

[SE2-CV-2] Missile Defense

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Full Summary

There has been a long running debate as to whether advances in missile defense systems constitute a proliferation risk. If a country believes its nuclear deterrent has been undermined by an adversary's missile defense system, then this may encourage them to expand and improve their nuclear arsenals as a countermeasure. Blunting nuclear attack was the stated aim of President Reagan's 'Ballistic Missile Defense Shield', and anxieties persist among great powers about the risks of ballistic missile defense today.

In recent years the utility of South Korea acquiring a missile defense system has entered the debate. To discuss the benefits and limitations of this idea, and whether the perception accurately reflects reality, three experts joined the ASAN plenum conference to discuss the advantages and risks of current missile defense systems.

Paul Davis (Moderator):

During WWII, and still in the 1950s, missiles with nuclear weapons were not yet a problem.

Later in the Cold War, defending against long range ballistic missiles looked really hard, particularly as developing countermeasures seemed very easy. The only thing the United States worried about was that the Soviet Union might do it sneakily, but didn't entertain the idea of ballistic missile defense themselves. This changed in the 1980s when President Reagan decided to pursue the Strategic Defense Initiative [SDI]. Still, if you were an engineer and given a choice between designing the defenses or the countermeasures, you'd choose the latter.

In the 1990s nothing progressed in missile defense except research and development. In the late 1990s a commission chaired by Donald Rumsfeld concluded that it wasn't just Russia or China anymore, but a number of other countries would soon possess long range missiles. The risk that the United States could be vulnerable to North Korean or Iranian attack created a new push to deploy ballistic missile defense systems.

There was a dual rationale for this push:

1. Technology had improved.
2. It wasn't sufficient to just build things on paper, you might make new discoveries if you deployed new systems.

The first system went operational without much testing, but was surprisingly effective. This included a naval based missile defense system successfully shooting down a Chinese satellite that was falling to Earth.

For US allies in North East Asia, the Republic of Korea and Japan, ballistic missile defenses are feasible to a degree. Here the ranges are much shorter, countermeasures are more difficult, and ballistic missile defense not as expensive.

Yet, in the calculus of whether or not to procure missile defense systems face certain dilemmas:

1. Given the uncertainty as to whether the system will work, the limitations of numbers, and the possibility of countermeasures, are there other things you might want to purchase instead?
2. Cheaper missile defense systems are much less capable, and are often deployed as a deterrent rather than a system that delivers tangible defense advantages. A real ballistic missile defense system also requires investment in command and control systems and intelligence to deliver a high end capability.

Where the issue becomes more nuanced is how it raises the barrier to conflict. A massive all out attack will be overwhelming and no ballistic missile defense system will be of much use, but such an attack guarantees retaliation. Yet a ballistic missile defense system may deter *limited attacks*, if they work. Though there are other ways of dealing with limited attacks and incursions.

When examining the options that are available to political leaders in dealing limited attacks, incursions, fait accompli's and so on, what should receive government investment?

The best answer is for ballistic missile defense systems to be evaluated and examined like any other new defense procurement or capability. Will the new system do what it is intended at the best possible price? Is it delivering a higher yield benefit than its alternatives?

For the handling of limited wars, ballistic missile defense is simply another tool in the toolbox. During the Cold War, what if the Soviet Union just wanted to take over Berlin? Would we unleash nuclear war? No? Then what would we do? Limited wars are proportional and rely on greater resilience, more economic weapons and so forth.

Putting the genie back in the bottle is absurd, but what do you do instead? You've got to deter or defend in a credible way. For the South Korea in particular, ballistic missile defense, in cooperation and competition with other mechanisms, may be a useful tool in an environment in which there is little taste for attacking North Korea preemptively.

James Bonomo:

Ballistic missile defense is often conflated. Connections that are drawn between missile defense and nuclear strategy can be very misleading, often having nothing to do with nuclear weapons.

South Korea's situation is somewhat rare. Here the country faces a hostile neighbor with both ballistic missiles and nuclear weapons. US ballistic missile defense is about defending the American continent against nuclear weapons. For America, ballistic missile defense focuses on ICBMs being fired from North Korea or Iran, yet this connection is then generalized much too broadly.

The fact is that ballistic missile defense systems are still very costly, technically risky, and reliability still somewhere in the future. Moreover, a South Korean defense shield could be provocative to other nations who worry that missile defense can blunt their own forces. Ultimately missile defenses are not too important to South Korea because North Korean artillery could still inflict substantial damage on Seoul, and the subsequent loss of life would still be very great.

One significant aspect of missile defense however is political. Missile defense systems deployed by major powers to third countries are seen as a way of strengthening ties to those countries and undermining the military influence of others. Patriot ATM2 missiles can reassure even if they are ineffective. This feature of missile defense systems exists quite apart from any nuclear relevancy.

There are also a range of factors that complicate the perceived advantages of missile defense for South Korea. First, nuclear weapons can be delivered in other ways. This is not very practical for an attack on the United States, but very potent in the North East Asian region. Second, in the event of an invasion of the North by South Korea, the DPRK may still

detonate nuclear weapons on its own territory. Third, North Korea's arsenal consists of between 600-1000 short ranged missiles with conventional warheads. This is more threatening to Japan than South Korea.

Missile defense systems are not suited to or designed for meeting nuclear threats, but could find utility in more conservative capacities. Ballistic Missile Systems can minimize the damage of an attack, and working in conjunction with other passive defenses. They can be more cost effectively used to protect important targets, or to reduce damage to cities.

