

CONVENTIONAL DETERRENCE AND TAIWAN'S INDEPENDENCE NECESSARY INVESTMENTS

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Until recently, the United States has held critical advantages against China in a potential conflict scenario over Taiwan. Those advantages have eroded precipitously across the services and the Joint Force—most war games and analysis suggest China could dominate in a Taiwan scenario. As platforms and competition between the US and China modernize, it is critical to maintain conventional power until future platforms are delivered. An analysis of current capabilities reveals key Department of Defense investments needed to deter Chinese aggression and potentially defend Taiwan.

The advantages of the US military across the spectrum of Taiwan contingencies are quickly disappearing. The Department of Defense must invest in conventional capabilities that would provide an edge in these conflict scenarios. By contextualizing the evolving conventional Sino-American military balance and assessing capability gaps across the US armed forces, key investments emerge that would bolster the services' and Taiwan's own conventional capabilities for the defense of the island.

Introduction

The greatest danger the United States and our allies face in the region is the erosion of conventional deterrence vis-à-vis the People's Republic of China.

Admiral Philip Davidson, USN, commander,
US Indo-Pacific Command, March 2021.¹

The United States no longer possesses the same military advantages over China in the Indo-Pacific region that it has enjoyed since China initiated its Open Door policies in 1899. The Department of Defense's (DOD) 2020 and 2021 China military power reports have assessed just how rapidly the changes in Chinese military stature

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1. Jim Garamone, "Erosion of U.S. Strength in Indo-Pacific Is Dangerous to All, Commander Says," US Department of Defense (DOD) News, March 9, 2021, <https://www.defense.gov/>.

have been since the early 2000s.² These advances are a product of China's substantial investments in modernizing and expanding its armed forces, while the United States has focused on fielding the capabilities and capacity required for its wars in the Middle East and underfunded or delayed conventional defense modernization programs.³

Today, the Chinese Communist Party (CCP) is pushing a more aggressive and expansionist regional agenda in the Western Pacific, particularly toward Taiwan, and the US military is struggling to field the conventional forces required to mount a forward defense in the theater—one capable of effectively deterring further Chinese aggression.⁴

If China expects to achieve its geopolitical goals with a conventional attack on Taiwan at low cost because US forces will not be able to respond rapidly and effectively, the chances of China using its military forces to achieve its regional ambitions vis-à-vis Taiwan will only increase. Most war games and Taiwan crisis simulations today indicate China will successfully capture the island.

Importantly, the US military has not been completely idle in preparing for a potential invasion of Taiwan, even if it has not matched China's own military modernization and expansion efforts. In October 2021, Taiwanese leadership acknowledged for the first time the presence of US special operations forces and Marines stationed on the island to train components of the Taiwanese military.⁵ Still, the capacity and capabilities of the US military must be expanded and improved simultaneously with continuing efforts to assist Taiwan as Taipei seeks to improve its own defenses.

Key solutions could decrease China's advantage, shoring up the strength of US conventional deterrence and improving the ability of the United States to defend Taiwan against People's Liberation Army (PLA) forces. Core recommendations include: (1) securing US Air Force air superiority across legacy and modernized systems such as hypersonic missiles; (2) increasing Army troop and funding levels, protecting both from budget sacrifices for the other services; (3) expanding the US naval fleet and domestic production capacity; and (4) ensuring Joint Force/hybrid investments in regional posturing, air and missile defense, and intelligence, surveillance, and reconnaissance (ISR) are bolstered across services.

When outlining potential discrete moves of CCP aggression against Taiwan or within the East and South China Seas more broadly, Admiral Gary Roughead explained in June 2021 that China's "seizure of offshore islands, a blockade of Taiwan or quarantine, missile strikes on the island, and a ultimately a full-on invasion must be

2. Office of the Secretary of Defense (OSD), *Military and Security Developments Involving the People's Republic of China 2021: Annual Report to Congress* (Washington, DC: OSD, 2021), <https://media.defense.gov/>; and OSD, *Military and Security Developments Involving the People's Republic of China 2020: Annual Report to Congress* (Washington, DC: OSD, 2020), <https://media.defense.gov/>.

3. Mackenzie Eaglen, *The 2020s Tri-Service Modernization Crunch* (Washington, DC: American Enterprise Institute (AEI), March 2021), <https://www.aei.org/>.

4. Elbridge Colby and Walter Slocombe, "The State of (Deterrence by) Denial," War on the Rocks, March 22, 2021, <https://warontherocks.com/>.

5. Ben Blanchard and Yimou Lee, "Taiwan President Confirms U.S. Troops Training Soldiers on Island—CNN," Reuters, October 28, 2021, <https://www.reuters.com/>.

addressed. . . . More consideration must be given to more extensive and aggressive ‘grey zone operations,’ that activity between war and peace.”⁶

In short, the advantages of the US military across each prominent Taiwan contingency are deteriorating. This article focuses on potential US military investments in conventional capabilities that would provide an edge in a range of Taiwan deterrence and conflict scenarios. It contextualizes the evolving conventional Sino-American military balance and assesses capability gaps across the individual services and Joint Force operations, listing key investments to bolster the services’ and Taiwan’s own conventional capabilities for the defense of the island.

