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#### Victory Without Battle: A Smarter Vision for US-Taiwan Policy

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#### **EXECUTIVE SUMMARY**

merican leaders, policy makers, and the public at large are invested in the continued de facto independence of Taiwan. These reasons vary, ranging from strategic power projection concerns in East Asia, to historical ties and deeply felt moral obligations to defend democracies against totalitarian governments. Setting aside whether or not Taiwan's de facto independence is of vital national interest of the United States, it is a widely shared end of U.S. leadership, though the means to achieve this end are often a source of debate.

Due to Chinese anti-access/area denial (A2/AD) capabilities, the vulnerability of forward U.S. bases in the region, and the questionable state of combat readiness of the U.S. Navy, the ability of the U.S. to successfully intervene in a cross-strait invasion is in doubt. Fortunately, military intervention or a security guarantee are not the only means to maintain the status quo in the Taiwan Strait. While public discussion often seems to give the impression that China is capable of swiftly invading and conquering Taiwan whenever it desires, this is not the case. Taiwan has strong defense potential that the U.S. can bolster without a security guarantee and at relatively little expense.

By shifting the U.S. focus away from planning to intervene in a cross-strait invasion, towards a strategy of providing training, planning, and specifically tailored arms sale, American policy makers can avoid a situation that could potentially escalate to conflict with nuclear armed China, while also deterring the Chinese from attempting to invade, or, if necessary, adequately prepare Taiwan to defeat an invasion.

# U.S. Support for Taiwan Continues to Grow

East Asia has increasingly become the center of American foreign policy attention due to the continued growth of Chinese power and its progressively more assertive international position, as well as the end of the U.S. military presence in Afghanistan. This has naturally drawn attention to the U.S. relationship with Taiwan and its future as a de facto independent country. Recent polling from the Chicago Council on Global Affairs has found that the American public is generally favorably disposed towards Taiwan, favors recognizing it as an independent country, and by a slim margin is in favor of militarily defending the island if it is attacked by China. This is the first time that a majority of Americans have supported the deployment of U.S. forces to defend the island.<sup>1</sup>

This support has been echoed in the media, with academics and pundits calling for further U.S. support, and sometimes for an explicit security guarantee for Taiwan.<sup>2</sup> More seriously, this sentiment has been echoed in public statements by sitting members of Congress, who have called for ending the U.S. policy of strategic ambiguity towards defending Taiwan and embracing a security guarantee.<sup>3</sup> A flood of legislation has been introduced in Congress related to Taiwan, including The Taiwan Invasion Prevention Act in both the House and the Senate that would authorize the President to use military force to defend Taiwan in the event of not only an attack by China, but "a threat that endangers the lives of civilians in Taiwan or members of Taiwan's military."4 President Biden has stated that the U.S. has a commitment to defend Taiwan if it was attacked, though his administration later clarified that U.S. policy had not changed.<sup>5</sup>

# The Means and Ends of U.S. Taiwan Policy

Oftentimes, American support for Taiwan is couched in explicitly military terms with an underlying assumption that the end of continued de facto Taiwanese sovereignty can only be achieved by the means of a willingness to engage in armed conflict with China to stop an invasion. However, there are other means at American disposal, and to properly choose which means are the best and most efficient, it is necessary

to U.S. Taiwan policy, three crucial facts must be established: the ability of the U.S. to successfully intervene in a cross-strait invasion, the capacity of Taiwan to defend itself without direct American military intervention, and the Chinese capacity to undertake an invasion in the first place. If, as this report will argue, the United States does not possess the capability to successfully intervene in a cross-strait invasion without a very high cost, it is necessary to consider alternative means by which the U.S. can secure de facto Taiwanese independence.

## **Constraints on American Actions in a Potential Conflict in the Taiwan Strait**

The logic underlying a U.S. security guarantee for Taiwan rests on the belief that such a guarantee would serve as the ultimate deterrent for China. However, such a deterrent is not beyond doubt. Such an explicit guarantee would no doubt inflame tensions within China and further increase nationalist sentiments. It is even possible that Chinese leadership could be pushed to be more provocative than they otherwise would be in order to appease domestic pressure. Furthermore, it is entirely possible that Chinese leadership would be confident enough in their ability to stall or even defeat a U.S. intervention so close to their shores that they would not be deterred anyway. The United States's ability to project power in the Chinese littoral is highly questionable due to China's A2/AD capacities, the vulnerability of U.S. forward bases, and the questionable readiness of the U.S. Navy.

### Chinese A2/AD Capabilities Limit U.S. Freedom of Operation

Over the past few decades, China's capacity to challenge U.S. forces within 500 miles of the Chinese coast has been greatly bolstered by the advent of relatively inexpensive A2/AD technologies, in conjunction with the advantages that come with fighting in close proximity to the Chinese homeland.

In contrast to the limited (and vulnerable) U.S. basing in Eastern Asia, China would be able to field virtually all air-worthy fighters and cover them with land-based air defenses. Chinese warships would similarly enjoy this homefield advantage. Additionally, China's growing targeting capabilities and precision guided missile technology may reach the point where it can more or less credibly threaten to sink any U.S. vessel within 500 miles of the Chinese border.<sup>6</sup>

While the exact extent of Chinese capabilities is unknown, there is no doubt that they would prove to be a challenge to U.S. naval forces sailing to intervene in any cross-strait invasion and could potentially lead to serious losses that would not only hinder efforts to intervene but would also threaten to escalate the conflict into a much wider war. Were the Chinese to sink a U.S. aircraft carrier and thousands of sailors drown at sea in a single day the American public would likely react with white-hot rage and the domestic pressure for escalation would increase dramatically.

#### U.S. Bases Are Vulnerable to Chinese Missile Attack

The U.S. mainland is over 6,000 miles away from Taiwan. In contrast, the Taiwan Strait is 81 miles wide at its narrowest point. Any conflict would be fought on China's turf, far away from the U.S. mainland, necessitating lengthy logistics. While the U.S. does have an array of bases in Japan, the reality is that such bases are highly vulnerable to Chinese ballistic missiles and could be knocked out of a potential war within a matter of hours at the start of the conflict.

A 2017 report published by the Center for a New American Security (CNAS) utilized a variety of wargaming scenarios and modeling programs and concluded that at the beginning of a conflict Chinese missile forces targeting U.S. forces in Japan would have struck every major fixed headquarters and logistical facility, sunk nearly every U.S. ship in port, cratered the runways at all U.S. airbases, and destroyed more than 200 aircraft on the ground within hours of the commencement of hostilities. 7 War games run by the RAND Corporation have reached similar conclusions, with Rand analyst and former Deputy Assistant Secretary of Defense for Force Development, David Ochmanek, bluntly stating that "Whenever we wargamed a Taiwan scenario over the years, our Blue Team routinely got its ass handed to it."8 Analyst Tanner Greer likewise concludes that American bases in Japan would be "sitting ducks" in the event of a mass Chinese missile attack.9

Analysts have provided various suggestions to this fundamental problem, but the reality is that it cannot be completely overcome. The authors of the CNAS report suggested deploying five Terminal High Altitude Area Defense (THAAD) batteries to Japan, (at a cost of \$5 billion), the deployment of two missile defense ships, and additional Patriot missile batteries. Yet even the authors suggesting such deployments acknowledge that defenses in Okinawa would still be overwhelmed and that missiles with targets in the rest of Japan will only "potentially... be intercepted." 10 This solution is highly questionable. The relatively inexpensive cost of short and medium range ballistic missiles means that it is much cheaper for China to simply build and launch more missiles than American defense systems are capable of defeating, than it is for the U.S. to deploy even more expensive missile defense platforms. With just a single THAAD battery costing \$1 billion and deploying 48 interceptors, the Chinese missile forces would still be able to overwhelm the U.S. missile defenses by sheer numbers for a fraction of the cost, even assuming the THAAD batteries had a perfect kill record, which is unlikely to say the least.11

Furthermore, THAAD has never been adequately tested under combat conditions of any kind, let alone anything approaching the chaos of the overwhelming salvo that would herald the start of a conflict with China.<sup>12</sup> In the words of the Center for Arms Control and Non-Proliferation, "these defense systems have a very lackluster testing record."13 The Patriot missile system is the only currently deployed missile defense system to be extensively used in combat, but its record in the Gulf War was abysmal and the details of its touted "perfect" record in the Iraq War remain classified.<sup>14</sup> Even if the Patriot system was perfectly effective during the Iraq War, which is a questionable assumption given the military's attempted cover-up of its terrible record in the Gulf War, such success was against Iraqi forces, which are hardly comparable to the contemporary Chinese military.

