

# The Future of US Deterrence in East Asia

## Are Conventional Land-Based IRBMs a Silver Bullet?

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China's military modernization has been a central concern of US policymakers for some time.<sup>1</sup> During the past three years, China's behavior in relation to various territorial disputes has exacerbated regional tensions and reinforced fears that as its power increases, it is destined to become more aggressive and use its expanded military capabilities to coerce its neighbors, initiate crises, and perhaps directly challenge the United States. While these are indeed important longer-term concerns, perhaps the most acute threat of China's modernization program is its deployment of large quantities of short- and intermediate-range ballistic missiles (SRBM/IRBM). In a future cross-strait conflict, it seems increasingly likely that China could achieve air superiority over Taiwan. Moreover, China's missiles now threaten key forward US bases and hold US naval forces in the region at risk, creating a vulnerability that could hinder the capacity of the United States to effectively defend Taiwan. These developments in turn undermine US deterrence against China taking military action in the event of a crisis, making a conflict more likely. As a major component of what experts have termed an anti-access/area denial (A2/AD) strategy, China's missile forces pose a clear challenge for US policymakers.<sup>2</sup>

In response, some US experts have proposed deployment of conventional land-based IRBMs in the region to offset this growing Chinese advantage and reinforce the ability of the United States to deter China from future aggression.<sup>3</sup> While this option has not been fully developed

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in operational terms, one fact is clear: for the United States to deploy a new IRBM, it must unilaterally withdraw from the 1987 Intermediate-Range Nuclear Forces (INF) Treaty or cooperatively dissolve or significantly alter the treaty with its other signatory, Russia. The treaty removed these weapons from US and Soviet arsenals and remains in effect today, prohibiting their testing, development, or deployment.<sup>4</sup> This diplomatic hurdle may be significant, but it should not—in and of itself—determine whether these types of weapons would serve as an effective response to China's growing capabilities. The political and security implications of a decision to develop and deploy new intermediate-range conventional missiles within and beyond the region should obviously be considered in the context of US national security objectives. While arms control considerations should be taken into account, the primary question should be: can a new generation of US missiles effectively deter China while defending Taiwan and help maintain or expand US capabilities in East Asia?<sup>5</sup>

This article briefly examines China's military modernization and the critical role conventional short- and intermediate-range ballistic missiles play in its A2/AD approach. Next it considers the potential benefits of a new US conventional IRBM in addressing the Chinese missile threat and its A2/AD capabilities in general and the obstacles confronting deployment of such a system, particularly basing and cost. It then presents the likely security implications of deploying a new US conventional IRBM, taking into account China's perceptions and potential responses, and finally, offers some programmatic alternatives that could enhance US offensive capabilities and thus reinforce deterrence in a more cost-effective and operationally flexible way over the short, medium, and longer terms.

### **China's Missile Modernization and the Anti-Access Challenge**

For more than a decade, the development and deployment of conventional SRBM capabilities have been an important focus of China's military modernization efforts. With more than 1,000 shorter-range ballistic missiles (CSS-6 and CSS-7) deployed in areas adjacent to Taiwan, these weapons have been viewed as primarily dedicated to the mission of deterring leaders in Taipei from unilaterally altering Taiwan's current status and formally declaring independence.<sup>6</sup> Should deterrence fail, these capabilities provide Beijing with a robust capacity to compel the leadership

in Taipei to reverse such a declaration and return to the status quo ante. However, as China's missile capabilities have expanded, the nature of the threat to Taiwan has also increased significantly. Experts now argue that a coordinated Chinese attack utilizing its missile forces to degrade Taiwan's air defenses and potentially destroy much of the Republic of China Air Force (ROCAF) on the ground—even units located within hardened, well-defended shelters—would virtually provide the People's Liberation Army Air Force (PLAAF) with air superiority over the strait. With its quantitative advantage in fighter and strike aircraft, the PLAAF would be expected to overwhelm any surviving ROCAF units. This scenario underscores the crucial role of the United States in defense of Taiwan in the event of such an attack.<sup>7</sup>

A more troubling development is the People's Liberation Army's (PLA) development and deployment of intermediate-range missiles. The quantitative and qualitative improvements of those systems (particularly in terms of accuracy) combine to increasingly hold US forces in the region at risk. The conventional version of the CSS-5 IRBM—which is believed to be the basis of a “carrier-killer” antiship ballistic missile (ASBM) variant—is capable of hitting major US air bases in the Western Pacific, including Kadena on Okinawa and Kunsan in South Korea.<sup>8</sup> In the past few years, China has also developed and deployed large numbers of DH-10 land attack cruise missiles (LACM) which have an estimated range of approximately 2,100 km and are reportedly retargetable and highly accurate. With a Chinese capacity to saturate bases in the region, even Andersen AFB on Guam could become a first-strike target.