Sino-American Military Balance

The Obama, Trump, and now Biden administrations have signaled a rebalance to Asia, but in bipartisan fashion, success has been minimal at best. America’s regional posture in the Indo-Pacific remained relatively stagnant through the 2010s, partly a result of inertia, competing priorities, and mismatched or insufficient defense investments. This stagnation has had clear consequences for the balance of conventional military power between the United States and China.⁷

Secretary of Defense Lloyd Austin III released high-level findings from the classified *Global Force Posture Review* in late 2021, emphasizing that posture requirements would be reduced in other theaters to support warfighting readiness and increased US military activities in the Indo-Pacific, but Congress was generally unimpressed by the actual recommendations of the review. One staffer who was familiar with the findings critiqued them for reflecting “no decisions, no changes, no sense of urgency, no creative thinking.”⁸ Pentagon officials also acknowledged that few shifts were made in the report, with one saying, “there was a sense at the outset that there was a potential for some major force posture changes. Then, as we got deeper and deeper into the work, we realized in aggregate that the force posture around the world was about right.”⁹

While some analysts have cautioned that more shifts are likely in the future, particularly after the release of the 2022 national defense and security strategies,

6. Gary Roughead, “Taiwan: Time for a Real Discussion,” *Strategika*, no. 73 (June 30, 2021), <https://www.hoover.org/>.

7. US Department of State (DOS), *A Free and Open Indo-Pacific: Advancing a Shared Vision* (Washington, DC: DOS, November 4, 2019), <https://www.state.gov/>; Jonah Langan-Marmur and Phillip C. Saunders, “Absent without Leave? Gauging US Commitment to the Indo-Pacific,” *Diplomat*, May 6, 2020, <https://thediplomat.com/>; Linsey F. Ford, “Sustaining the Future of Indo-Pacific Defense Strategy,” Brookings Institution (website), September 28, 2020, <https://www.brookings.edu/>; and Mackenzie Eaglen, *Defense Budget Peaks in 2019, Underfunding the National Defense Strategy* (Washington, DC: AEI, May 17, 2018), <https://www.aei.org/>.

8. Tara Copp, “US Needs Indo-Pacific Force ‘Enhancements,’ Global Posture Review Finds,” *Defense One*, November 29, 2021, <https://www.defenseone.com/>; and Jack Detsch, “‘No Decisions, No Changes’: Pentagon Fails to Stick Asia Pivot,” *Foreign Policy*, November 29, 2021, <https://foreignpolicy.com/>.

9. Gordon Lubold, “Pentagon Plans to Improve Airfields in Guam and Australia to Confront China,” *Wall Street Journal*, November 29, 2021, <https://www.wsj.com/>.

preliminary signs do not suggest the Biden administration's Pentagon is prepared for ambitious change.

Despite underwhelming progress from successive presidential administrations, there are plenty of roadmaps, frameworks, and defense programs that would bolster the US military's position in the Indo-Pacific. For the purposes of this analysis, the posture requirements of the US military in the Indo-Pacific today and in the future are assessed in relation to the ability of US forces to prevent China from capturing Taiwan or interfering with critical US trade and economic activity with the island.

Rather than discuss the multitude of deterrence strategies, this analysis will remain acutely focused on direct investments that would allow US forces to succeed across a variety of scenarios. (For the recommendations included, various cost estimates are based on fiscal year (FY) 2022 defense budget documents and can be found in the Defense Futures Simulator budget analysis platform, developed by the American Enterprise Institute, the Center for Strategic and International Studies, and War on the Rocks.)¹⁰

US Capability Gaps and Key Investments

Department of the Air Force

Capability Gaps. US Air Force preparation for a possible invasion of Taiwan by China is hampered by three factors: (1) ongoing congressional skepticism of hypersonic missiles; (2) the service's inability to move on from legacy programs; and (3) the tyranny of distance represented by the Pacific that hampers the service's ability to be part of the fight.

At the time of writing, the House Appropriations Committee set a target cut of \$44 million from the Air Force's hypersonic missile program for FY 2022.¹¹ While these missiles are mostly still in development and testing, they are one of the most significant capability gaps the United States faces in this arena, as China has also been testing their own advanced hypersonic capabilities. A scenario in which each side engages with hypersonic missiles is within reason in the very foreseeable future. China has tested nuclear-capable hypersonic weapons that threaten Taiwan, US basing, and continental security.

The second problem, the maintenance of legacy platforms depleting funding allocations for modernization programs, is far from new. The Air Force has asked Congress to divest from the air- and ground-support purposed A-10 Warthog, F-15C/D and F-16C/D fighters, and KC-10 refueling tankers.¹² Domestic considerations occasionally

10. AEI, Center for Strategic and International Studies (CSIS), and War on the Rocks, Defense Futures Simulator, <https://defensefutures.net/>.

