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Recommended Citation

UMEMOTO Tetsuya, "NMD, TMD, and Nuclear Arms Control", Nuclear Policy, July 01, 2000,
https://nautilus.org/projects/nuclear-policy/nmd-tmd-and-nuclear-arms-control/

"East Asian Regional Security Futures: Theater Missile Defense Implications"
The United Nations University, Tokyo, Japan, June 24-5, 2000

NMD, TMD, and Nuclear Arms Control

by UMEMOTO Tetsuya

Abstract

The assumption that large-scale missile defense is incompatible with nuclear arms control has been premised on an intensely hostile relationship between the hypothetical attacker and the defender, and the ability of the former to readily enlarge its strategic forces if their penetrability should be perceived to decline due to the latter's defenses. While it cannot be denied from a technical standpoint that the US NMD program (independently or in combination with the TMD program) has the potential of undermining the retaliatory capabilities of Russia and China, its deployment would not necessarily spell the end of nuclear arms control if appropriate political initiatives are taken to ensure that this potential will not be brought to reality. To ensure the prospects for nuclear arms control, however, serious efforts should also be made to adapt the concept of "strategic stability" to the nature of today's major power relations so that it will no longer rest primarily on the mutual vulnerability to nuclear attack.

Text

During the latter half of the Cold War, it was common to assume that strategic missile defense would harm prospects for nuclear arms control. Challenges to this assumption came to the foreground from time to time in the United States, but it was never clear whether the Soviet Union embraced it fully. Nevertheless, mutual vulnerability was enshrined in the Anti-Ballistic Missile (ABM) Treaty of 1972, which presumably served as a cornerstone of "strategic stability" between the superpowers.

The putative incompatibility between large-scale strategic defense and nuclear arms control during the Cold War was premised upon two conditions: a highly antagonistic relationship between the defender and the attacker and the ability of the latter to enlarge its already formidable nuclear arsenal quickly. If substantial defenses were mounted by one superpower against the other, causing the latter to worry about the penetrability of its strategic arsenal, it would aggressively seek, and easily attain, the capability to overwhelm those defenses.

With regard to the limited National Missile Defense (NMD) system, the deployment of which President Clinton has recently postponed, those conditions no longer appear to pertain. Despite important disagreements between the United States and Russia, they have definitely ceased to be enemies. The United States and China, meanwhile, maintain a diplomatically correct and economically expansive relationship. Moreover, NMD is ostensibly aimed at "rogue states" (or "states of concern" in most recent official terminology) like North Korea, Iran, and Iraq - none of which could possibly engage in a nuclear arms race with the United States. Furthermore, the "rogues" may, in the future, confront not only the United States but also Russia and China with the threat of a long-range missile attack.

The vaunted offense-defense dynamics would not be set in motion, therefore, if Washington managed to convince Moscow and Beijing that the limited defenses it is planning to deploy are indeed directed against the "rogue states," not them. Failure of such efforts, however, would doubtlessly entail deleterious consequences for nuclear arms control. It is true that with or without NMD, Russia's nuclear stockpile is expected to shrink substantially over the next decade. Regardless of U.S. action on missile defense, China is likely to continue the policy of gradually modernizing its nuclear armaments. As Russia and China become less certain about the penetrability of their strategic forces, however, they will seek either to limit the scope of nuclear reduction (in the case of Russia) or to accelerate the pace of nuclear buildup (in the case of China).

Moscow and Beijing have, in fact, clearly indicated that they would be ready to follow such a course of action. For example, President Vladimir Putin told the Duma prior to the START II vote in April that he would consider withdrawing from the "whole system of treaties" on arms control if Washington breached the ABM Treaty(1). The following month, Sha Zukang, China's chief arms negotiator, explicitly referred to the options that his country might take in response to a large-scale missile defense by the United States. One option included, first and foremost, a significant increase in the number of nuclear warheads(2). Russia and China could, among other things, retain existing MIRVed ICBMs or deploy new ones, raise alert rates for strategic forces, and develop sophisticated "countermeasures" to frustrate the defenses. They could also encourage proliferation of nuclear and missile technologies, further complicating nuclear arms control.

Washington has faced difficulties in attempts to persuade Russia and China that NMD is not directed at them primarily because, from a technical standpoint, there is no denying that the NMD program -- whether independently or in conjunction with the Theater Missile Defense (TMD) program -- has the potential to undermine their strategic capability. Most importantly, China's current ICBM force, consisting of approximately 20 missiles, could be effectively neutralized by NMD in its initial phase with 20 to 100 interceptors (the deployment of which was planned to begin in FY 2005). Although China might come to possess as many as 200 strategic warheads in fifteen years, as estimated by the U.S. intelligence community (3), the United States would also have acquired the ability by then to shoot down a large proportion of those warheads used in a retaliatory strike.

Defenses of the size now envisaged by Washington could easily be defeated by Russia's strategic arsenal, which will continue to contain more than 1,000 warheads in the foreseeable future. Moscow is concerned, however, that radars and satellites to be introduced or upgraded with the evolution of the NMD program might enable the United States to put in place a much greater number of interceptors than the currently planned level of 250. Coupled with the growth of the counterforce capability of the U.S. nuclear forces and the decline in reliability of the Russian early-warning system, a rapid increase in the number of interceptors might create a situation in which the United States could, in theory, rationally contemplate first strike against Russia (4). Moscow's fear is compounded by the fact that Republicans are calling for a larger-scale missile defenses than the NMD system promoted by the Clinton administration.