While investments in other programs, like fourth-generation strike aircraft and modern surface and subsurface vessels, create challenges for US planners, the missile program is a particularly difficult problem.<sup>9</sup> The net effect of China's military mobilization, typified by its expansion of conventional missile forces, is to significantly degrade offensive capabilities. Given the importance of forward bases to any US scenario to aid Taiwan, coupled with the important role of US aircraft carrier battle groups in responding to a crisis, China's investment in large quantities of increasingly lethal missile systems places those erstwhile assets in danger. These capabilities are at the core of what has been termed the *anti-access/area denial capability* by defense experts in Washington.<sup>10</sup> China's efforts have focused squarely on blunting the US ability to project power into its immediate region and transforming what had previously been a

major US advantage (relatively short-range strike aircraft launched from forward regional bases and aircraft carriers) into a potential liability. Combined with advanced air defenses and other assets, China has created a defensive coastal zone too dangerous for US forces to enter.<sup>11</sup>

Eroding US firepower and China's capacity to hold at risk US forward bases and naval assets critical to power projection in the regions around Taiwan and China's immediate littorals ultimately calls into question the ability of the United States to deter Chinese offensive action.<sup>12</sup> In the event of a crisis it makes such a scenario more likely as Beijing may have an incentive to alter Taiwan's status while it has a perceived advantage over the United States. If the conventional balance were to shift so far in China's favor, the decrease in expected costs may actually provide incentives to strike first.<sup>13</sup> In a worst-case scenario, if China were able to launch a perfectly executed attack that effectively disarmed Taiwan, the United States might be deterred from responding. A well-coordinated first strike using missile forces and various other anti-access capabilities (information and electronic warfare capabilities, antisatellite weapons, and improved strike aircraft and submarines) could disable US bases and make naval operations within the "first island chain" too risky, significantly constraining the US response.

This is not to imply that Beijing is seeking to prevail in a conventional war in the traditional sense. After all, the United States would still have extensive capabilities outside the immediate theater of operations. However, in the event of a crisis, China may seize the initiative by using its conventional military advantage (specifically its missile forces) to achieve its political objectives vis-à-vis Taiwan with a relatively large-scale but "limited" use of military force to effectively confront the United States with a *fait accompli* that would be ostensibly perceived as too costly to reverse.<sup>14</sup> A potential US military response under such circumstances is obviously an open question, but clearly the potential for escalation to a more wide-ranging conflict is high.

Experts have surmised that China's modernization efforts were designed—in large part—to rectify the vulnerabilities perceived by Chinese leaders in the wake of the 1996 Taiwan crisis, when President Clinton dispatched two carrier battle groups to the Taiwan Strait in response to provocative missile tests by China.<sup>15</sup> The tests, generally viewed as an attempt to intimidate Taiwan and pro-independence leaders in Taipei, failed to have the desired political effect, and the crisis ended.

When considering the prevailing analyses of the 1991 Gulf War and 1999 Kosovo air campaign, both of which highlighted the impact of US precision-guided munitions (PGM), China's A2/AD strategy plays to its geographic advantages and its primary concern for maintaining Taiwan's status.<sup>16</sup> In a conflict with the United States, it is necessary to have a de facto buffer zone to keep US forces far enough away from critical targets like air bases, missile sites, and command and control installations so short-range strike aircraft and PGMs are ineffective.

Chinese developments have not gone unnoticed in Washington. While this may be a worst-case scenario, the logic has informed thinking within the Pentagon and the security community and coalesced around a new operational concept—Air-Sea Battle (ASB).<sup>17</sup> ASB would combine US air and naval power to maintain and expand the capacity of the United States to project power in China's surrounding littoral regions, thus removing the perceived defensive buffer zone and restoring the conventional balance in the Western Pacific to one that allows for US offensive operations. In turn, this would support or enhance the US capacity to deter conflict in the future and reassure US allies while maintaining stability in the event of a political crisis involving Taiwan. While ASB remains an operational concept—not an official strategy or formal battle plan directed at any specific state—it is expected to shape the way the Pentagon invests in research and development projects, procures new weapons systems, and reconfigures force structures and posture over the longer term. It focuses on emerging technologies to execute novel operations like “blinding” or “dazzling” campaigns that use information and electronic warfare, as well as high-end conventional weapon systems. At its core it is predicated on restoring the ability of the United States to engage in offensive operations against China.<sup>18</sup> Taken to the logical extreme, ASB would essentially return superiority to the United States, not merely rectify current perceived deficiencies in US capabilities created by China's A2/AD. This seems to go well beyond traditional, basic notion of deterrence: raising the expected costs of unwanted action. Rather, ASB possesses significant elements of denial (decreasing the adversary's expected benefits of action) and war-fighting (the perceived need for capabilities to defeat the adversary to deter unwanted action) approaches to deterrence.<sup>19</sup>

## Potential Benefits of US Theater Missiles

Some experts argue that the deployment of US conventional, land-based IRBMs would allow the United States to more effectively address the growing challenge of Chinese A2/AD capabilities.<sup>20</sup> Land-based conventional ballistic missiles (or *theater* missiles) have been considered, along with various other platforms and munitions, as potentially useful components for implementing the ASB concept. In the most straightforward terms, theater missiles would greatly enhance US offensive capabilities and ostensibly make up for any loss of firepower that would occur if forward-based US strike aircraft were degraded. Enhanced US firepower would therefore significantly improve the conventional balance across the strait and raise the expected costs of Chinese offensive actions, restoring the US deterrent capacity in the region that has been eroded by China's modernization program. More specifically, the US deployment of theater missiles in East Asia would appear to offer four distinct but related benefits.