11. Valerie Insinna, "House Appropriators Want to Shave \$44M Off Air Force's Flagship Hypersonic Program," Defense News, July 12, 2021, <https://www.defensenews.com/>.

12. Valerie Insinna, "US Air Force to Mothball Dozens of A-10s, F-15s and F-16s in FY22 Budget," Defense News, May 28, 2021, <https://www.defensenews.com/>.

complicate such requests; members of Congress are often hesitant to shift funding from programs based or built in their home states or trade existing platforms for those in development.

Undoubtedly, funding outdated and aging programs is preventing the service from investing in new aircraft and modernization. The Air Force wants to use the funds freed up from divestment to support its hypersonic missile programs and other long-range weapons.¹³ The service also must grapple with how the F-35 program—the centerpiece of its modernization effort—will overcome the long distances in the Pacific to be relevant. So far, the shift of regional focus has not been met with a quick shift in investment to match changing priorities, which will undoubtedly make defending Taiwan more difficult.

Key Investments. In 2018 and 2019 Air Force war games, the service lost disastrously in the South China Sea and Taiwan scenarios respectively.¹⁴ In a late 2020 war game, the Air Force reportedly successfully defeated a Chinese invasion of Taiwan by “relying on drones acting as a sensing grid, and advanced sixth-generation fighter . . . cargo planes dropping pallets of guided munitions and other novel technologies yet unseen on the modern battlefield.”¹⁵ While the war game victory reportedly depended on some technologies not in the current budget plan, the service made other decisions that, if implemented, could improve the relevance of the Air Force for securing air superiority at the outset of a Taiwan crisis.

In the war game, the Air Force reportedly disaggregated its command-and-control structure by making “investments to remote airfields across the Pacific region—fortifying and lengthening runways as well as pre-positioning repair equipment and fuel.”¹⁶ In addition to key posture adjustments, the Air Force should prioritize investments in fifth and sixth generation fighters, a mix of drones for a variety of purposes—including serving as long-range communications nodes, using bombers to penetrate contested air space, employing airlift assets in offensive roles, and securing aerial refueling to elongate fighter distance capability in the face of lengthy flight paths in a Taiwan conflict.

The Air Force should also allocate funds above the current budget plan to the Next Generation Air Dominance fighter and its associated systems to accelerate the fielding of the program, and it should extend the service lives of the F-22s through the 2030s.¹⁷

While investing in new, relatively low-cost and comparatively attritable drones like the XQ-58A Valkyrie is important, the service should not prematurely cut legacy platforms when the assets can be used for new mission sets. Although the MQ-9 traditionally operated in uncontested battlespaces in the Middle East, with technological

13. Frank Wolfe, “Kendall: 30-Year-Old Aircraft an ‘Anchor’ Holding Back Air Force Modernization,” *Defense Daily*, December 6, 2021, <https://www.defensedaily.com>.

14. Valerie Insinna, “A US Air Force War Game Shows What the Service Needs to Hold Off—or Win against—China in 2030,” *Defense News*, April 12, 2021, <https://www.defensenews.com>.

15. Insinna, “China in 2030.”

16. Insinna.

17. Heather R. Penney, *The Future Fighter Force Our Nation Requires: Building a Bridge* (Arlington, VA: Mitchell Institute for Aerospace Studies, October 26, 2021), <https://mitchellaerospacepower.org/>.

adjustments the platform can support maritime and littoral domain awareness operations in the Pacific.¹⁸ Finally, the service should accelerate investment in the new and still developing B-21 Raider stealthy bomber and replace its older tanker fleets.

Department of the Army

Capability Gaps. The Army has been preparing itself for future budget cuts more than any other service. According to Army Chief of Staff General James McConville, without significant budget increases, the Army will be unable to increase its end-strength.¹⁹ Declining end-strength will be met with declining influence and deterrence, and in the event of a conflict anywhere—such as the ongoing war in Ukraine—the United States cannot risk destabilization as a result of self-inflicted blows in force size and presence across the globe.

While some speculate the Army could play a smaller role in the defense of Taiwan than the other services, it may be required to deploy troops to Taiwan to either deter or defend against Chinese troops.²⁰ In a late 2021 discussion regarding the Army's role in countering China, Secretary of the Army Christine Wormuth cited long-range precision fires as perhaps the most important of these but also emphasized the service must work to answer many difficult questions about its role in a conflict with China, Taiwan-related or not.²¹

A scenario of failed deterrence followed by the United States being called upon and deciding to restore Taiwan's territorial integrity, however, is largely under-discussed and particularly poignant for those who debate the US Army's future role in the Pacific; observers warn "these [restorative] roles are massive shifts for an insurgency-honed force, as well as expensive, bloody, and politically fraught."²² Moreover, one of the biggest problems the Army faces is the pressure to become the bill payer for Navy and Air Force costs as the military shifts towards the Indo-Pacific.²³