Given the outrage with which China reacted to the deployment of a THAAD battery in South Korea, deploying five to Japan would inevitably be far more antagonistic, result in higher tensions in East Asia, and increase domestic pressure on Chinese leadership to respond, perhaps rashly.<sup>15</sup>

While sensible steps could potentially be taken, such as Greer's suggestion to disburse American forces in Japan so they are less concentrated and more able to survive a missile barrage, at the end of the day, the possibility of all U.S. bases in Japan, numerous ships at port, and hundreds of aircraft on the ground being knocked out of the fight within hours of the outbreak of hostilities will likely remain as long as U.S. forces are stationed within the range of Chinese short and medium range ballistic missiles. <sup>16</sup> The loss of which would deprive any U.S. forces bound for the Taiwan Strait of any forward operating bases in the area.

### U.S. Navy in a Questionable State of Wartime Readiness

Any conflict with China over Taiwan would necessarily be primarily a naval conflict. However, recent incidents and reports call into question the readiness of the U.S. Navy to fight and win in such a war, which, in conjunction with the potential loss of forward operating bases in the region and Chinese A2/AD defenses, could lead to catastrophe.

The 2021 study commissioned by members of Congress on the fighting culture of the U.S. surface fleet found numerous points of concern, including an overabundance of bureaucratic work, a lack of surface warfare officer training, a lack of tolerance for minor mistakes that lead to learning opportunities and future improvement, poorly administered maintenance programs, and the degradation of officer's ability to act independently due to a growing culture of micromanagement. Crucially, sailors noted that with the end of the Cold War the U.S. Navy did not have any peer competitors and instead played a supporting role in U.S. interventions in the Middle East.<sup>17</sup> For decades the U.S. Navy has served as a sea-based land-attack platform and has had little to no real-world experience with what modern naval combat would look like in East Asia.18

The Government Accountability Office released a similarly worrisome report in June of 2021 detailing the unprepared state of the navy's battle damage repair capabilities. The U.S. Navy has not needed to conduct battle damage repair on multiple ships since the Second World War, and the current capacity is in a bureaucratic muddle, with multiple agencies involved in battle repair, but no organization designated with

the proper authority to take the lead or a clear structure of responsibility.<sup>19</sup>

The report also noted several other concerns. Until recently, war games have generally lacked a logistical component, naval officials stated they are unsure as to whether the spare parts accumulated for battle damage repair reflect the damage most likely to be sustained in battle, and that the heavy reliance on contractors has left some sailors without the proper knowledge and training for some types of damage that may be sustained in combat. There is also concern that the heavy reliance on civilian contractors at every stage of the repair process may be detrimental in wartime if contractors are unwilling or unable to enter warzones to conduct repair and salvage operations. Also especially concerning is the fact that the U.S. Navy is already at or above maintenance capacity now during peacetime.<sup>20</sup>

A further complication for battle repair on the other side of the planet is that the navy cannot know for sure beforehand what foreign ports will either welcome U.S. naval ships, or be safe from attack.<sup>21</sup> Satellite images have indicated that the Chinese rocket forces have trained for an attack on the U.S. Seventh Fleet stationed in Yokosuka, Japan, home of the aircraft carrier USS *Ronald Reagan* and vital support and logistics facilities.<sup>22</sup> The loss of this facility, and potentially numerous ships in port, would be a crippling blow to the United States's ability to project force and intervene in the Taiwan Strait.

These are not the only signs of looming disaster. A 2019 report documented the dangerous state of affairs that contributed to deadly naval accidents, with the authors stating that "The fleet was short of sailors, and those it had were often poorly trained and worked to exhaustion. Its warships were falling apart, and a bruising, ceaseless pace of operations meant there was little chance to get necessary repairs done." Warnings about these dangerous conditions were ignored as the drive to acquire new ships took precedence over the maintenance of existing vessels. The report also documented the widespread evidence, echoed in the belief of naval personnel, that the fleet, the 7th Fleet in particular, was being overtaxed and under maintained.<sup>23</sup> While the Navy has promised reforms, such efforts did not prevent the complete loss of the USS Bonhomme Richard in 2020 after the crew failed to extinguish an arson fire started by a crewmember. The Navy's investigation into the incident found that the material condition of the ship was degraded, with numerous ship systems not functioning properly, the accumulation of combustible material, and a full 87 percent of the ship's fire stations in inactive equipment maintenance status on the morning of the fire. Additionally, the report found the crew was in a poor state of readiness, with numerous instances of prior failed drills and a lack of basic safety knowledge.<sup>24</sup>

Given the Chinese A2/AD capacities, the vulnerability of U.S. forward deployed bases and assets, and the inexperienced, disordered, under maintained, and overworked status of the Navy, it seems likely the U.S. would be met with disaster were it to attempt a forceful intervention in a cross-strait conflict in the near future.

#### **Key Takeaways**

- China's A2/AD capacities will likely result in heavy U.S. losses for any attempt to militarily intervene in a cross-strait invasion.
- U.S. bases in Japan are extremely vulnerable and would likely be knocked out within the first few hours of the outbreak of hostilities, leaving the U.S. with no forward operating bases close to Taiwan. Attempts to avoid this outcome by the mass deployment of missile defense systems are unlikely to be successful.
- The U.S. Navy is in no state to engage in the kind of prolonged combat operations that would be required in a war with China over Taiwan. The loss of the *Bonhomme Richard* and frequent naval collisions are symptoms of widespread leadership, training, and exhaustion issues.
- The U.S. battle damage repair capacity is untested and disorganized, meaning that vessels that have taken high amounts of damage from Chinese defenses will not be able to be put back into action swiftly.

# Can Taiwan Deter or Resist a Chinese Invasion Without the United States?

It is often just assumed that unless the U.S. militarily defends Taiwan that the island will inevitably be conquered and subjugated in short order. However, it is necessary to examine the Taiwanese capacity to defend themselves and whether or not U.S. military

assistance is even necessary to both deter and defend from invasion. The geography and weather patterns of the Taiwan Strait, Taiwan's existing military capacity, and China's numerous domestic and international concerns that consume vast amounts of resources suggest that even without direct American intervention Taiwan is not a sitting duck and the Chinese capacity to successfully invade the island is in doubt.

### **China Faces Numerous Barriers** to Invasion

Taiwan enjoys numerous natural defensive advantages. The Taiwan Strait acts as an 80–100-mile-wide moat that weather conditions render unsuitable for a large-scale invasion most of the year. People's Liberation Army (PLA) documents indicate that the Chinese only consider late March to the end of April and late September to the end of October to be suitable time windows for invasion.<sup>25</sup> The varying nature of tides along the Taiwanese coast, featuring both semi-diurnal and diurnal tides, as well as tidal ranges from one to 14 feet, means that it is not guaranteed that the landing conditions at multiple beaches will be ideal at the same time. Miscalculations could greatly disrupt landing operations and increase the beach area troops would be required to cross.<sup>26</sup>

The limited time frame for invasion, combined with how obvious the massive buildup of Chinese military assets in invasion staging areas would be, means that a surprise lighting assault across the Taiwan Strait is next to impossible. As the buildup for an invasion became apparent, Taiwan would be able to mine the strait, call up reserves, and prepare for battle.

Especially noteworthy is the limited number of beaches suitable for major landings. As of 2019, the Taiwanese military had identified only 14 beaches suitable for major landing operations. Of these beaches, two are classified as red, the most vulnerable, and 12 are classified as yellow. Thanks to decades of geoengineering, the number of suitable landing beaches has gone down over time.<sup>27</sup> Four of these beaches are on the eastern side of the island and several of the beaches on the southwest corner of the island are screened by the heavily fortified Taiwanese controlled Penghu Islands. In total, less than 10 percent of the Taiwanese coastline is suitable for landing operations.<sup>28</sup>

This limited number of suitable landing zones means that Taiwan will not have difficulty quickly concentrating its defense forces once any Chinese landing sites are identified.