### Enhancing US Offensive Capabilities/Deterrence by Punishment

First, and most importantly, conventional land-based IRBMs enhance US firepower in the immediate region and increase the offensive capabilities confronting China in the event of a conflict.<sup>21</sup> Even in contested areas, the ability of an IRBM to penetrate defenses is effectively guaranteed. The deployment of these missiles would significantly degrade the perceived buffer zone Beijing has achieved with implementation of its A2/AD approach and significantly improve the conventional balance in favor of the United States. For any unprovoked aggression, whether against Taiwan or US forces or allies in the region, China could expect to face significant costs. This should significantly enhance the ability of the United States to deter China from provocations against Taiwan by placing its own high-value targets, particularly missile launchers, air bases, command and control assets, and other infrastructure, at risk.<sup>22</sup> If China's anti-access capabilities have undermined the perceived capacity of the United States to project power into the regions surrounding Taiwan, including mainland China and its littoral zones, then the deployment of conventional missiles in sufficient number—particularly spread among several bases—would fundamentally alter China's security environment.

## **Enhancing US Offensive Capabilities/Deterrence by Denial**

Should deterrence fail, theater missiles would improve US capabilities to effectively defend Taiwan by placing some of China's most threatening assets at risk. Specifically, experts have argued that an "in-kind" response based on the deployment of US conventional ballistic missiles may be the only effective means for addressing China's mobile missile systems.<sup>23</sup> Given their accuracy, range, speed, and ability to penetrate enemy defenses, conventional ballistic missiles would be particularly well suited for conducting operations against transporter erector launchers (TEL) under contested conditions. Past experience indicates that traditional airpower, even with air superiority, is not well suited for locating and striking mobile missiles and their TELs.<sup>24</sup> If the United States maintains its surveillance capabilities and situational awareness under conflict conditions, then theater missiles provide a prompt strike capability that could significantly threaten China's mobile assets and degrade one of its critical A2/AD capabilities. This also enhances the capacity of the United States to deter China by potentially denying it the benefits of its missile systems and could spur Beijing to reconsider their use in a crisis situation.<sup>25</sup>

## **Complicating Anti-Access by Expanding China's Target Packages**

Introducing an offensive capability that PLA planners would certainly have to address complicates Chinese targeting. These new US weapons would be considered priority targets. Therefore, Chinese missiles currently allocated to saturate Taiwan's air defenses, crater runways, destroy US aircraft on the ground at vulnerable forward bases, and potentially target US naval assets would now have to be retargeted to US missile bases.<sup>26</sup> In sufficient number and with effective diverse basing options (whether in hardened silos or mobile launchers), a new generation of conventional ballistic missiles could dramatically alter China's contingency plans and undermine a core pillar of its A2/AD approach.

## **Improving Capabilities and Controlling Escalation**

Some experts assert that US missiles deployed throughout the region will be less escalatory in the event of a crisis or actual conflict than "central" strategic responses deployed to the theater from the United States. Because they are visible and expected to be used in the event of a conflict,

US theater missiles are less likely to raise alarms in Beijing which could lead to further conventional or perhaps even nuclear escalation.<sup>27</sup> In this sense, these weapons greatly enhance the clarity and decrease the uncertainty associated with an expected US response to PRC offensive operations under conditions of crisis or in the early stages of a conflict. With these weapons deployed in the theater, any Chinese strike could be met with a controlled, proportionate response, more or less automatically. Conversely, munitions from a long-range bomber or submarine launch could be misread as strategic weapons, with catastrophic implications.

Depending on the nature and size of the US deployment, a new generation of theater missile forces—a hypothetical “Pershing III” conventional IRBM—would confront China with an asset that threatens important aspects of its A2/AD forces including airbases, hardened command and control installations, air defenses, and perhaps most importantly, its mobile missile systems. In improving US deterrent capabilities and providing a clearly visible program that directly addresses China’s most threatening capabilities, the deployment of theater missile forces will reassure US allies in the region and contribute to crisis stability. Despite the expected benefits, however, a new conventional IRBM is not without potential drawbacks.

## **Obstacles to US Theater Missiles**

Advocates of Air-Sea Battle and the more general deployment of missiles often discuss the expected benefits of such a program, but few have seriously considered the implicit assumptions critical to its ultimate contribution. Even beyond the potentially significant diplomatic and political-military costs associated with US withdrawal from the INF Treaty, a new generation of conventional land-based IRBMs is likely to encounter significant obstacles. The two most important challenges are basing and cost. It is important to consider the basing issue first as it may actually contribute significantly to the question of costs and affect expected benefits of the program.

### **The Critical Issue of Basing**

Experts who support the US deployment of conventional land-based IRBMs assume that with adequate basing options the United States can present a relatively large and diversified threat to China’s missile forces

that will rectify the perceived imbalance in conventional capabilities. Jim Thomas of the Center for Strategic and Budgetary Analysis, which has done significant work on ASB and A2/AD, has presented the most expansive conceptualization of a new land-based US ballistic missile program, depicting a linked network of installations in a ring of bases around China's periphery in the Western Pacific. He also envisions a "magazine" of munitions that could be utilized for land attack, air and missile defense, and antiship missions.<sup>28</sup> This would truly represent a major shift in favor of the United States, but it would also involve significant costs and difficult diplomatic negotiations for basing rights.