Should a conflict begin, Wormuth detailed five key tasks for the Army. (1) The Army must establish, build up, secure and protect staging areas and Joint operating bases in theater with integrated air and missile defense. (2) The Army must sustain the Joint Force with logistical support. (3) The Army must provide command and control at multiple operational levels. (4) The Army must provide ground-based, long-range fires as part of the Joint Force's strike capabilities. And (5) if required, the Army

18. Lawrence A Stutzriem, "Reimagining the MQ-9 Reaper" (Arlington, VA: Mitchell Institute for Aerospace Studies, November 18, 2021), <https://mitchellaerospacepower.org/>.

19. Jen Judson, "US Army Bracing for Budget Hit Next Year," *Defense News*, April 20, 2021, <https://www.defensenews.com/>.

20. Jacquelyn Schneider, "The Uncomfortable Reality of the U.S. Army's Role in a War over Taiwan," *War on the Rocks*, November 30, 2021, <https://warontherocks.com/>.

21. Tony Bertuca, "Wormuth: Army Must 'Ruthlessly Prioritize' to Avoid Becoming a 'Bill-Payer' for Other Services," *Inside Defense*, October 11, 2021, <https://insidedefense.com/>.

22. Schneider, "War over Taiwan."

23. Schneider.

should be ready to counterattack using maneuver forces such as infantry, Stryker elements, and combat aviation brigades.²⁴

Key Investments. When discussing the role of US landpower in response to a Taiwan contingency, it is helpful to consider the responsibilities of US forces before and after the start of a conflict. Prior to an increase in hostilities between China and the United States over the independence of the island, the currently minimal footprint of US troops on Taiwan itself could be increased.²⁵

The Department of Defense could also choose to discreetly or overtly conduct more security force assistance missions with Taiwan by means of the Army's 5th Security Force Assistance Brigade or dedicate two security force assistance brigades to the Indo-Pacific region, which includes raising and maintaining another brigade for the region over the next five years.²⁶ Recommendations to permanently station a full armored brigade combat team on Taiwan, however, would likely spell the end of US strategic ambiguity toward the island.²⁷

Other frameworks short of a substantial land presence might involve dispersing smaller contingents of ground forces at key locations around the island, preserving Taiwan's ability to communicate in the event of an invasion. Further, independent from platform investments, personnel policies could support the development of critical language skills in the US military to support closer cooperation if required in the future. At a minimum, the Army should resist end-strength reductions to its maneuver forces. More ambitiously and with more funding, the service could accelerate fielding of new equipment including investments in future helicopter programs such as future attack reconnaissance aircraft and future long range assault aircraft.

Department of the Navy

Capability Gaps. The United States' global advantage in antisurface warfare has declined precipitously since 2015, negatively affecting the Taiwan scenario with China.²⁸ The Navy's 30-year shipbuilding plan released in 2020 acknowledges China's substantial improvements in naval capabilities, which surpass the United States in ship totals. Just two months before the release of the 30-year plan, the Navy acknowledged its aging

24. Dontavian Harrison, "CSIS: China Power Conference 2021; Secretary of the Army's Opening Remarks," US Army (website), December 20, 2021, <https://www.army.mil/>.

25. Jack Detsch, "Pentagon Quietly Puts More Troops in Taiwan," *Foreign Policy*, November 18, 2021, <https://foreignpolicy.com/>.

26. Joseph Trevithick, "American Forces Have Been Quietly Deployed to Taiwan with Increasing Regularity: Report," *The Drive*, October 7, 2021, <https://www.thedrive.com/>; and AEI, CSIS, and War on the Rocks, Defense Futures Simulator, dashboard, US Army, <https://d311eb9zv1nxq7.cloudfront.net/>.

27. Todd South, "An Army Brigade Posted to Taiwan, and Other Ways to Counter China Being Floated," *Army Times*, June 23, 2021, <https://www.armytimes.com/>.

28. Eric Heginbothan et al., *The U.S.-China Military Scorecard: Forces, Geography, and the Evolving Balance of Power, 1996-2017* (Santa Monica, CA: RAND Corporation, 2015), <https://www.rand.org/>.

surface fleet was becoming increasingly expensive and difficult to maintain.²⁹ The Aegis combat system's effectiveness is declining despite substantial upgrades. Hull lives are expiring across the fleet (perhaps most notably on cruisers), and declining maintenance standards have contributed to this problem.

The Navy's 500-ship-by-2045 mark has been met with some skepticism, though mostly for financial reasons. According to the Congressional Budget Office, meeting the deadlines in the plan would require an additional \$20 billion in shipbuilding funds annually, with sustainment and personnel costs exceeding \$300 billion.³⁰ With such severe conflicts between planning and budgeting, reversing course on China's increasing naval advantage in the Taiwan Strait seems like a distant possibility.