Moreover, NMD could be effectively combined with TMD to produce a greater effect on strategic missiles. The ABM-TMD Demarcation Accords of 1997 remain unratified and the line between permitted and prohibited defenses has not been drawn very clearly. Upper-tier TMD systems like the Theater High Altitude Area Defense (THAAD) system and the Navy Theater Wide (NTW) defense system would have some, but very limited, capacity to intercept long-range missiles. However, if interceptors could be guided in flight using track data from advanced radars and satellites that had been introduced as elements of NMD, their ability to shoot down strategic warheads would increase many folds. With more than one thousand THAAD interceptors and several hundred NTW interceptors planned, such linkage of TMD and NMD would substantially reduce the penetrability of not only China's but also Russia's retaliatory forces (5).

Finally, apart from the possibility of its being tied to the NMD program, the TMD program could prompt China to enlarge its missile forces because of regional considerations. First, TMD might be extended to Taiwan, which China regards as part of its own territory. Beijing would fear that as people in Taiwan become more confident in their ability to defend themselves, they will be further inclined to support a call for independence. Second, it can be assumed that China will place a high value on its potential to launch a nuclear strike against Japan (and possibly some others countries in Asia). It is with this potential that it hopes to deter the United States from militarily interfering in what Beijing considers internal affairs, and keep Japan in check generally. Participation by Japan (and others) in the TMD program would partially offset this potential.

On the other hand, if TMD is deployed alone, it is less likely to be a factor in slowing down the reduction of Russia's nuclear stockpile. Moscow remains receptive to the idea of theater missile defense as distinct from strategic missile defense. This is suggested by the fact that it continues to cherish the Demarcation Accords for all their limitations. While Putin has agreed with Chinese and North Korean leaders in opposing TMD in Asia, he has also proposed building a European missile defense system in collaboration with NATO. During his meeting with Clinton in Okinawa this July, it was announced that Russia and the United States should "renew and expand" cooperation on theater missile defense and "consider the possibility of involving other states." (6)

Under these circumstances, it seems that Washington needs to pursue a double-track approach vis-a-vis Moscow and Beijing, if it wants to avoid sacrificing nuclear arms control on the altar of ballistic missile defense. On one track, the United States must step up its efforts to persuade Russia and China that its defense systems would not endanger their retaliatory capability. However, since the technical potential of NMD (and TMD) to endanger their retaliatory capability cannot be denied, emphasis should be placed on political initiatives to assure that the potential could not easily be brought to reality.

As far as Russia is concerned, neutralization of a significant proportion of its strategic missiles by U.S. defenses is still essentially hypothetical. Greater transparency of the NMD and TMD programs would help reassure the Russians. It would also help if the US could convince the Russians that they would not face a sudden increase in the number of NMD interceptors or an abrupt growth in the capability of TMD interceptors. Washington might also seek to lessen Moscow's latent fear of a first strike by committing itself to resuming the reduction of strategic forces (either through the START III process or unilaterally), reconsidering improvements in counterforce capability, removing nuclear weapons from high-alert status, and assisting Russia in rebuilding its early-warning facilities. However, it would be very difficult to reassure the Chinese about their retaliatory capability because, from a technical point of view, threat to its viability is much more imminent.

On a second track, Washington should begin an earnest search for a new formulation of "strategic stability" among the United States, Russia, and China that does not depend primarily on mutual vulnerability to nuclear attack. As long as Moscow sticks to the traditional concept or even the initiatives recounted above, it would not diminish its sensitivity to the missile defense programs of the United States. Reduced reliance on retaliatory capability would probably be the only way to make the deployment of NMD and TMD compatible with the involvement of China in nuclear arms control. It must also be noted that, from the viewpoint of many nonnulcear-weapon states, Washington, Moscow, and Beijing should not emphasize the value of nuclear weapons even if they were to be used only for retaliatory purposes, much less their utility in restraining nonnuclear-weapon states.

As stated in the opening paragraphs of this paper, mutual vulnerability as a basis for "strategic stability" has been predicated, in part, on an intensely hostile relationship between the possessor of defenses and the hypothetical attacker. However, this condition no longer applies. Today, Russia and China are not mortal enemies of the United States as the Soviet Union once was and the security interests of the three largely overlap, especially when it comes to dealing with the threat posed by the "rogue states." It appears that the time has come to at least make a serious attempt to adjust the strategic thinking of Washington, Moscow, and Beijing in response to the changed character of their relations.

(1) Michael R. Gordon, "Putin Wins Vote in Parliament on Treaty to Cut Nuclear Arms," New York Times, April 15, 2000.

(2) Erik Eckholm, "China Says U.S. Missile Shield Could Force an Arms Buildup," New York Times, May 11, 2000.

(3) Steven Lee Myers, "U.S. Missile Plan Could Reportedly Provoke China," New York Times, August 10, 2000.

(4) Lisbeth Gronlund and George Lewis, "How a Limited National Missile Defense Would Impact the ABM Treaty," Arms Control Today, 29-7 (November 1999), 11-12; Steven Lee Myers, "Russians Get Briefing on U.S. Defense Plan," New York Times, April 29, 2000.

(5) Dean A. Wilkening, Ballistic-Missile Defence and Strategic Stability (Adelphi Paper 334) (London: International Institute for Strategic Studies, May 2000), p. 54; Gronlund and Lewis, p. 12.

(6) "Joint Statement on Cooperation on Strategic Stability," July 21, 2000.

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Nautilus Institute
608 San Miguel Ave., Berkeley, CA 94707-1535 | Phone: (510) 423-0372 | Email: nautilus@nautilus.org