If the deployment of US conventional IRBMs were sufficiently large and diversified, China could be deterred from action. Such a scenario may indeed alter the balance in the region in a significant way. However, this is predicated on the assumption that multiple regional bases will be readily available to host US missiles, which is unrealistic. Rather, it is extremely doubtful that the United States will have access to basing that would actually maximize the expected benefits of the program as envisioned.<sup>29</sup> A limited basing posture would not completely negate the potential value of the program, but it is a significant constraint that must be evaluated alongside any perceived military contributions. In the absence of a major shift in Chinese policy that dramatically rejects its current "peaceful rise" to a more objectively aggressive and expansionist approach, the United States is unlikely to find bases beyond its own territories in the Western Pacific.<sup>30</sup>

As the experience of the late 1970s reflects, requests to regional allies to host highly visible and threatening counterforce weapons, even in the face of a significant threat, are likely to be rejected.<sup>31</sup> Given the high levels of economic interdependence in the East Asian region and the central role China has assumed in regional trade, countries like Japan, South Korea, and the Philippines are unlikely to view the threat of a Taiwan conflict as necessitating what they would view as a highly provocative response to a threat that only indirectly affects their security. Deploying missiles on their territory that directly target China would fundamentally alter the relationships between these states and, in turn, make them priority targets of China's offensive weapons in a future conflict.<sup>32</sup>

Even with a significant erosion of regional diplomatic relations due to an overtly hostile shift in Chinese diplomacy, domestic public opinion in those states is likely to continue to oppose such deployments, precisely

because of the high likelihood of being pulled into a future conflict. Thus, the assumption that the United States would have multiple basing options that would allow for effective diversification of missile forces is highly problematic, and any prudent planning for developing such a program should assume that deployment will be limited to US territories in the Western Pacific. This fact alone significantly undermines the case for conventional IRBMs as a response to China's missile programs. The US inability to access bases will affect costs by increasing range requirements, and the likely limited nature of the deployment removes many of the perceived strategic or operational benefits that a larger-scale, diversified deployment could offer. Specifically, the second and third benefits—holding China's mobile missiles at risk and complicating China's targeting plans by increasing the number of critical US assets in the region—are effectively removed by a proposed placement of missiles solely on US territory (i.e., Guam). Another important point is that despite the best efforts by the United States to maintain the reliability and resilience of its command, control, computers, communications, intelligence, surveillance, and reconnaissance (C4ISR) capabilities in the Western Pacific, it seems somewhat unlikely that, in the event of a conflict, these key assets will not be impacted to some degree by Chinese information and electronic warfare activities. Even if the United States were able to maintain the integrity of its C4ISR network in the region, conventional IRBMs fired from Guam are unlikely to arrive as desired, precisely because of the distance the missiles must travel. Shorter-range ballistic missiles within 1,000 km may be capable of executing an anti-TEL mission, but it seems dubious that missiles traversing 3,500–4,000 km would be effective, given the distance and time they would have to travel and the need for extensive updating and retargeting capabilities.<sup>33</sup>

### **The Programmatic Costs of Land-Based Conventional IRBMs**

The more straightforward question is one of program costs. Would the program be a relatively high-end, technologically advanced solution that is prohibitively expensive and limited in practical utility, or is it a cost-effective program that may possibly have larger benefits? Perhaps unsurprisingly, the program costs associated with the development of a new, highly capable intermediate-range missile are likely to be considerable. The Pershing II program, which ultimately produced 234 missiles, would cost approximately \$4.3 billion in 2011 dollars.<sup>34</sup> To provide a

basic cost estimate of a Pershing III program, a RAND study considered an initial deployment of approximately 600 missiles in the Western Pacific. That appears to provide the capacity required to target China's key air bases which are likely to be used in the event of a conflict with Taiwan.<sup>35</sup> An initial program cost was estimated at \$12 billion. However, several factors may contribute to an even more costly system.

First, the attributes of a Pershing III would almost certainly require a range of at least 3,500 km—almost twice the Pershing II (1,800 km)—to effectively threaten the important Guangzhou and Nanjing military districts adjacent to Taiwan and perhaps ranges in excess of 4,000 km to strike critical targets in Central China. Secondly, to be effective in striking hardened targets, the proposed missile would need to be highly accurate. Thus, a Pershing III is expected to be more expensive than a reconstituted Pershing II because of the demands for range and accuracy. Finally, industrial base issues must be taken into account. While the United States is obviously capable of developing and deploying such a system, the long period of inactivity in this specific area of research and development would likely add to program costs.<sup>36</sup> The institutional knowledge and infrastructure associated with development of a high-end IRBM has not existed since the INF Treaty was implemented, so a new program would essentially start “from scratch.”