Key Investments. The US military should prioritize arresting the decline of the Navy's fleet with targeted investments in platforms that would increase US undersea superiority, support more distributed operations, secure logistics, and procure more salvage and rescue ships that would be key in the event of a conflict.³¹

The Navy could begin by buying one more amphibious transport dock (LPD Flight II) per year carrying Marines to more remote operational areas and supporting larger amphibious operations. Of note, the Hudson Institute also recommended developing a light amphibious warship to support more littoral operations in a study on the future Navy fleet conducted in 2020. The Navy could also maximize the production of the new Constellation-class frigate, buying nine ships above the current program of record over the next five years.

The service could also increase its production of Virginia-class attack submarines to three per year instead of two. Efforts such as the Navy's full spectrum undersea warfare project merit support, particularly with its emphasis on subsea and seabed warfare technologies, key to enabling future undersea weapons systems. An additional six Navajo-class (T-ATs) salvage and rescue ships would markedly improve the fleet's ability to recover from damages sustained in a conflict.

Increasing the planned procurement of John Lewis-class oilers by six over the next five years will also advance the endurance and range of the Navy's existing ships, a critical investment as the fleet operates with more regularity in the Indo-Pacific.³² Overall, increased shipbuilding will prove exceedingly difficult without substantial concurrent investment in US shipyards to sustain a larger fleet. Recent efforts to this end in Congress include the introduction of the SHIPYARD Act that seeks to improve the infrastructure of public yards.³³

29. David B. Larter, "US Navy's Aging Surface Fleet Struggles to Keep Ships up to Spec, Report Shows," *Defense News*, October 5, 2020, <https://www.defensenews.com/>.

30. John Kroger, "Epsler's Fantasy Fleet," *Defense One*, October 13, 2020, <https://www.defenseone.com/>.

31. Blake Herzinger, "The Budget (and Fleet) that Might Have Been," *War on the Rocks*, June 10, 2021, <https://warontherocks.com/>.

32. AEI, CSIS, and War on the Rocks, *Defense Futures Simulator*.

33. Justin Katz, "Another \$25B Boost, This Time for Shipyards, Proposed for NDAA," *Breaking Defense*, November 16, 2021, <https://breakingdefense.com/>; and S. Amdt. 4653 to S. Amdt. 3867, to National Defense Authorization Act for Fiscal Year 2022, H.R. 4350, 117th Cong. (2021), <https://www.congress.gov>.

The Navy should also think creatively about how it conducts a variety of mission sets. While SSN-class submarines and surface combatants are generally responsible for antisubmarine warfare for example, this platform-intensive approach will be difficult to scale during a Taiwan contingency. Research from the Hudson Institute in October 2020 recommended using torpedoes or depth bombs to suppress an adversary's submarine fleet with investments in alternatives like the Navy's new Very Lightweight torpedo with its offensive compact rapid attack weapon.³⁴

Another investment route might involve increasing US procurement of maritime mines—and encouraging Taiwan to do the same—to be used as antisurface ship or antisubmarine subsurface weapons. The US naval mining capability currently includes the Quickstrike family of mines, the MK 67 submarine launched mobile mine, the MK 68 clandestine delivered mine, and the Hammerhead Encapsulated Effector.³⁵

At a higher level, the Marine Corps' new "Stand-In Forces" warfighting concept will specifically enable Marines to field and maintain the capabilities required to begin countering aggression below the level of armed conflict. For example, Stand-In Forces may be able to prevent Chinese militia from antagonizing vessels passing through the South China Sea, without the involvement of more heavily armed US warships.³⁶

The Navy would be well served by also investing in electronic warfare systems, the Rolling Airframe Missile Block II, and Evolved Sea Sparrow Missile Block II—shorter range systems that can be carried by ships at greater capacity. And the Navy should continue to investment in the Marine air defense integrated system for short-range air defense intended to protect maneuver forces, installation, and other critical assets.³⁷

The Navy should also sustain or increase investments in its ability to counter capable surface-to-air missiles from the PLA, including sustained spending on the Navy's advanced antiradiation guided missiles-extended range, the procurement of 54 low rate initial production missiles and associated equipment.³⁸ This capability supports the ability of US air forces to attack PLA integrated air defenses.³⁹

The Joint Force

Regional Posture. As the Air Force war games found, improving US theater-based force posture and logistical capabilities will be critical for overcoming the tyranny of

34. Kyle Mizokami, "Here Comes the Navy's First New Torpedo in Decades," *Popular Mechanics*, January 1, 2021, <https://www.popularmechanics.com/>.

35. Department of the Navy (DoN), *DOD Fiscal Year 2022 Budget Estimates: Navy Justification Book*, vol. 1, "Weapons Procurement, Navy" (Washington, DC: DoN, May 2021): 401, <https://www.secnav.navy.mil/>.

36. Justin Katz, "Marines's New Warfighting Concept Focuses on Small, Agile Forces with an Eye on China," *Breaking Defense*, December 1, 2021, <https://breakingdefense.com/>.