### Taiwanese Military Capacity Poses a Significant Threat to Invaders

On paper, the Taiwanese military is formidable, especially given its terrain advantages and concentrated areas of defense. Theoretically, Taiwan could field 2.5 million troops and 1 million civil defense personnel, in addition to government contractors.<sup>29</sup> Taiwan's 400 fighter aircraft are dispersed around 36 airfields, with hangers either built into mountains or hardened aircraft shelters. Taiwan's runway repair teams are capable of repairing cratered runways in 3 hours.<sup>30</sup> In contrast to this large force, according to data published in 2016, given its amphibious and airlift capacity, China is only capable of transporting 26,000 troops and 640 armored vehicles across the strait on the first day of an invasion, and would only be able to reinforce an established beachhead with 18,000 additional troops per day, assuming that no amphibious ships were lost.31 The most recent estimates found in the 2021 annual report to Congress from the U.S.-China Economic and Security Review Commission similarly finds that at most China has the capacity to land 20,000 troops and assorted armored vehicles on the first day of an invasion by sea, bolstered by an additional 8,200 airborne forces, again before factoring in any of the inevitable losses such lift capacities would sustain while crossing the strait and landing.32

To supplement its limited amphibious forces, the Chinese may draft hundreds of civilian vessels and convert them into makeshift troop transports and landing craft in order to dramatically increase sea-lift capacity. Such vessels would be even more vulnerable to Taiwanese missiles launched at mainland staging ports, mines in the strait, and defensive fire from shore-based batteries and anti-ship missiles.<sup>33</sup> It is worth noting that before Chinese forces would even be able to attack Taiwan itself, the PLA would first have to deal with the Taiwanese controlled island groups that lie just off the mainland and threaten major Chinese ports, staging areas, and invasion routes. The Penghu Islands similarly threaten invasion routes closer to Taiwan. All of these island groups have been

hardened against invasion for decades and would no doubt tie down and expend a great deal of Chinese resources in the event they are directly attacked or inflict a great deal of damage on the mainland and the invasion fleet if the Chinese opted to attempt to bypass the island groups and preserve their forces.<sup>34</sup> Merely landing troops on the beach would be a monumental hurdle to the Chinese forces, and if that step was achieved, advancing from the beachhead would be a similarly daunting task. The Taiwanese would flood the landing zone with oil and similar flammables and inflict heavy casualties as the Chinese are forced to advance through the layered defenses.<sup>35</sup> It is also possible the landing zones would be contaminated with chemicals and radiation by the destruction or purposeful sabotage by the defenders of chemical processing plants and nuclear reactors in close proximity to potential landing zones.<sup>36</sup>

Additionally, the Chinese forces would likely be vastly outnumbered due to the Taiwanese ability to quickly swarm the limited landing areas with forces. It is doubtful the Chinese would be able to adequately saturate landing zones with suppressing fire from naval guns to prevent the defenders from swarming the beaches, and even if the vast array of anti-air defenses possessed by the Taiwanese forces proved completely useless it is unlikely that the Chinese air force would be able to pick up the slack due to their small caliber guns and limited payloads.<sup>37</sup> Beckley estimates that within 48 hours of the start of the invasion the Chinese would have a maximum of 44,000 troops on the beach, facing at least 100,000 Taiwanese, with the balance rapidly shifting in Taiwan's favor.<sup>38</sup>

Even if the Chinese somehow managed to secure a beachhead and begin to invade the rest of the island, the fight would likely be far from over. If the Taiwanese failed to drive any established beachhead back into the sea, the military has prepared for a defense in depth, with multiple defensive lines running through dense urban environments and difficult mountain terrain. Chinese war planners lament the anticipated difficulty of breaking through the inland fortifications, kill zones, and obstacles that have been prepared for over 50 years.<sup>39</sup> Steel cables will be strung between skyscrapers and mountain cliffs to ensnare helicopters, transportation infrastructure, such as roads, bridges, and tunnels will be rigged with explosives; every sector will be replete with booby traps, and

block by block urban combat will slow the Chinese advance to a crawl, as every foot of ground will be bitterly contested.<sup>40</sup>

Even then, if, by some miracle, the Chinese have managed to crush most of Taiwan's standing army, or has driven them into the central mountains, the invasion will still not be complete. Taiwan is increasingly developing its own national identity separate from that of China, with an August 2021 poll finding that 90 percent of the population identifies as Taiwanese, with 67.9 percent doing so exclusively. In contrast, 1.8 percent identified as exclusively Chinese. <sup>41</sup> This poll also found that over 60 percent of Taiwanese would go to war in the event of a Chinese invasion, a finding that was echoed by another poll in October of 2021 that found that 64.3 percent of the population would personally take up arms in the event of an Chinese invasion.

Given the recent suppression of Hong Kong, the Taiwanese would have little reason to trust that any negotiated settlement with China that preserved some semblance of Taiwanese autonomy would be respected for long. There is also the fear that in the event of a peaceful annexation or successful military conquest that the inhabitants of Taiwan may meet the same fate as the Uighurs in Xinjiang, facing mass imprisonment in reeducation camps in order to suppress any potential resistance. Chinese military documents explicitly state this will be the case; the island would be turned into a garrison state governed under martial law, complete with purges and total control over all aspects of what remained of Taiwanese society.<sup>43</sup>

A Chinese invasion would be a war of national survival on the part of the Taiwanese. The American experience in Iraq and Afghanistan demonstrates just how difficult it can be to suppress dedicated and motivated guerilla fighters, even when vastly outnumbered and facing an opponent with immense technological superiority. Chinese war planners are well aware of this fact and "assume most Taiwanese will fight to the death" and state that the rest of the population "will watch us with cold eyes, not lifting a finger to help."<sup>44</sup> Conquering and occupying Taiwan is clearly far from the simple task it is often portrayed as in American discussions about the issue. China faces immense obstacles that would make a rapid victory next to impossible and ensure that any such invasion would require

a massive amount of dedicated resources to invade and then pacify the island. China does not yet have anywhere near the amphibious capacity to invade the island, and even if it did, their problems would only just be beginning. It is not surprising then, that some analysts and military officials, both in the U.S. and Taiwan, believe that Taiwan would be capable of defeating a Chinese invasion in the event U.S. forces were delayed, defeated, or didn't intervene at all.<sup>45</sup>

### China's Problems Hinder Their Ability to Invade Taiwan

When comparing raw numbers, China's military might is far superior to that of Taiwan. China has a large standing army, vast natural resources, and a much larger military budget than Taiwan. If China was free of other obligations and concerns that consumed and occupied an immense amount of these resources this disparity would be cause for worry, however, this is not the case. China can amass such resources and power because of its large size, but this large size is also a handicap that prevents it from focusing its might on any one issue, including Taiwan.