One would expect the Pershing III to be road-mobile or perhaps placed in hardened silos to maintain survivability. It is not immediately clear which configuration would be preferred on Guam in terms of feasibility and cost effectiveness. So, while these new missiles would certainly enhance the firepower that could be delivered on key fixed Chinese targets such as air bases, command and control nodes, and critical military infrastructure, they are likely to be a costly solution to the problem of enhancing US offensive capabilities. Ultimately, despite the attractiveness of ballistic missiles as a response to China's A2/AD capabilities, other options may provide the requisite firepower to degrade China's ability to coordinate and conduct air operations across the Taiwan Strait and within the first island chain.

## **Regional Security Implications of a Deployment**

Beyond its substantial program costs, the deployment of US land-based IRBMs would likely have significant political and military implications for US-China relations. The actual deployment of a highly capable,

intermediate-range conventional missile aimed at high-value Chinese targets is likely to be interpreted as very provocative and thus transform China's perception of a threat from the United States. It is unclear if China would respond by limiting its own deployments. If the US missiles are viewed as particularly threatening to its forces, China would be expected to actually expand its intermediate-range missile forces well beyond current levels, ultimately limiting the perceived improvement in the balance initially achieved by the US deployment. Rather than dampen potential dynamics that could lead to escalation, the deployment of perceived highly effective US missiles would likely decrease stability, placing pressure on both China and the United States in the event of a crisis.

### **Transforming China's Threat Perception**

The most straightforward effect of a US withdrawal from the INF Treaty would be to increase Chinese fears of US intentions. As experts have written elsewhere, China's limited nuclear deterrent—including its commitment to a “no first use” doctrine—and focused military modernization have been targeted toward averting nuclear blackmail and deterring what Beijing perceives as interference in its development.<sup>37</sup> The opaque nature of China's policymaking apparatus has complicated efforts to understand its ultimate long-term objectives, and its assertion of exclusive rights in the South China Sea and territorial disputes with Japan and India have contributed to this uncertainty. What seems clear, at least in the short term, is that the focus of China's military modernization has been predicated on deterring outside intervention in a Taiwan conflict and improving its ability to prevail should deterrence fail. The central challenge for US policy toward China is balancing cooperation and conflict and hedging against the emergence of an aggressive China which continues to consolidate its power and expand its material capabilities. While deterring China from coercing its neighbors and following the provocative path of historical rising powers, it is also important to avoid engaging in policies that lead to a self-fulfilling prophecy and contribute to the emergence of a belligerent and revisionist China. In fact, given the current relations between the two states, it is difficult to see the political impetus for such a policy decision absent a prior deterioration of US-China relations to the point where the probability of conflict has increased and the potential gap in US conventional missile

forces is perceived as an immediate and acute threat warranting such a controversial diplomatic response.

The deployment of new missile systems in the East Asian theater is likely to be perceived as highly escalatory and could perhaps even precipitate a diplomatic crisis. Though the US intent may indeed be to compensate for a perceived gap in deterrent capabilities and the vulnerability of its forward-based assets in the region, it is doubtful Beijing would view such deployments as merely addressing these factors.

### **Altering China's Missile-Centric Strategy**

A more basic point inherent in the logic of deploying theater missiles is that a buildup and even perhaps long-term diversification of those forces will alter China's cost calculus in planning for a Taiwan operation.<sup>38</sup> The United States can create more targets at some level and deploy greater capabilities within the theater, but it is far from clear that such assets will deter China. China's modernization, focused on an expansion of missile forces, seems to reflect a different cost-effectiveness calculus from that of the United States. Traditional US reliance on tactical and strategic airpower is premised on the straightforward concept that missiles can only be used once, whereas airpower is a much more versatile (reusable) capability. Nonetheless, China's development and procurement priorities are unlikely to be fundamentally altered by what would likely be a limited US deployment of theater missiles. Engaging in a missile race where it seems that China has a comparative quantitative advantage (and perhaps a qualitative advantage, at least in the short-to-medium term) does not necessarily seem cost effective for the United States.

Rather than responding to the asymmetry created by China's missile-centric modernization program with an in-kind response, it would seem prudent for the United States to leverage areas where it may possess comparative advantages, such as undersea, surface, and airpower operations. With the asymmetry of interests that exists in the Taiwan crisis scenario, it is unlikely the United States is ever going to completely overcome China's "home field" advantage in military terms. Given the centrality of averting Taiwan's independence, we should expect Beijing to commit whatever resources necessary to maximize its probability of prevailing in a conflict. Again, this does not entail a general war with the United States but a limited-aims conflict where China has distinct geographic advantages, bolstered by its military modernization program.<sup>39</sup>

In short, a deployment of US intermediate-range missiles that represented only a marginal improvement over existing conventional offensive military capabilities (because of limits on basing and costs) is unlikely to alter Chinese considerations and may in fact only prove self-defeating if China ultimately compensates for US improvements with a further expansion of its own missile forces.