37. DoN, *DOD Fiscal Year 2022 Budget Estimates: Navy Justification Book*, vol. 1, "Procurement, Marine Corps" (Washington, DC: DoN, May 2021): 95, <https://www.secnav.navy.mil/>.

38. David Ochmanek, "Restoring U.S. Power Projection Capabilities: Responding to the 2018 National Defense Strategy" (Santa Monica, CA: RAND Corporation, 2018), <https://www.rand.org/>.

39. DoN, *DOD Fiscal Year 2022 Budget Estimates: Navy Justification Book*, vol. 1, "Weapons Procurement, Navy" (Washington, DC: DoN, May 2021), 293, <https://www.secnav.navy.mil/>.

distance that characterizes the region and will allow US forces to jointly and rapidly respond to a variety of Taiwan scenarios. To this end, the recently established—and recently reformed—Pacific Deterrence Initiative serves as an instructive case study for where additional dollars might be well spent.

While the Pentagon's original request for the fund attempted to force through platform-centric investments, the reforms proposed by Congress in the FY 2022 National Defense Authorization Act redirected the fund to focus primarily on improving US regional posture. The reforms emphasize “planning and design” activities that will be “used to develop shovel-ready military construction projects to advance a distributed and resilient theater force posture.”⁴⁰

These changes will ensure military logisticians and troops have the supplies and plans they need to develop quick, useable access to a variety of critical operational sites like refueling centers and air strips across the Indo-Pacific and potentially on the island itself. Even so, certain analyses caution that infrastructure investments in the initiative are still focused on large and centralized bases, not improvements to remote runways, for example, such as those proposed by the Air Force.⁴¹

At a minimum, substantially increasing current Pacific Deterrence Initiative program funding over the next five years would improve US basing in the Indo-Pacific. Simultaneously, the United States should be enhancing regional force survivability. Such investments include passive protection measures for forward bases such as “expedient shelters, fuel bladders, [and] airfield damage repair equipment and materiel.”⁴²

Hybrid Air and Missile Defense. The US military must defend its bases and platforms against PLA attacks from the very beginning of a conflict. As a case study, the Biden administration is focusing on securing the defense of Guam. The US territory provides support for Navy submarines operating in the Pacific, sustains Air Force strategic bombers, operates surveillance drones, and is simultaneously charged with developing point and area defense across the services. These capabilities are key to any Pacific conflict engaging US forces—especially in defense of Taiwan—because China is developing offensive weaponry that puts these critical operations at severe risk.

In mid-2021, Vice Admiral Jon Hill, director of the Missile Defense Agency, noted that US Indo-Pacific Command “has a clear requirement” to update the missile defense of Guam. He reported Guam's ballistic missile defense as the combatant command's primary unfunded requirement for FY 2022 at \$231.7 million.⁴³

The Joint Force must develop a hybrid defense for Guam that incorporates the Navy's Aegis Ashore and the Army's Terminal High-Altitude and Area Defense systems. Fully funding Guam's defenses cannot and should not be understated. Developing an

40. Dustin Walker, “Pacific Deterrence Initiative: A Look at Funding in the New Defense Bill, and What Must Happen Now,” *Defense News*, December 15, 2021, <https://www.defensenews.com/>.

41. Walker, “Pacific Deterrence Initiative.”

42. Ochmanek, *Power Projection Capabilities*.

43. John Grady, “MDA: US Has Several Options to Defend Guam from Missile Threats,” USNI News, August 13, 2021, <https://news.usni.org/>.

evolved missile defense architecture for Guam will grow in importance as advanced threats like hypersonic missiles proliferate. Increases in the FY 2022 budget request for the Hypersonic Defense Program indicate DOD prioritization of the program and suggest further future investments.⁴⁴

Of note, defense analysts have advocated investing in cost-effective passive defenses for US bases and platforms including “dispersing forces across multiple locations, spreading forces and equipment out on a base, hardening, redundancy, camouflage, concealment, deception, early warning systems, and recovery capabilities . . . to rapidly repair damage.”⁴⁵ Ultimately, the US military would most benefit from attention and investment in a combination of active *and* passive defenses.

Hybrid Long-Range Strike. While some commentators have warned that investments in long-range strike options across the Joint Force are needlessly repetitive in constrained budget environments, should the United States commit to fully funding an ambitious defense agenda, long-range strike options across the services should be seen as important efforts to build useful redundancies across the US military. Not only is Taiwan interested in fielding long-range strike capabilities themselves, but the ability of the United States to deploy long-range precision missiles against Chinese land targets from surface and submarine systems also will strengthen US deterrent capabilities and potential response in the event of conflict. China is actively developing these technologies; US superiority in long-range precision munition deployment would serve Taiwan and US defenses well.