Historically, the Chinese government has had to dedicate vast amounts of military resources to protecting its vast border, maintaining domestic order, and suppressing internal dissent. This is no less true today. As Beckley points out, China's border is 14,000 miles long and is shared with 15 different countries. China's border with India is hotly contested and China maintains a large troop presence in the area. 46 In June of 2020, 20 Indian soldiers were beaten to death in a border dispute with China and clashes and tensions have continued since then.<sup>47</sup> China's 800 mile border with Vietnam is tense, with the exchange of gunfire in 2014 and 2015, it maintains 150,000 troops on the border of its erstwhile ally North Korea, and conducts war-gaming exercises on its enormous border with Russia. Additionally, China has to deal with Central Asian terrorism, and the suppression of the Uighur population in Xinjiang province.<sup>48</sup>

Similarly, China is rife with crime and domestic instability, ranking in the bottom quartile in world ranking for domestic stability. Before the government stopped publishing statistics in 2012, public protests and riots with more than 100 people had increased from 9,000

in 1993 to 280,000 in 2010 and "social order violations" where large number of civilians fight or interfere with police had risen from 3.2 million in 1995 to 13.9 million in 2012. It is not surprising, then, that over 1 million soldiers, comprising nearly 45 percent of China's active-duty military are engaged in internal security and border defense, leaving only 572,500 active-duty soldiers available for operations elsewhere.<sup>49</sup> Given that invading Taiwan would likely require 1 million combat troops, the invasion would strain Chinese military manpower reserves in order to muster sufficient strength to at least have a chance of invading the island while also maintaining domestic order (which would be at risk due to the strains of the war, Taiwanese missile strikes and sabotage, and information warfare) and to secure contested border areas with India and Vietnam from encroachments.<sup>50</sup>

These facts speak to what a risky gamble an attempted invasion of Taiwan would be for Chinese leadership. If the invasion goes awry from the start, with tens of thousands of PLA personnel drowning in the strait, Taiwanese missiles blasting staging areas and port facilities in densely populated coastal cities, saboteurs blowing up power plants and other important infrastructure on the mainland, and drawn-out urban warfare with massive casualties the Chinese Communist Party's grip on power may be threatened. This is even more true in the event the invasion is a complete disaster from the start and is successfully repulsed from the beaches within days.<sup>51</sup> Failure, or even the possibility of a drawn-out counter-insurgency campaign, would similarly threaten to weaken China to the extent that India could attempt to reclaim contested border areas in an all-out war. An invasion of Taiwan is not something that any Communist Party official would undertake lightly given the immense risks involved to China, the party, and decision makers's own careers.

#### **Key Takeaways**

• The island of Taiwan is one of the most defensible locations on the planet. The Taiwan Strait is only suitable for large-scale amphibious invasion a few weeks during the year, it has a small and shrinking number of landing zones suitable for large scale amphibious invasion, and its varying tides make coordination and planning difficult.

- The Chinese military does not currently
  possess anywhere close to the amphibious
  lift capacity needed to undertake an invasion.
  Nor does China currently possess the capacity
  to adequately saturate the landing zones with
  enough suppressing fire to keep defenders
  away.
- Taiwan possesses a modern military with vast reserves, extensive fortifications, a populace increasingly committed to resisting Chinese domination, and possesses the ability to defend itself without direct U.S. military intervention.
- China may look overwhelmingly powerful on paper, but, in reality, a vast amount of its resources are tied down protecting its long border, maintaining domestic order, and suppressing dissent.
- Invading Taiwan would be an extremely risky move for China and will not be undertaken lightly. The barriers to invasion are many and the costs high.

#### America Helps Those Who Help Themselves

If the end goal of American Taiwan policy is to preserve the de facto independence of Taiwan it is important to examine the means to achieve that end in light of the previously described conditions. The ability of U.S. forces to successfully intervene in a cross-strait conflict is greatly hampered by Chinese defenses, the vulnerability of U.S. bases, and the currently disheveled state of the Navy. Fortunately, there is clear evidence that Taiwan is not doomed without a U.S. security guarantee, and that it is quite capable of deterring, or in a worst-case scenario, repelling a Chinese attack.

By adopting a more backseat approach to Taiwan's defense, the U.S. can have its cake and eat it too. America's ability to forcefully intervene in an invasion may be limited both by Chinese defensive capabilities and the fear of escalation with a nuclear armed power. However, there are a wide variety of actions short of military intervention by which the U.S. can aid Taiwan. Specifically, by tailoring arms sales to fit military realities and working with Taiwan to provide training and incentivize increased recruitment and reserve force participation, the U.S. can bolster Taiwan's defenses and deterrent capacity at relative-

ly low cost and little risk of dramatically worsening relations with China.

### Focus on Equipment Acquisitions and Force Orientation

Selling weapons to Taiwan has been the main method of U.S. support for years. However, it is questionable whether some Taiwanese purchase requests are most effectively utilizing their limited resources. While for decades Taiwan had the military wherewithal to go toe to toe with Chinese ships and jets over the strait, that time has long passed. However, Taiwan has still kept some of this "classic defense" mentality by continuing to invest in advanced systems that would be able to compete with Chinese systems, while also adopting more of a "porcupine defense" strategy that emphasizes survivable systems that can withstand the opening salvo of Chinese missiles and fighters and resist ground invasion. <sup>52</sup>

Taiwan's 2021 Quadrennial Defense Review states that "our guiding principles were to 'resist the enemy on the opposite shore, attack it at sea, destroy it in the littoral area, and annihilate it on the beachhead." And while the document states that Taiwan is embracing and improving its asymmetrical capabilities, it also states that it is seeking to acquire new tanks and upgrade existing ones.<sup>53</sup> Taiwan's armored forces play an important role in the "annihilate the enemy on the beachhead" phase of an invasion where Taiwanese strategists envision a massive counter-attack on the morning of the second day of the invasion where all remaining Taiwanese assets are mobilized to pulverize any Chinese beachheads as "multitudes of infantrymen... would wash over the invaders like a human tsunami."54 While analysts such as Beckley are skeptical that Chinese forces would be anywhere close to possessing the required capacity to lay down adequate suppressing fire on the beaches, other analysts have expressed great concern about the wisdom of mounting a decisive defense of the beaches and the survivability of armored units from Chinese air attack.55 Yet, even assuming the total, or near total, loss of Taiwan's fighters, it is questionable how much freedom of operation Chinese fighters and bombers would have. Beckley has pointed out that Taiwan possesses over 500 long-range surface-to-air missile (SAM) launchers, of which 80 percent are road-mobile, in addition to thousands of vehicle-mounted and

hand-held SAMs and 400 road-mobile anti-aircraft guns. Thanks to their ability to "shoot and scoot" road-mobile SAMs have a very good track record when it comes to survivability, with no Iraqi SAM batteries being destroyed during the Gulf War, and the loss of only three of Serbia's 22 batteries during the Kosovo conflict in 1999.<sup>56</sup>

However, before the U.S. Congress approves the sale of expensive systems like Abram's tanks to Taiwan, it would be wise to require Taiwanese defensive planners to demonstrate the feasibility of the "annihilate the enemy on the beachhead" strategy, especially in light of developments in drone warfare as exposed during the Nagorno-Karabakh War between Armenia and Azerbaijan in 2020. Using relatively inexpensive drones, Azerbaijan was able to obliterate Armenian armor and inflict heavy casualties. Drones were also used to lure out Armenian air defenses, which would fire and then be targeted by other loitering drones. While the Armenian equipment was older and apparently often grouped together making easy targets, the ability to pulverize armored formations with relatively inexpensive drones should give military planners pause.<sup>57</sup> China will be able to field swarms of many more drones than Azerbaijan was able to. Does Taiwan have adequate plans in place to ensure there is any armor left when the time comes to sweep the Chinese off the beaches? Congress should pump the breaks on further tank sales until this becomes clear.

When it comes to its own air wings, Taiwan has at times requested to purchase F-35 fighters and has continued to purchase and modernize its fleet of F-16s.<sup>58</sup> However, it is questionable whether acquiring F-35s or further adding to the already existing fleet of F-16s would be advisable. The cost of purchasing and maintaining F-35s would be prohibitive and analysts believe Taiwan would need to retire its entire existing fleet of 400 aircraft just to maintain 60 F-35s. This small number of fighters would be highly vulnerable to Chinese air strikes and sabotage, in contrast to 400 fighters scattered around the island. It is also questionable how long F-16s and domestically produced fighters will last in a cross-strait conflict, especially as China's fighters grow more advanced over time.<sup>59</sup> If Taiwan requests to purchase additional F-16s in the future, Congress should force Taiwan to explain why it is choosing to invest in fighter systems, rather than relatively less expensive swarms of drones that

would likely be more survivable and deadly against an invasion fleet.

Congress should be wary of approving arms sales to Taiwan that are of questionable value other than providing flair. Drone swarms and vast amounts of SAMs and anti-ship missiles are likely to be more survivable and effective at deterring an invasion or preventing an invasion from reaching the stage where Taiwanese armor is required to "annihilate" an established beachhead in the first place, than expensive fighters and armor. Understanding the effect of drones and the development and procurement of additional asymmetrical and survivable systems is another area in which the U.S. and Taiwan can cooperate.