### **Potential for Crisis Instability, First-Strike Incentives, and Escalation**

US policymakers should expect China to view the deployments as highly threatening and provocative.<sup>40</sup> Considering the history of the “dual-track” decision in Western Europe in 1979, the Soviet perception of the deployment of Pershing IIs was that the United States was attempting to alter the balance between NATO and the Warsaw Pact, not simply to offset the deployment of Soviet SS-20s.<sup>41</sup> Given their ability to strike high-value Soviet leadership and command and control targets with little warning time, Moscow viewed the deployment as highly threatening, which intensified the deterioration of US-Soviet relations in the early 1980s.<sup>42</sup> The introduction of a Pershing III missile on Guam should be expected to spur a similar reaction from China. A highly capable missile that could destroy command and control assets, missile launchers, and other high-value targets would be seen as a highly threatening “counterforce” weapon—albeit conventional. Thus, we should expect these weapons to be perceived at the very least as important targets in the event of a crisis. This leads to two dynamics that could undermine crisis stability and introduce first-strike incentives.

First, if the United States is limited to deploying new land-based IRBMs only on Guam, the simple fact of their consolidated position in a relatively small geographic area creates a vulnerability, whether they are mobile or in hardened silos. China is presented with a limited, fixed target that could potentially be significantly degraded or eliminated in the event of an effective, coordinated first strike. Thus, in a future crisis, leaders in Beijing would have preventive motives to attack US missile deployments to remove the most threatening assets from the US arsenal. The second related dynamic arises from US perceptions of Chinese motives. Because of pressures for China to preemptively attack Guam, the United States finds itself in a position to “use or lose” its missile forces as a diplomatic crisis intensifies. Knowing that they are likely targets of a Chinese first strike, pressures build upon the United States to consider striking first out of fear that the probabilities of surviving a

Chinese first strike are low and that seizing the initiative would improve the probability of success. In either case, the potential for miscalculations and even accidental exchanges would increase, as forces on high alert seek to avoid being caught off guard. Similarly, the pressures to use or lose may contribute to inadvertent escalation as the fear of suffering a disarming or degrading first strike presses leaders to utilize all available munitions. More generally, escalation dynamics should be expected fairly early under most conceivable conflict scenarios once targets on the Chinese mainland are struck. Whether this more “maximalist” approach is necessary to deter China and reassure US allies remains debatable. A more realistic approach would focus on the ability of the United States to maintain the requisite offensive capabilities that could be used in flexible, prompt, and responsive ways to deter China from aggression against Taiwan in the event of a cross-strait crisis.

## **Alternative Approaches for Enhancing US Capabilities**

Given the nature of the threat created by expansion of China’s missile forces, active (and passive) defensive options are relatively limited because of the likely costs. Therefore, the focus on potential programmatic responses logically shifts to enhancing US conventional capabilities to deter Chinese operations by decreasing expected benefits and raising costs of a potential preventive strike in the event of a diplomatic crisis.

### **Alternatives for the Short Term**

Despite the constraints of the INF Treaty, the United States remains capable of deploying robust conventional capabilities in the East Asian region to bolster its current force posture if necessary. In considering current assets available to US planners, the *Ohio*-class, or “Tactical Trident,” SSGN (nuclear-powered guided missile submarine) would seem to address several important challenges.<sup>43</sup> First, with conventional configuration, the SSGN can carry 154 Tomahawk land attack missiles (TLAM) or the equivalent of a battle group’s full capacity of cruise missiles which can be launched at rapid rates while also allowing for controlled, proportional, limited responses. Given its ability to operate in otherwise denied areas due to its endurance and stealth, the SSGN provides a robust capability to maintain US firepower in the event of a Chinese attack. The US Navy currently deploys four of the *Ohio*-class

SSGNs, which were converted from nuclear-armed SSBNs in the 1990s for approximately \$400 million each. The USS *Ohio* and USS *Michigan* are deployed in the Pacific, while the USS *Florida* and USS *Georgia* are deployed in the Atlantic. In the event of a crisis, the movement of these four submarines to the Western Pacific would send a strong signal of US resolve and significantly bolster US capabilities in the region. In June 2010 this type of signal was sent when three of the four SSGNs arrived in strategically important ports: the USS *Michigan* in Pusan, South Korea; the USS *Ohio* in Subic Bay, Philippines; and the USS *Florida* in Diego Garcia.<sup>44</sup> If the United States invests in maintaining sufficient levels of precision-guided munitions, including the so-called Tactical Tomahawk and predeployed replacement munitions at Guam, for example, the SSGN fleet could contribute to significant enhancement of US firepower capabilities in the region for a sustained period. Maintaining this capability and perhaps expanding upon it through the conversion of other submarines or committing a certain number of new submarines to the Tactical Trident mission would provide a consistent, survivable, and flexible asset to deter or effectively defend against a potential conflict in the Western Pacific.

In the short term, investments can be made to sustain and enhance the standoff capability of the B-1 and B-52 forces with improvements of air-launched cruise missiles that can be fired from outside the range of Chinese anti-air and fighter capabilities. While an updated variant of the joint air-to-surface standoff missile (JASSM) has been procured to achieve longer ranges, it is unclear that even with a maximum range of 500 nautical miles (805 km) the JASSM-ER (extended range) is sufficient for a Taiwan crisis scenario. A B-1 can carry 21 of these missiles but would currently have to approach contested airspace to deliver them on targets.