The Air Force is making substantial investments in Joint air-to-surface standoff missiles and long range air-to-surface missiles. The service is also investing in its most prominent hypersonic, the air-launched rapid response weapon (ARRW), with the hypersonic conventional strike weapon as an alternative, particularly as ARRW came under congressional scrutiny in 2021.⁴⁶ The Army is scheduled to field a prototype of its new long-range hypersonic weapon in 2023, while the service simultaneously endeavors to diversify its long-range strike portfolio with the development of the precision strike missile.

The Marine Corps is focused on fielding an antiship naval strike missile to undermine PLA Navy defenses, advancing its Navy/Marine expeditionary ship interdiction system.⁴⁷ The Navy intends to field its conventional prompt strike hypersonic missile on the Virginia-class submarines and Zumwalt-class destroyers.⁴⁸ If further funding is required for the new integration effort, Congress and the Navy should provide it.

44. Wes Rumbaugh and Tom Karako, *Seeking Alignment: Missile Defense and Defeat in the 2022 Budget* (Washington, DC: CSIS, December 10, 2021), 10, <https://www.csis.org/>.

45. Stacie Pettyjohn, “Spiking the Problem: Developing a Resilient Posture in the Indo-Pacific with Passive Defenses,” *War on the Rocks*, January 10, 2022, <https://warontherocks.com/>.

46. Rumbaugh and Karako, *Seeking Alignment*, 4.

47. Mark F. Cancian, *U.S. Military Forces in FY 2022: Marine Corps* (Washington, DC: CSIS, November 2021), <http://defense360.csis.org/>; and Rumbaugh and Karako, *Seeking Alignment*.

48. DoN, *DOD Fiscal Year 2022 Budget Estimates: Navy Justification Book*, vol. 2, “Research, Development, Test & Evaluation, Navy” (Washington, DC: DoN, May 2021), 1527, <https://www.secnav.navy.mil>.

Intelligence, Surveillance, and Reconnaissance. If the United States cannot achieve an enhanced force posture in the region quickly, the advances in ISR that give US forces the warning they require to be appropriately positioned has to be a priority. Broadly, more ISR assets that support US regional awareness will be money well spent. In particular, space-based warning platforms become more important in providing constant surveillance if US posture cannot be rapidly adjusted. Accordingly, efforts like the Space Development Agency's investments in developing beyond-line-of-sight targeting and advanced missile tracking merit sustained or increased funding where necessary.⁴⁹

The US military could also accelerate investments in missile sensing proliferated low Earth orbit satellites.⁵⁰ Accelerating the development and fielding of counterspace systems should also take priority.⁵¹ Further, while the United States cannot depend on or force defense investments from Allies and partners, fielding more geospatial intelligence capabilities such as synthetic aperture radar will be useful for supporting extended land surveillance and maritime awareness.⁵²

Remotely crewed platforms such as the Navy's XLUUV, for example, will be useful for expanding the service's undersea ISR capacity. For the Air Force, a high-altitude, unmanned long-range reconnaissance system like a larger RQ-180 is reportedly flying and operating.⁵³ If true, increasing the Air Force's inventory of the platform would also be a valuable investment.

Taiwan Defense Capabilities

Support Taiwan's Defenses and Resiliency

Short of an outright assault on Taiwan, the Chinese Communist Party might pursue a range of potential methods to subjugate Taiwan covering the full spectrum of conflict. The systems and investments detailed above would strengthen the US military's ability to mount an appropriate response in each scenario. But Taiwan must be able to do so as well. In May 2021, analysts identified a menu of defense investments that Taiwan should consider:

49. DOD Space Development Agency, *DOD Fiscal Year 2022 Budget Estimates: Defense-Wide Justification Book*, vol. 5, "Research, Development, Test & Evaluation, Defense-Wide" (Washington, DC: Space Development Agency, June 7, 2021): 19, <https://comptroller.defense.gov/>.

50. AEI, CSIS, and War on the Rocks, Defense Futures Simulator, dashboard, US Space Force, <https://d3l1eb9zv1nxq7.cloudfront.net/>.

51. Ochmanek, *Power Projection Capabilities*.

52. Jason Wang and Mark Matossian, "David vs Goliath: How Space-Based Assets Can Give Taiwan an Edge," *Diplomat*, March 27, 2021, <https://thediplomat.com/>.

53. David Axe, "America's New Stealth Drone Appears to Be Operational near China," *Forbes*, September 7, 2021, <https://www.forbes.com/>; and Mark F. Cancian, *U.S. Military Forces in FY 2022: Air Force* (Washington, DC: CSIS, November 2021), 18, <http://defense360.csis.org/>.

