-term goal of global nuclear disarmament and would better contribute to US nuclear non-proliferation objectives."²⁹

A multilateral NFU pledge would have even more benefits. It would move Russia and Pakistan away from their high-risk doctrines and reduce a source of Russia-NATO tensions. A common NFU policy would help anchor the existing NFU policies of China and India and implicitly acknowledge their leadership in this area, a virtue when middle-power states are feeling disenfranchised from the global nuclear order.

Some analysts have questioned whether, in an asymmetric conflict, an American NFU policy would actually help reduce the risk of nuclear escalation by an adversary. The United States is so conventionally dominant, they argue that, in a crisis, a country like North Korea might employ nuclear weapons preemptively because the United States could take out North Korean targets even with just conventional weapons.³⁰ It is true that an NFU policy might make no difference in such

a situation. Still, it might nevertheless remove at least one source of crisis instability. Most importantly, however, in an era of "multi-front" deterrence, North Korea is not the only adversary and a U.S. NFU policy would remain valuable in less asymmetric conflicts.

Nuclear weapons did not deter the 9/11 attacks; the rise of the Islamic State; Russian interventions in Georgia, Ukraine, or Syria; or North Korean nuclear and ballistic missile tests.

A second concern is that a real NFU strategy would require a greater commitment to a countervalue targeting strategy — targeting civilians rather than nuclear silos — and thus run up against moral and legal rules prohibiting the direct targeting of civilians.³¹ This is a legitimate point. However, current U.S. counterforce targeting policy will likely result in massive civilian casualties as "collateral damage," making the risk to civilians of an NFU strategy little different.³²

Implementation

The United States ought to unilaterally adopt an NFU policy, and ask other nuclear-armed states to do the same. This would constitute the formal adoption of what is already essentially de facto U.S. policy.³³ A U.S. NFU policy would create political space for Russia to follow suit: For Russia to consider NFU, its concerns about U.S. ballistic missile defenses, imbalances in conventional

²⁵ Sagan, "No First Use."

²⁶ Alberto Perez Vadillo, "Beyond the Ban: The Humanitarian Initiative and Advocacy of No First Use Nuclear Doctrines," BASIC (British-American Security Information Council), May 10, 2016, 11, http://www.basicint.org/publications/alberto-perez-vadillo-eu-non-proliferation-consortium-researcher/2016/beyond-ban.

²⁷ Bruce Blair, "How Obama Could Revolutionize Nuclear Weapons Strategy Before He Goes," *Politico Magazine*, June 22, 2016, https://www.politico.com/magazine/story/2016/06/barack-obama-nuclear-weapons-213981.

²⁸ Vadillo, "Beyond the Ban," 12.

²⁹ Sagan, "No First Use."

³⁰ Alexander Lanoszka and Thomas Leo Sherer, "Nuclear Ambiguity, No-First-Use and Crisis Stability in Asymmetric Crises," *Nonproliferation Review* 24, no. 3-4 (2017): 343–55, https://doi.org/10.1080/10736700.2018.1430552.

³¹ I thank Vipin Narang for this comment on Twitter.

³² Jeffrey G. Lewis and Scott D. Sagan, "The Nuclear Necessity Principle: Making U.S. Targeting Conform with Ethics and the Laws of War," Daedalus 145, no. 4 (Fall 2016): 62–74, https://doi.org/10.1162/DAED_a_00412.

³³ Blair, "How Obama Could Revolutionize Nuclear Weapons Strategy."

forces, and issues of NATO enlargement would need to be addressed. The United States would also need to tackle the issue of extended deterrence with its allies and move toward conventional extended deterrence.³⁴ India and Pakistan would need a *modus vivendi* on Kashmir, while the United States and North Korea would need to sign a non-aggression pact. In fact, the United States could actually negotiate a mutual NFU agreement with North Korea. The United States is extremely unlikely to use nuclear weapons first on North Korea, therefore an agreement that provided a basis for imposing some restraint on the North Korean arsenal would be in America's interest.³⁵

Doctrinal and operational changes would need to follow such a declaration. China's restrained nuclear arsenal provides the best example of an NFU pledge implemented in practice. Unlike the United States and Russia, China keeps its warheads and missiles separated. It has not developed precision-strike nuclear war-fighting capabilities, such as tactical nuclear weapons, and it does not keep its forces on "launch-on-warning" alert. China has also invested heavily in conventional military modernization so that it would not have to consider nuclear escalation in a conventional war.36 India, too, keeps its warheads and missiles separate in support of its NFU pledge, though some analysts argue that India's NFU policy does not run especially deep and that it "is neither a stable nor a reliable predictor of how the Indian military and political leadership might actually use nuclear weapons."37 Nevertheless, both countries' operational postures reflect (to some degree) their NFU policies.³⁸ The United States and the other nuclear powers should move in this direction.