### **Alternative Options for the Medium Term**

In considering other programs that could enhance offensive capabilities and thus improve the US capacity to deter Chinese aggression, one candidate would be the resurrection of the “arsenal ship” concept which was considered in the mid 1990s but ultimately rejected.<sup>45</sup> The ship was conceived as a relatively cost-effective means (ostensibly \$520 million in 1996 dollars) of providing significant firepower capabilities to a theater commander.<sup>46</sup> With plans for 512 vertical launch system (VLS) cells,

four to six of these vessels would greatly enhance the US conventional firepower capability in the region and would have the added benefit of presenting Chinese planners with a number of additional targets to address, creating significant complications to targeting packages.<sup>47</sup> Some experts have also considered a surface vessel, like the arsenal ship, that could carry a sea-launched IRBM. This would represent a major expansion of capabilities, though it may present some problems vis-à-vis the spirit, if not letter, of the INF Treaty.<sup>48</sup>

Another medium-term alternative would be an “arsenal airplane” that would carry a large number of cruise missiles and greatly enhance the standoff offensive capability of existing US airpower. The Boeing P-8A Poseidon, developed by the US Navy as a multimission aircraft (MMA) for antisubmarine warfare (ASW) and antisurface warfare (ASUW) as well as intelligence, surveillance, and reconnaissance (ISR) is based on a Boeing 737 airframe.<sup>49</sup> Equipping a similar civilian-based jet with advanced, long-range cruise missiles would likely be more expensive than the Poseidon’s \$280 million unit cost, but for the cost of baseline investment in a Pershing III, a fleet of 40–45 of these aircraft could address any perceived gap in capabilities.<sup>50</sup> Ultimately, these programs would seem relatively cost-effective solutions to the perceived conventional imbalance created by the Chinese missile program while proving far more flexible and versatile than a deployment of land-based missiles to the Western Pacific. These platforms can be deployed anywhere and could thus contribute to contingencies in other regions while proving less overtly threatening to China on a day-to-day basis.

### **Alternative Options for the Longer Term**

Concerns about the ability of US tactical aircraft to respond from forward bases given the threat of Chinese missiles is seemingly made more acute by the perceived decrease in US long-range strike capabilities due to the small size of the B-2 force, the limited capabilities of the B-1 bomber, and the age of the B-52 force.<sup>51</sup> With Chinese investments in modern air defense systems, early warning, and command and control capabilities, the ability of older, non-stealth, long-range platforms like the B-52 and B-1 to carry out missions over mainland China is no longer tenable. The perceived need for a follow-on to the B-2 has been argued elsewhere, and given the importance of maintaining a long-range strike capability, this seems like a prudent area of investment over the

longer term.<sup>52</sup> Estimates on the size and costs of such a program can vary significantly, depending on the analysis, but 100–175 airframes costing approximately \$40–\$50 billion provides some sense of the magnitude involved. Moreover, a significant tradeoff seems to be emerging over whether to defer the program to take advantage of technologies that will be available in 2020 or attempt to build a less-expensive platform based on existing, off-the-shelf technologies which could significantly influence the ultimate price of the program.<sup>53</sup> The decision to invest in a next-generation long-range bomber will obviously take into account a variety of threats as well as cost issues, and a new IRBM would be much smaller in scope and thus a fraction of the overall costs. However, given the constrained fiscal environment facing the Department of Defense, if we assume that the investment required would be approximately \$12 billion, the question arises as to where those resources are best spent. It would seem that a new platform with the range, versatility, and power projection capabilities of a next-generation penetrating bomber would warrant serious consideration against a highly capable missile that would have limited utility beyond the East Asian theater.

Over the longer term, a focus on “smarter” munitions, which could potentially linger for some time over a battlespace and be rapidly re-targeted may actually be a less costly and more effective solution to the challenge of China’s mobile missiles—the anti-TEL mission—than fixed IRBMs. The question of maintaining C4ISR under combat conditions is likely to remain critical, but with a successful track record, US research and development in unmanned aerial vehicles (UAV) technology is likely to continue to provide applications that could contribute to effective execution of this type of mission over time.<sup>54</sup>

### **Enhancing Denial Capabilities**

The improvement of active and passive defenses and the protection from hardening surveillance and reconnaissance capabilities to maintain early warning and avoid suffering a disarming first strike would contribute to the mitigation of China’s missile threat. The US Navy’s Aegis system has proven effective in addressing limited missile attacks under test conditions.<sup>55</sup> However, missile defenses are confronted with the challenge of numbers, and given the finite number of Aegis cruisers and destroyers and their commitment to other regions, the Chinese missile buildup presents real problems for an active defense strategy. Even

including Japanese missile defense capabilities, it is highly unlikely that the United States will ever be able to bring enough missile defenses to the region to be decisive in a conflict. At some point, they are likely to be overwhelmed. Nonetheless, they contribute to US posture by complicating China's cost-benefit and risk assessments.