### **Steps to Improve Taiwan's Reserve Force Capability**

Without a doubt, Taiwan's reserve force is one of its largest assets and greatest deterrents to invasion. As a rule, attacking forces generally need to outnumber the defenders by a significant ratio and Taiwan's ability to potentially field over 2 million combatants, and over 1 million additional support personnel greatly complicates Chinese planning and logistics for invasion. For reference, when Allied war planners were considering invading Japanese controlled Taiwan (then called Formosa) during World War II it was estimated that 500,000 soldiers would be needed to overwhelm the estimated 100,000 Japanese defenders, a ratio of 5:1, and would sustain 150,000 casualties.<sup>60</sup>

However, Taiwan won't be able to swarm the beaches and make the Chinese pay a high price for every inch of ground if these vast reserves effectively only exist on paper. National service has been highly unpopular in Taiwan, in no small part because many Taiwanese felt that their service was largely wasted as free labor doing menial tasks. After 4 years of service, reservists receive so little follow-up training that their skill is questionable in the event of war. This has become even more true now that Taiwan has attempted to establish a volunteer army and reduced the national service requirement to a mere four months, which is viewed by some Taiwanese as being nothing but a waste of time.<sup>61</sup> One reservist interviewed by *The* Wallstreet Journal stated that "his four months of basic training... mainly involved sweeping leaves, moving spare tires and pulling weeds. Aside from

some marksmanship training, he said, his classes were meaningless." Others reported spending large amounts of time reading, drawing, and watching American war movies. It is not uncommon for young Taiwanese men to gorge themselves on food in order to be too overweight to qualify for military service. A Taiwanese report identified a "just passing through" mentality among reservists. The government is taking steps to improve training, such as requiring all new conscripts to train with combat units for more experience, but such reports paint a worrisome picture. Even though polling has indicated that a large majority of Taiwanese state they would fight against invaders, such a willingness is useless if they lack the training to do so effectively.

At least part of this lackadaisical attitude is due to the widespread expectation that the United States would storm into the strait and save the day. Taiwanese citizens openly state that they don't ever expect to need to fight against China because the United States or Japan would rapidly join the war and end the conflict.<sup>64</sup> Polling has indicated that 55 percent of the Taiwanese expect the U.S. to militarily intervene, and 58 percent believed that Japan would send military assistance. 65 After President Biden stated during a townhall event that the U.S. had a commitment to defend Taiwan, Taiwanese President Tsai Ing-Wen stated in an interview with CNN that she had faith the U.S. would militarily defend Taiwan if China attacked, even after Biden administration officials walked back his comments. 66 An overreliance on the expectation of U.S. military assistance is clearly undermining Taiwanese military readiness.

American analysts have presented various proposals for reforming the Taiwanese reserve system to be more effective, ranging from increased training and the use of the reserves in more diverse duties such as natural disaster response that would help to build experience and unit familiarity and cohesion, to a wholesale reorientation of the reserves into a territorial defense force that would primarily be responsible for waging guerilla warfare while the standing army fought an elastic denial-in-depth campaign. Such proposals for reform are a ripe area for cooperation between Taiwanese and American military planners to further study.

Congress should also explore other options that could serve to make military service in Taiwan more attractive with very little expenditure. Ideas could include the establishment of competitive American college scholarships for Taiwanese high school students who participate in the recently established Junior Reserve Officer Training Core, perhaps integrated with further training in the U.S., and coordinating with the Taiwanese military to provide training opportunities for reservists in the U.S., as well. Such approaches will allow the U.S. to provide incentives and training for Taiwanese citizens, without deploying U.S. forces to Taiwan on training missions which would infuriate the Chinese.

#### **Policy Recommendations**

- Congress should refrain from authorizing the sale of expensive weapon systems designed to fight toe to toe with the Chinese, such as Abrams tanks, F-35s, and F-16s, to Taiwan.
- Instead, Congress should encourage Taiwan to purchase vast amounts of relatively much less expensive systems, such as SAMs, drones, and sea mines that will be less vulnerable to Chinese attack and also be able to inflict enormous casualties at little cost.
- Rather than giving the Taiwanese reason to believe that the U.S. will rush in to defeat a Chinese invasion, and thus undermining military preparedness, Congress should maintain strategic ambiguity and instead focus on inexpensive ways that it can bolster Taiwanese defenses at little cost and low risk.
- The U.S. military should advise Taiwan on reforming its reserve system and establish opportunities for Taiwanese forces to receive U.S. training at bases in Guam, Hawaii, or the U.S. mainland. Training should not occur in Taiwan itself in order to limit Chinese outrage.
- Congress should establish incentives to encourage Taiwanese military recruitment and engagement, such as scholarships at U.S. universities for junior ROTC members, and providing opportunities for Taiwanese reservists to visit the U.S. to receive training.

#### **Conclusion**

As American foreign policy focus shifts to the growth in Chinese power potential and by extension U.S.-Taiwan relations, it is of vital importance that U.S. policymakers be realistic about the limits of American power and alternative means that can achieve the same end of maintaining the de facto independence of Taiwan. Chinese defensive technology, the vulnerability of U.S. forward bases in the region, and the disheveled state of the U.S. Navy mean that American options are limited. By focusing on bolstering the existing capacity for Taiwan to deter, and if necessary, repel, invasion on its own, the U.S. can lead from behind and avoid potentially disastrous escalation with China. By aiding Taiwan with the reform of its reserve force, equipment acquisition and force orientation, the United States can achieve its goals through very inexpensive and low risk means.