If Taiwan acquires, over roughly the next five years, large numbers of additional anti-ship missiles, more extensive ground-based air defense capabilities, smart mines, better trained and more effective reserve forces, a significantly bolstered capacity for offensive cyber warfare, a large suite of unmanned intelligence, surveillance, and reconnaissance (ISR) and strike systems, and counterstrike capabilities able to hit coastal targets on the mainland, it will continually increase the price China will have to pay to win a war.⁵⁴

The United States can do much to support Taiwan's development and acquisition of these capabilities. Most obviously, Washington could transfer relevant technologies to support the production of specific weapons like improved short-range (up to 1,000 kilometers or 539 nautical miles) missiles, particularly useful for advancing Taiwan's ability to "disrupt, degrade, and interdict Chinese command and control nodes, military airfields, supply depots and reinforcements in response to an attack."⁵⁵

To bolster Taiwan's ability to counter Chinese aggression in the grey zone, the United States could assist Taiwan with developing its own resident cyber offense and defense capabilities and sustain other ongoing US efforts to train the Taiwanese armed forces. Enabling Taiwan to defend itself through resiliency against nonkinetic attacks such as cyber and information operations must be a key component of the assistance provided to Taiwan.

More broadly, Taiwan's defense ministry must also ensure its existing forces are capable of responding to a Taiwan Strait contingency.⁵⁶ Importantly, these asymmetric investments would mark a departure from Taiwan's current defense investment plans, which still focus on buying exquisite weapons systems from the United States—demonstrated by Taiwan's purchase of 66 F-16 fighters for an estimated \$8 billion in 2019.

First and foremost, the United States and Taiwan should determine how to maximize and rationalize their defense spending decisions and tradeoffs.⁵⁷ The F-16 is a capable, highly maneuverable fighter that, while different from the F-35 in that it is more defensive than offensive in nature, would still provide advanced day-to-day operational air power. Taiwan's decision to buy the Patriot advanced capability-3 missile segment enhancement missiles in early 2021 is a positive step in the right direction, even if deliveries will not begin until 2025.⁵⁸

54. Patrick Porter and Michael Mazarr, *Countering China's Adventurism over Taiwan: A Third Way*, Lowy Institute, May 20, 2021, <https://www.lowyinstitute.org/>; US-China Economic and Security Review Commission, *2020 Annual Report to Congress*, chap. 4 (Washington, DC: US-China Economic and Security Review Commission, 2020), 467–68, <https://www.uscc.gov/>; and William S. Murray, "Revisiting Taiwan's Defense Strategy," *Naval War College Review* 61, no. 3 (2008): 13, 30–31, <https://digital-commons.usnwc.edu/>.

55. Michael Hunzeker and Alexander Lanoszka, "Taiwan Wants More Missiles. That's Not a Bad Thing," *Defense One*, March 24, 2021, <https://www.defenseone.com/>.

56. Paul Huang, "Taiwan's Military Has Flashy American Weapons but No Ammo," *Foreign Policy*, August 20, 2020, <https://foreignpolicy.com/>.

57. Michael A. Hunzeker, "Taiwan's Defense Plans Are Going off the Rails," *War on the Rocks*, November 18, 2021, <https://warontherocks.com/>.

58. Yimou Lee, "Taiwan to Buy New U.S. Air Defence Missiles to Guard against China," *Reuters*, March 31, 2021, <https://www.reuters.com/>.

Smarter and More Ambitious Investments

Despite the grim outlook for the ability of the United States to deter or defend against a Chinese invasion of Taiwan, this article provides concrete steps the US military and Congress can take to improve the outlook. While the options for conventional deterrence may be fading, an appropriate budget and the responsible allocation of funding will be key to restoring and maintaining our strength.

The Biden Administration's FY 2023 defense budget request was released following the drafting of this analysis. Regrettably, the concrete steps the US military needs to strengthen conventional deterrence are being scrapped even more rapidly than experts imagined. While the request rightly invests in hypersonic missile development and key cyber objectives, it cuts down troop level goals for the services, decreases flight training for Air Force pilots, and decommissions more operational planes and ships over the next year and five-year period than it plans on replacing.

As the request essentially ignores record inflation today, Joint Force procurement capabilities deteriorate. Maintaining the readiness and capabilities of the warfighter are essentially deemed nonessential in comparison to shifting funds to what might be the conflict of the future. The assessment of senior military leaders throughout this article is that a Taiwan conflict could most certainly occur in the near term; the FY 2023 budget request largely ignores investing in conventional deterrence capabilities and end-strength that not only deter but would defend the island if need be.

None of the proposed investments throughout the analysis will immediately tip the balance in extreme favor of the United States should China decide to invade Taiwan. They are, however, solutions lawmakers and defense officials can examine in the near term and begin to implement sooner rather than later. As Congress takes up the president's budget this year and begins planning future years defense spending, it is crucial to invest heavily in forces that imply combat power and have deterred and defended for decades, alongside the modernization priorities of the Department, which are also included in these recommendations.

While the United States might not have a role—or the same role—to play in every Taiwan scenario developed or war gamed, key investments listed throughout this analysis provide crucial capabilities that would allow the nation to play whatever role it assumes effectively and successfully. Closing capability gaps and securing American military superiority will only benefit the American and Taiwanese people who jointly seek peace and freedom around the world. Æ

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