The cost and availability needs to be considered. In recent years development has progressed and nations other than great powers have begun to field such systems. Ultimately missile defense should not become a high risk long-term debt, procured independently of military needs.

The concerns of China and Russia about missile defense are not credible. Both of those nations hold at risk all missile defense systems currently fielded with longer-ranged much faster missiles. North Korea would be the one most to lose with an effective South Korean missile defense system, its sense of invulnerability would be eroded, along with its ability to terrorize. For this purpose a PAK-3 system, which is small and agile, might well be suitable.

As for whether or not the vulnerability of Seoul to artillery should impact a decision to acquire missile defense, the reality is that this vulnerability is going to remain, no matter what defense you purchase. Ballistic missile defense is simply another capability measure. It could deter use of Weapons of Mass Destruction [WMD], and any such use would galvanize support from the US for South Korea, and would surrender any bargaining tool by the North. Such a system may intercept short range weapons, such as Israel's limited successes in intercepting rockets. Missile defense can also provide decision making space by limiting damage from a first strike.

Some detailed points to conclude:

1. There would be significant integration issues between the United States and South Korea. Command and control and RADAR could even interfere with one another. Avoiding interference between missiles and ballistic missile defense is difficult. Sharing of information and target identification would have to occur very rapidly for a missile defense system to have a chance at interception.
2. The scale of the missile defense system increases with the size of the theatre. THAD, AEGIS, SM6 must be bought in sufficient quantities. Forty eight PAK2s is not going to let you do very much.

3. It is also critical to match the deployments with operational objectives. PAK2s can degrade accuracy, PAK3s can intercept warheads.
4. It is important to think of missile defense as just another system to put into the calculation of cost-benefit analysis. If it's intended for some quasi-nuclear linkage, it may not be helpful.

Kim Taewoo:

There are four main differences of philosophy governing increased ROK-US cooperation in missile defense. These are:

1. Technical image - Is nuclear attack really separable? Is a bio-attack defensible? Can you really contain damage from North Korea? Who can contain this damage? Is conventional missile attack defensible? How many interceptors required for increasing numbers of missiles? Over 1000 missiles are targeting the Republic of Korea, what can defend against that? Can it defend against artillery? North Korea can fire 500,000 shells per hour! KMAD (Korean missile defense) is being constructed by the Republic of Korea, but are they sufficient to defend from North Korean attack? So far no clear answer.
2. Political limits - The Republic of Korea is concerned with its deteriorating relationship with China. Is a missile defense system acceptable to China? Why should the ROK invite enmity from China by pursuing ballistic missile defense? Many Koreans still believe the ROK shouldn't increase its military cooperation with the United States.
3. Priority of force construction - The ROK has a limited budget. National goals do not necessarily coincide with each service, or even within the service. Which service should ballistic missile defense be invested in? Should it guard against theatre weapons or strategic weapons? In the Army, some officers want more missiles; some want more tanks, mortars, helicopters. It's the same with the Air Force, some want more PGMs, some want more stealth fighters, and in the Navy, with submarines, or surface ships. How will you prioritize demand?
4. The capability of the civilian leadership - Fighting over votes, popularism, how much will they try to understand the strategic issues? Not all generals are capable of defending the nation's security. If you cannot defend against the North Korean threat, how will you effectively deter, which doesn't contain damages but threatens massive

retaliation? A more aggressive posture demonstrates potential for ruthless response to provocation, but a move to missile defense may not.

The best posture, in my view, is one of mutual vulnerability. The Republic of Korea is very vulnerable, but not vice versa. What we need is first to share vulnerability, then negotiate. It is presently unclear how deeply ROK planners are thinking about this vulnerability question, or how useful ballistic missile defense will be in stabilizing North-South relations.

We do not have to exaggerate China's reaction; if the ROK wants to strengthen its relationship with the US then it should accept a deteriorating relationship with China. For the ROK, there is no difference between short and long range missiles, everything is within range. We can still try to improve our relationship with China in other areas, such as economic interdependence. If the goal is to defend the ROK in a post North Korean world, then the ROK should strengthen its alliances so far as is possible.

Questions:

Question One: What are the implications for the ROK force structure, and what do you mean by vulnerability, what needs to be held vulnerable?

Kim Taewoo: The ROK needs both defense and deterrence. The question is how to allocate money and effort to both of them. Second, how do we assess our threat? When we talk about threat, the largest possibility is all out attack, but the lessons from the Cheonan and Yeonpyeong Island is that the more serious threat is provocations.

If we allow North Korea to continue with provocations we will eventually lose our right to respond. With North Korea possessing weapons of mass destruction, ROKs are more afraid, and it incentivizes them to tolerate attacks. If more ROK voters feel that way, maybe North Korea can decide who the next South Korean government is.

We need to prevent provocations. Therefore we should invest more money in deterrence, rather than strengthen defenses against provocations - that means more stealth fighters, submarines, and the like.

Question Two: Don't you believe the transfer of ballistic missile defense technology to third countries will enhance the regional and global arms race? Secondly, to what extent will this transfer enhance the security of recipient states?

Session Sketches II

James Bonomo: The potential of TMD THADs etc are unlikely to provide defense in a nuclear environment. It's not going to affect the ability of India or Pakistan to hold the other side at risk. It might prevent very small attacks from succeeding and deter them from being undertaken.

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