#### **Endnotes**

- Dina Smeltz and Craig Kafura, "For First Time, Half of Americans Favor Defending Taiwan If China Invades," *The Chicago Council on Global Affairs*, August 2021, 9, <a href="https://www.thechicagocouncil.org/sites/default/files/2021-08/2021%20Taiwan%20Brief.pdf">https://www.thechicagocouncil.org/sites/default/files/2021-08/2021%20Taiwan%20Brief.pdf</a>.
- See Nial Ferguson, "Taiwan as Trigger," Hoover Institution, July 14, 2021, <a href="https://www.hoover.org/research/taiwan-trigger">https://www.hoover.org/research/taiwan-trigger</a>; Therese Shaheen, "Why Taiwan Matters," National Review, July 15, 2021, <a href="https://www.nationalreview.com/magazine/2021/08/02/why-taiwan-matters/">https://www.nationalreview.com/magazine/2021/08/02/why-taiwan-matters/</a>; Anders Corr, "A True Defense of Taiwan: Think Outside the Box," The Epoch Times, July 29, 2021, <a href="https://www.theepochtimes.com/a-true-defense-of-taiwan-think-outside-the-box">https://www.theepochtimes.com/a-true-defense-of-taiwan-think-outside-the-box</a> 3923180.html.
- Quint Forgey and Alex Ward, "Lawmakers: End 'Strategic Ambiguity' toward Taiwan," POLITICO, October 7, 2021, <a href="https://politi.co/3DiyVza">https://politi.co/3DiyVza</a>; Therese Shaheen, "Why Taiwan Matters," National Review, July 15, 2021, <a href="https://www.nationalreview.com/magazine/2021/08/02/why-taiwan-matters/">https://www.nationalreview.com/magazine/2021/08/02/why-taiwan-matters/</a>; Elaine Luria, "Congress Must Untie Biden's Hands on Taiwan," Washington Post, October 11, 2021, <a href="https://www.washingtonpost.com/opinions/2021/10/11/elaine-luria-congress-biden-taiwan/">https://www.washingtonpost.com/opinions/2021/10/11/elaine-luria-congress-biden-taiwan/</a>.
- 4 See Reschenthaler, Guy. "H.R.1173 117th Congress (2021-2022): Taiwan Invasion Prevention Act." <a href="https://www.congress.gov/bill/117th-congress/house-bill/1173">https://www.congress.gov/bill/117th-congress/house-bill/1173</a>. And Scott, Rick. "S.332 117th Congress (2021-2022): Taiwan Invasion Prevention Act." <a href="https://www.congress.gov/bill/117th-congress/senate-bill/332">https://www.congress.gov/bill/117th-congress/senate-bill/332</a>
- 5 Kevin Liptak, "Biden Vows to Protect Taiwan in Event of Chinese Attack," CNN, October 22, 2021, <a href="https://www.cnn.com/2021/10/21/politics/taiwan-china-biden-town-hall/index.html">https://www.cnn.com/2021/10/21/politics/taiwan-china-biden-town-hall/index.html</a>.
- Michael Beckley, *Unrivaled: Why America Will Remain the World's Sole Superpower*, Cornell Studies in Security Affairs (Ithaca: Cornell University Press, 2018), 71–75; Missile Defense Advocacy Alliance, "China's Anti-Access Area Denial," Missile Defense Advocacy Alliance, August 24, 2018, <a href="https://missiledefensead-vocacy.org/missile-threat-and-proliferation/todays-missile-threat/china/china-anti-access-area-denial/">https://missiledefensead-vocacy.org/missile-threat-and-proliferation/todays-missile-threat/china/china-anti-access-area-denial/</a>.
- 7 Thomas Shugart and Javier Gonzalez, "First Strike: China's Missile Threat to U.S. Bases in Asia," CNAS, June 28, 2017, <a href="https://www.cnas.org/publications/reports/first-strike-chinas-missile-threat-to-u-s-bases-to-asia">https://www.cnas.org/publications/reports/first-strike-chinas-missile-threat-to-u-s-bases-to-asia</a>.
- James Kitfield, "We're Going to Lose Fast': U.S. Air Force Held a War Game That Started with a Chinese Biological Attack," Yahoo News, March 10, 2021, <a href="https://news.yahoo.com/were-going-to-lose-fast-us-air-force-held-a-war-game-that-started-with-a-chinese-biological-attack-170003936.html">https://news.yahoo.com/were-going-to-lose-fast-us-air-force-held-a-war-game-that-started-with-a-chinese-biological-attack-170003936.html</a>.
- 9 Tanner Greer, "American Bases in Japan Are Sitting Ducks," Foreign Policy, September 4, 2019, <a href="https://foreignpolicy.com/2019/09/04/american-bases-in-japan-are-sitting-ducks/">https://foreignpolicy.com/2019/09/04/american-bases-in-japan-are-sitting-ducks/</a>.
- Thomas Shugart and Javier Gonzalez, "First Strike: China's Missile Threat to U.S. Bases in Asia," CNAS, June 28, 2017, <a href="https://www.cnas.org/publications/reports/first-strike-chinas-missile-threat-to-u-s-bases-to-asia">https://www.cnas.org/publications/reports/first-strike-chinas-missile-threat-to-u-s-bases-to-asia</a>.
- 11 THAAD cost and interceptor inventory taken from Shugart and Gonzalez.
- 12 Eric Gomez, "Questioning THAAD's Successful Test against an IRBM," Cato Institute, July 12, 2017, <a href="https://www.cato.org/blog/questioning-thaads-successful-test-against-irbm">https://www.cato.org/blog/questioning-thaads-successful-test-against-irbm</a>.
- "Fact Sheet: U.S. Ballistic Missile Defense," Center for Arms Control and Non-Proliferation, April 2, 2021, https://armscontrolcenter.org/fact-sheet-u-s-ballistic-missile-defense/.
- Matt Korda and Hans M. Kristensen, "US Ballistic Missile Defenses, 2019," *Bulletin of the Atomic Scientists* 75, no. 6 (November 2, 2019): 295–306, <a href="https://doi.org/10.1080/00963402.2019.1680055">https://doi.org/10.1080/00963402.2019.1680055</a>; Scott Ritter, "U.S. Missile Defense: Not as Effective As We Think," The American Conservative, accessed November 3, 2021, <a href="https://www.theamericanconservative.com/articles/u-s-missile-defense-not-as-effective-as-we-think/">https://www.theamericanconservative.com/articles/u-s-missile-defense-not-as-effective-as-we-think/</a>.
- Ethan Meick and Nargiza Salidjanova, "China's Response to THAAD Deployment and Its Implications," U.S.-China Economics and Security Review Commission, July 26, 2017, <a href="https://www.uscc.gov/sites/default/files/Research/Report\_China%27s%20Response%20to%20THAAD%20Deployment%20and%20its%20Implications.pdf">https://www.uscc.gov/sites/default/files/Research/Report\_China%27s%20Response%20to%20THAAD%20Deployment%20and%20its%20Implications.pdf</a>.
- Greer, "American Bases in Japan Are Sitting Ducks." <a href="https://foreignpolicy.com/2019/09/04/american-bases-in-japan-are-sitting-ducks/">https://foreignpolicy.com/2019/09/04/american-bases-in-japan-are-sitting-ducks/</a>.

- Robert Schmidle and Mark Montgomery, "A Report on the Fighting Culture of the United States Surface Fleet," The Office of Senator Tom Cotton, July 12, 2021, <a href="https://www.cotton.senate.gov/imo/media/doc/navy\_report.pdf">https://www.cotton.senate.gov/imo/media/doc/navy\_report.pdf</a>.
- Jerry Hendrix, "On the Eve of Destruction," National Review, July 13, 2021, <a href="https://www.nationalre-view.com/2021/07/on-the-eve-of-destruction/">https://www.nationalre-view.com/2021/07/on-the-eve-of-destruction/</a>
- 19 "Navy Ships: Timely Actions Needed to Improve Planning and Develop Capabilities for Battle Damage Repair," Government Accountability Office, June 2021, <a href="https://www.gao.gov/assets/gao-21-246.pdf">https://www.gao.gov/assets/gao-21-246.pdf</a>.
- 20 Ibid.
- 21 Ibid.
- Thomas Shugart and Javier Gonzalez, "First Strike: China's Missile Threat to U.S. Bases in Asia," CNAS, June 28, 2017, <a href="https://www.cnas.org/publications/reports/first-strike-chinas-missile-threat-to-u-s-bases-to-asia">https://www.cnas.org/publications/reports/first-strike-chinas-missile-threat-to-u-s-bases-to-asia</a>.
- Robert Faturechi, Megan Rose, and T. Christian Miller, "Years of Warnings, Then Death and Disaster: How the Navy Failed Its Sailors," ProPublica, accessed November 4, 2021, <a href="https://features.propublica.org/na-vy-accidents/us-navy-crashes-japan-cause-mccain/">https://features.propublica.org/na-vy-accidents/us-navy-crashes-japan-cause-mccain/</a>.
- "Navy Investigation into USS Bonhomme Richard Fire, Major Fires Review," USNI News, October 20, 2021, https://news.usni.org/2021/10/20/navy-investigation-into-uss-bonhomme-richard-fire-major-fires-review.
- 25 Ian Easton, *The Chinese Invasion Threat: Taiwan's Defense and American Strategy in Asia* (Eastbridge Books, 2019). Pg. 150-152
- 26 Ibid. 147-148
- 27 Ibid. 129-135
- 28 Beckley, Unrivaled Pg. 81
- Easton, The Chinese Invasion Threat, 150-152 53
- 30 Beckley, Unrivaled, 80
- 31 Ibid. 81-82
- U.S.-China Economic and Security Review Commission, "U.S.-China Economic and Security Review Commission 2021 Annual Report to Congress," USCC.gov, November 17, 2021, <a href="https://www.uscc.gov/sites/default/files/2021-11/2021">https://www.uscc.gov/sites/default/files/2021-11/2021</a> Annual Report to Congress.pdf.
- Easton, *The Chinese Invasion Threat*, 168-1170
- 34 Ibid. 97-103
- 35 Ibid. 186
- Tanner Greer, "Taiwan Can Win a War With China," Foreign Policy, accessed December 1, 2021, <a href="https://foreignpolicy.com/2018/09/25/taiwan-can-win-a-war-with-china/">https://foreignpolicy.com/2018/09/25/taiwan-can-win-a-war-with-china/</a>.; Ian Easton, "Ian Easton On Taiwan: Are Taiwan's Nuclear Plants Safe from Beijing?," Taipei Times, April 12, 2021, <a href="https://www.taipeitimes.com/">https://www.taipeitimes.com/</a> News/editorials/archives/2021/04/12/2003755509.; Easton, *The Chinese Invasion Threat*, 117–18.
- Michael Beckley, "The Emerging Military Balance in East Asia: How China's Neighbors Can Check Chinese Naval Expansion," *International Security* 42, no. 2 (November 1, 2017): 78–119, https://doi.org/10.1162/ISEC\_a\_00294.; For a more pessimistic assessment of Taiwan's ability to defend the landing zones, see Michael Hunzeker et al., "A Question of Time: Enhancing Taiwan's Conventional Deterrence Posture," Schar School of Policy and Government, November 2018, <a href="http://csps.gmu.edu/wp-content/uploads/2018/11/A-Question-of-Time.pdf">http://csps.gmu.edu/wp-content/uploads/2018/11/A-Question-of-Time.pdf</a>.
- 38 Beckley, *Unrivaled* Pg. 81–82.
- Easton, *The Chinese Invasion Threat*, 187-191, 209.
- 40 Greer, "Taiwan Can Win a War With China" <a href="https://foreignpolicy.com/2018/09/25/taiwan-can-win-a-war-with-china/">https://foreignpolicy.com/2018/09/25/taiwan-can-win-a-war-with-china/</a>; Easton, *The Chinese Invasion Threat*, 187–89.
- Chen Yu-Fu and Jonathan Chin, "Nearly 90 Percent of Public Identify with Taiwan: Poll," Taipei Times, August 11, 2021, https://www.taipeitimes.com/News/front/archives/2021/08/11/2003762406. https://www.taipeitimes.com/News/front/archives/2021/08/11/2003762406