Similarly, passive defenses further undermine China's planning by allowing US bases to absorb and recover from a strike.<sup>56</sup> In the short term, investing in capabilities to strengthen and, if necessary, repair runways would mitigate the effects of a missile attack. Similarly, hardening of existing bases by building additional shelters and underground fuel tanks may be costly but could potentially improve the ability to withstand an attack and maintain operational tempo. Over the longer term, the potential diversification of US forward bases in the Western Pacific may also be beneficial but will require extensive diplomatic and political activity as well as economic resources. In addition, the hardening and expansion of C4ISR capabilities in the region to achieve early warning and to maintain a robust US capacity for situational awareness is essential. This would likely necessitate investment in various cyber and space capabilities as well to allow the United States to withstand a blinding or dazzling attack in concert with its missile deployments. Such assets may also allow the US military to degrade or hinder the ability of the PLA to coordinate and execute an attack, mitigate the damage of an attack, and improve its capacity to respond.<sup>57</sup>

The unfortunate reality is that the expected value of both active and passive defenses is likely to erode over time with further expansion of Chinese missile forces. US decisions can offset China's advantages, but at best, they are unlikely to overcome them in a cost-effective way. Recognizing the fundamentally uneven nature of this competition, planners and decision makers should focus scarce resources on capabilities that enhance deterrence without contributing to an escalation of tension and a dynamic that leads to further Chinese deployments. In this sense, if deployment of new conventional theater missiles only spurs China to develop offsetting quantities of offensive missiles, these denial capabilities will only be devalued further over time.

## **Conclusions**

The threat to US interests created by China's missile expansion is a serious one. However, it is not clear that the development and deployment

of land-based intermediate-range conventional missiles—currently constrained under the INF Treaty—by the United States would represent the optimal means of addressing that threat. While a Pershing III IRBM would enhance the conventional capabilities available to US forces in a conflict, it would be costly and significantly less effective because of the critical issue of basing. Alternative programs may provide similar capabilities while proving more cost effective and operationally flexible.

A new land-based conventional IRBM will improve US offensive capabilities in the Western Pacific and thus could contribute to a more robust capacity to deter China from future aggression. However, a US theater missile is unlikely to prove useful in effectively targeting Chinese mobile missiles, and while it could contribute to striking important fixed targets, other munitions and platforms may be capable of executing this mission. More importantly, it is unclear that the deployment of new US missiles in the theater would have any greater effect of deterring China than existing US platforms that can be moved into the region in the event of a crisis. Nor is it obvious that land-based conventional IRBMs would be less escalatory than central US systems. Thus, the deterrent benefit of new US theater missiles should be considered side-by-side with the potential destabilizing and escalatory dynamics they may create under crisis conditions. Since the United States is unlikely to gain access to bases in the region beyond its territories like Guam, we should expect the program costs to be significant while potential military benefits of a large-scale, diverse deployment concept are absent. The deployment of these missiles would likely have significant implications for the US-China relationship by significantly increasing China's perception of a US threat, potentially spurring an arms race that could ultimately leave the United States in a worse position, and decreasing crisis stability. On balance, a Pershing III land-based, intermediate-range conventional ballistic missile would likely be costly and only make a limited military contribution, while the larger implications of its deployment are worrisome.

A final point worth considering centers on the concept of competitive strategies: the implementation of policies that encourage an adversary to engage in self-defeating behavior.<sup>58</sup> It seems clear that China has indeed found an asymmetric means to achieve a position of advantage vis-à-vis the United States in a relatively limited realm (the Taiwan Strait and its costal zones) and this will complicate US plans to contest these areas in

the event of a crisis. At the same time, the United States seems to have significant comparative advantages in the development of other platforms that can improve its position in this realm and provide extensive benefits and likely superiority in other potential areas of conflict (surface warfare, subsurface warfare, long-range strike, etc.). It seems possible that a major shift to develop and deploy an expansive new system of land-based conventional missiles—if the diplomatic challenges can somehow be addressed—may actually be channeling limited US resources into a very constrained capability that could play into China's hands in the long term. If the resources devoted to such a program undermine the ability of the Pentagon to field a next-generation bomber or significantly constrain the number of submarines or destroyers that could be built in the next decade and Chinese investments and acquisitions allowed for a relatively rapid increase in its blue-water naval capabilities, it is difficult to argue that the United States would be better off. A more effective approach would be for the United States to play to its strength and exploit its advantages rather than simply attempting to develop an in-kind response to China's asymmetric advantage in one specific area.

Given the global interests of the United States, the development of a new generation of theater missiles in response to China's missile threat seems short-sighted and premature. To devote resources during a period of constrained defense budgets to a capability that is likely to be truly relevant in only one region—albeit an important one—seems to place a major proportion of America's eggs in one basket. As the discussion above makes clear, there are several feasible, cost-effective alternative programs that could enhance US offensive capabilities in the Western Pacific and also support national security interests in any other region on the planet. Conventional theater missiles would seem to be an expensive and highly limited solution to a single pressing challenge. In political and diplomatic terms, this military solution seems almost completely divorced from the current political realities of the East Asian region. Barring an emergence of a Cold War relationship with China, the deployment of theater missiles to the region seems disproportionate to the perceived threat and highly provocative on the part of the United States. Even without considering the potentially dramatic diplomatic and political-military implications of a withdrawal from the INF Treaty, it is difficult to envision the expected military benefits of a new generation of US conventional IRBMs outweighing the costs. **SSQ**

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