Conclusion

What are the prospects for an NFU policy? On Jan. 30, 2019, Sen. Elizabeth Warren (D-MA) and Rep. Adam Smith (D-WA) introduced legislation that declared, "It is the policy of the United States to not use nuclear weapons first." But Congress is divided on this. Skeptics have objected that the geopolitical preconditions are not ripe for an NFU policy at this time. In 2016, the Obama administration seriously considered declaring an NFU policy but then hesitated at the last minute largely because of pushback from European and Asian allies who are under the U.S. nuclear umbrella. Donald Trump, for his part, has been busy dismantling arms control agreements, not creating them.

Adoption of an NFU policy will require close consultation with allies, but the U.S. administration should begin this task. As an initial step on the way to NFU, U.S. leaders should consider the recent proposal by Jeffrey Lewis and Scott Sagan that the United States should declare it will not use nuclear weapons "against any target that could be reliably destroyed by conventional means." This policy would not solve the problem posed by highly asymmetric crises, as noted above. Nevertheless, it would represent an initial important declaratory statement of nuclear restraint.

The most important goal of the United States today is to prevent the use of nuclear weapons. The policy of relying on the threat to use nuclear weapons first is an outdated legacy of the Cold War. As even card-carrying realists such as the "four horsemen" recognized, given U.S. conventional capabilities, there are no circumstances in which the United States ought to start a nuclear war.⁴⁴ Relying on the pretense that it might do so in

- 34 Sagan, "No First Use."
- 35 Abigail Stowe-Thurston, "Why It's Time to Negotiate a Mutual No First Use Policy with North Korea," *NK News*, April 15, 2019, https://www.nknews.org/2019/04/why-its-time-to-negotiate-a-mutual-no-first-use-policy-with-north-korea/.
- 36 Pan, "China and No First Use," 117.
- 37 Sundaram and Ramana, "India and No First Use," 152.
- 38 Cunningham and Fravel, "Why China Won't Abandon Its Nuclear Strategy of Assured Retaliation."
- 39 "A Bill to Establish the Policy of the United States Regarding the No-First-Use of Nuclear Weapons," S.B. 272, 116th Congress (2019–2020), https://www.congress.gov/bill/116th-congress/senate-bill/272; "To Establish the Policy of the United States Regarding the No-First-Use of Nuclear Weapons," H.B. 921, 116th Congress (2019–2020), https://www.congress.gov/bill/116th-congress/house-bill/921.
- 40 "Fischer: 'A No-First-Use Policy Erodes Deterrence," Office of Deb Fischer, United States Senator for Nebraska, Jan. 30, 2019, https://www.fischer.senate.gov/public/index.cfm/2019/1/fischer-a-no-first-use-policy-erodes-deterrence.
- 41 Nina Tannenwald, "The Vanishing Nuclear Taboo? How Disarmament Fell Apart," Foreign Affairs (November/December 2018), https://www.foreignaffairs.com/articles/world/2018-10-15/vanishing-nuclear-taboo.
- 42 Paul R. Pillar, "Trump's Demolition of Arms Control," *National Interest*, May 1, 2019, https://nationalinterest.org/blog/paul-pillar/trumps-demolition-arms-control-55317.
- 43 Lewis and Sagan, "The Nuclear Necessity Principle."
- 44 George P. Shultz, William J. Perry, Henry A. Kissinger, and Sam Nunn, "A World Free of Nuclear Weapons," Wall Street Journal, Jan. 4, 2007, https://www.wsj.com/articles/SB116787515251566636.

order to deter a conventional threat unacceptably increases the chances of nuclear escalation. Moving toward declared NFU policies is the best way to reduce the risks of nuclear war.

Tannenwald is director of the International Relations Program at Brown University's Watson Institute for International Studies and a senior lecturer in political science. Her research focuses on the role of international institutions, norms, and ideas in global security issues; efforts to control weapons of mass destruction; and human rights and the laws of war. Her book, The Nuclear Taboo: The United States and the Non-use of Nuclear Weapons Since 1945, was awarded the 2009 Lepgold Prize for best book in international relations. Her current research projects include targeted killing, the future of the nuclear normative order, and the effectiveness of the laws of war. In 2012-2013 she served as a Franklin Fellow in the Bureau of International Security and Nonproliferation in the U.S. State Department. She holds a Master's degree from the Columbia School of International and Public Affairs and a Ph.D. in international relations from Cornell University.

Photo: U.S. Department of Defense