- John Feng, "Taiwan Not Concerned about War with China, despite Sky-High Tensions," Newsweek, October 12, 2021, <a href="https://www.newsweek.com/taiwan-not-concerned-about-war-china-despite-sky-high-tensions-1637881">https://www.newsweek.com/taiwan-not-concerned-about-war-china-despite-sky-high-tensions-1637881</a>; Yu-Fu and Chin, "Nearly 90 Percent of Public Identify with Taiwan." <a href="https://www.taipeitimes.com/News/front/archives/2021/08/11/2003762406">https://www.taipeitimes.com/News/front/archives/2021/08/11/2003762406</a>
- Easton, *The Chinese Invasion Threat*, 120–21.
- 44 Ibid. 137, 121–22.
- Easton, *The Chinese Invasion Threat*; Beckley, "The Emerging Military Balance in East Asia"; Patrick Porter, "The Tyrannies of Distance: Maritime Asia and the Barriers to Conquest," in *U.S. Grand Strategy in the 21st Century: The Case For Restraint* (Routledge, 2018), 108–30.
- 46 Beckley, *Unrivaled*, 20–26, 54–56.
- Ross Ibbetson, "India Says Soldiers Were Mutilated after They Were Killed by Chinese," Mail Online, June 18, 2020, <a href="https://www.dailymail.co.uk/news/article-8435033/India-says-soldiers-mutilated-beat-en-death-Chinese-soldiers.html">https://www.dailymail.co.uk/news/article-8435033/India-says-soldiers-mutilated-beat-en-death-Chinese-soldiers.html</a>.
- 48 Beckley, *Unrivaled*, 55–56.
- 49 Ibid. 56, 68-69
- Easton, *The Chinese Invasion Threat*, 153; Greer, "Taiwan Can Win a War With China." <a href="https://foreign-policy.com/2018/09/25/taiwan-can-win-a-war-with-china/">https://foreign-policy.com/2018/09/25/taiwan-can-win-a-war-with-china/</a>
- Easton, *The Chinese Invasion Threat*, 208.
- Porter, "The Tyrannies of Distance: Maritime Asia and the Barriers to Conquest." 115-118
- Taiwan Ministry of National Defense, "2021 Quadrennial Defense Review," March 2021, <a href="https://www.ustaiwandefense.com/tdnswp/wp-content/uploads/2021/03/2021-Taiwan-Quadrennial-Defense-Review-QDR.pdf">https://www.ustaiwandefense.com/tdnswp/wp-content/uploads/2021/03/2021-Taiwan-Quadrennial-Defense-Review-QDR.pdf</a>.
- Easton, *The Chinese Invasion Threat*. Pg. 207-209
- Beckley, "The Emerging Military Balance in East Asia"; Hunzeker et al., "A Question of Time: Enhancing Taiwan's Conventional Deterrence Posture." <a href="http://csps.gmu.edu/wp-content/uploads/2018/11/A-Question-of-Time.pdf">http://csps.gmu.edu/wp-content/uploads/2018/11/A-Question-of-Time.pdf</a>
- Beckley, "The Emerging Military Balance in East Asia."
- Robyn Dixon, "Azerbaijan's Drones Owned the Battlefield in Nagorno-Karabakh and Showed Future of Warfare," The Washington Post, November 11, 2020, <a href="https://www.washingtonpost.com/world/europe/nagorno-karabkah-drones-azerbaijan-aremenia/2020/11/11/441bcbd2-193d-11eb-8bda-814ca56e138b\_story.html.;">https://www.basines-azerbaijan-aremenia/2020/11/11/441bcbd2-193d-11eb-8bda-814ca56e138b\_story.html.;</a>; Benjamin Brimelow, "Drones Use in Armenia-Azerbaijan War Raises Doubt About Tanks' Future," Business Insider, November 24, 2021, <a href="https://www.businessinsider.com/drones-in-armenia-azerbaijan-war-raises-doubt-about-tanks-future-2020-11?op=1">https://www.businessinsider.com/drones-in-armenia-azerbaijan-war-raises-doubt-about-tanks-future-2020-11?op=1</a>.; David Hambling, "The 'Magic Bullet' Drones Behind Azerbaijan's Victory Over Armenia," Forbes, November 10, 2021, <a href="https://www.forbes.com/sites/davidhambling/2020/11/10/the-mag-ic-bullet-drones-behind--azerbaijans-victory-over-armenia/">https://www.forbes.com/sites/davidhambling/2020/11/10/the-mag-ic-bullet-drones-behind--azerbaijans-victory-over-armenia/</a>.
- Wendell Minnick, "Here's Why the F-35 Won't Be Coming to Taiwan," The National Interest (The Center for the National Interest, January 20, 2019), <a href="https://nationalinterest.org/blog/buzz/heres-why-f-35-wont-be-coming-taiwan-42142">https://nationalinterest.org/blog/buzz/heres-why-f-35-wont-be-coming-taiwan-42142</a>.
- Hunzeker et al., "A Question of Time: Enhancing Taiwan's Conventional Deterrence Posture." <a href="http://csps.gmu.edu/wp-content/uploads/2018/11/A-Question-of-Time.pdf">http://csps.gmu.edu/wp-content/uploads/2018/11/A-Question-of-Time.pdf</a>.
- Easton, *The Chinese Invasion Threat* Pg. 39-40
- Hunzeker et al., "A Question of Time: Enhancing Taiwan's Conventional Deterrence Posture." <a href="http://csps.gmu.edu/wp-content/uploads/2018/11/A-Question-of-Time.pdf">http://csps.gmu.edu/wp-content/uploads/2018/11/A-Question-of-Time.pdf</a>.
- Alastair Gale and Joyu Wang, "Does Taiwan's Military Stand a Chance Against China? Few Think So," *Wall Street Journal*, October 26, 2021, sec. World, <a href="https://www.wsj.com/articles/taiwan-military-readiness-china-threat-us-defense-11635174187">https://www.wsj.com/articles/taiwan-military-readiness-china-threat-us-defense-11635174187</a>.
- 63 Su-wei Yu, "More than 77 Percent Willing to Fight in the Event of an Invasion by China: Poll Taipei Times," Taipei Times, October 25, 2020, https://www.taipeitimes.com/News/taiwan/archives/2020/10/25/2003745764.

- Gale and Wang, "Does Taiwan's Military Stand a Chance Against China?" <a href="https://www.wsj.com/articles/taiwan-military-readiness-china-threat-us-defense-11635174187">https://www.wsj.com/articles/taiwan-military-readiness-china-threat-us-defense-11635174187</a>
- Yu, "More than 77 Percent Willing to Fight in the Event of an Invasion by China." <a href="https://www.taipeitimes.com/News/taiwan/archives/2020/10/25/2003745764">https://www.taipeitimes.com/News/taiwan/archives/2020/10/25/2003745764</a>;

Julie Ryall, "Most Taiwanese Think Japan Would Help in War with Mainland China. Japanese Not so Sure," MSN, November 5, 2021, <a href="https://www.msn.com/en-xl/news/other/most-taiwanese-think-japan-would-help-in-war-with-mainland-china-japanese-not-so-sure/ar-AAQmdHf">https://www.msn.com/en-xl/news/other/most-taiwanese-think-japan-would-help-in-war-with-mainland-china-japanese-not-so-sure/ar-AAQmdHf</a>.

- Teng Pei-ju and Liu Kuan-ting, "Tsai confirms U.S. troop presence, expresses faith in Biden defense vow," Focus Taiwan, October 28, 2021, <a href="https://focustaiwan.tw/politics/202110280008">https://focustaiwan.tw/politics/202110280008</a>.
- Ian Easton et al., "Transformation of Taiwan's Reserve Force" (RAND Corporation, February 22, 2017), <a href="https://www.rand.org/pubs/research\_reports/RR1757.html">https://www.rand.org/pubs/research\_reports/RR1757.html</a>. ; Hunzeker et al., "A Question of Time: Enhancing Taiwan's Conventional Deterrence Posture."

http://csps.gmu.edu/wp-content/uploads/2018/11/A-Question-of-Time.pdf.

#### **Bibliography**

Beckley, Michael. "The Emerging Military Balance in East Asia: How China's Neighbors Can Check Chinese Naval Expansion." *International Security* 42, no. 2 (November 1, 2017): 78–119. <a href="https://doi.org/10.1162/IS-EC">https://doi.org/10.1162/IS-EC</a> a 00294.

——. *Unrivaled: Why America Will Remain the World's Sole Superpower*. Cornell Studies in Security Affairs. Ithaca: Cornell University Press, 2018.

Brimelow, Benjamin. "Drones Use in Armenia-Azerbaijan War Raises Doubt About Tanks' Future." Business Insider, November 24, 2021. <a href="https://www.businessinsider.com/drones-in-armenia-azerbaijan-war-raises-doubt-about-tanks-future-2020-11?op=1">https://www.businessinsider.com/drones-in-armenia-azerbaijan-war-raises-doubt-about-tanks-future-2020-11?op=1</a>.

Corr, Anders. "A True Defense of Taiwan: Think Outside the Box." The Epoch Times, July 29, 2021. <a href="https://www.theepochtimes.com/a-true-defense-of-taiwan-think-outside-the-box">https://www.theepochtimes.com/a-true-defense-of-taiwan-think-outside-the-box</a> 3923180.html.

Dixon, Robyn. "Azerbaijan's Drones Owned the Battlefield in Nagorno-Karabakh — and Showed Future of Warfare." The Washington Post, November 11, 2020. <a href="https://www.washingtonpost.com/world/europe/nagorno-karabkah-drones-azerbaijan-aremenia/2020/11/11/441bcbd2-193d-11eb-8bda-814ca56e138b\_story.html">https://www.washingtonpost.com/world/europe/nagorno-karabkah-drones-azerbaijan-aremenia/2020/11/11/441bcbd2-193d-11eb-8bda-814ca56e138b\_story.html</a>. Easton, Ian. "Ian Easton On Taiwan: Are Taiwan's Nuclear Plants Safe from Beijing?" Taipei Times, April 12, 2021. <a href="https://www.taipeitimes.com/News/editorials/archives/2021/04/12/2003755509">https://www.taipeitimes.com/News/editorials/archives/2021/04/12/2003755509</a>.

——. The Chinese Invasion Threat: Taiwan's Defense and American Strategy in Asia. Eastbridge Books, 2019.

Easton, Ian, Mark Stokes, Cortez A. III Cooper, and Arthur Chan. "Transformation of Taiwan's Reserve Force." RAND Corporation, February 22, 2017. <a href="https://www.rand.org/pubs/research\_reports/RR1757.html">https://www.rand.org/pubs/research\_reports/RR1757.html</a>.

Center for Arms Control and Non-Proliferation. "Fact Sheet: U.S. Ballistic Missile Defense," April 2, 2021. https://armscontrolcenter.org/fact-sheet-u-s-ballistic-missile-defense/.

Fallon, Pat. "Why We Must Protect Taiwan." Washington Examiner, October 28, 2021. <a href="https://www.washingtonexaminer.com/opinion/op-eds/why-we-must-protect-taiwan">https://www.washingtonexaminer.com/opinion/op-eds/why-we-must-protect-taiwan</a>.

Faturechi, Robert, Megan Rose, and T. Christian Miller. "Years of Warnings, Then Death and Disaster: How the Navy Failed Its Sailors." ProPublica. Accessed November 4, 2021. <a href="https://features.propublica.org/navy-accidents/us-navy-crashes-japan-cause-mccain/">https://features.propublica.org/navy-accidents/us-navy-crashes-japan-cause-mccain/</a>.

Feng, John. "Taiwan Not Concerned about War with China, despite Sky-High Tensions." Newsweek, October 12, 2021. <a href="https://www.newsweek.com/taiwan-not-concerned-about-war-china-despite-sky-high-tensions-1637881">https://www.newsweek.com/taiwan-not-concerned-about-war-china-despite-sky-high-tensions-1637881</a>.

Ferguson, Nial. "Taiwan as Trigger." Hoover Institution, July 14, 2021. <a href="https://www.hoover.org/research/tai-wan-trigger">https://www.hoover.org/research/tai-wan-trigger</a>.

Forgey, Quint, and Alex Ward. "Lawmakers: End 'Strategic Ambiguity' toward Taiwan." POLITICO, October 7, 2021. https://politi.co/3DiyVza.

Gale, Alastair, and Joyu Wang. "Does Taiwan's Military Stand a Chance Against China? Few Think So." *Wall Street Journal*, October 26, 2021, sec. World. <a href="https://www.wsj.com/articles/taiwan-military-readiness-china-threat-us-defense-11635174187">https://www.wsj.com/articles/taiwan-military-readiness-china-threat-us-defense-11635174187</a>.

Gomez, Eric. "Questioning THAAD's Successful Test against an IRBM." Cato Institute, July 12, 2017. <a href="https://www.cato.org/blog/questioning-thaads-successful-test-against-irbm">https://www.cato.org/blog/questioning-thaads-successful-test-against-irbm</a>.

Greer, Tanner. "American Bases in Japan Are Sitting Ducks." Foreign Policy, September 4, 2019. <a href="https://foreignpolicy.com/2019/09/04/american-bases-in-japan-are-sitting-ducks/">https://foreignpolicy.com/2019/09/04/american-bases-in-japan-are-sitting-ducks/</a>.

——. "Taiwan Can Win a War With China." Foreign Policy. Accessed December 1, 2021. <a href="https://foreignpolicy.com/2018/09/25/taiwan-can-win-a-war-with-china/">https://foreignpolicy.com/2018/09/25/taiwan-can-win-a-war-with-china/</a>.

Hambling, David. "The 'Magic Bullet' Drones Behind Azerbaijan's Victory Over Armenia." Forbes, November 10, 2021. <a href="https://www.forbes.com/sites/davidhambling/2020/11/10/the-magic-bullet-drones-behind--azerbaijans-victory-over-armenia/">https://www.forbes.com/sites/davidhambling/2020/11/10/the-magic-bullet-drones-behind--azerbaijans-victory-over-armenia/</a>.

Hendrix, Jerry. "On the Eve of Destruction." National Review, July 13, 2021. <a href="https://www.nationalreview.com/2021/07/on-the-eve-of-destruction/">https://www.nationalreview.com/2021/07/on-the-eve-of-destruction/</a>.

Hunzeker, Michael, Alexander Lanoszka, Brian Davis, Matthew Fay, Erik Goepner, Joseph Petrucelli, and Erica Seng-White. "A Question of Time: Enhancing Taiwan's Conventional Detterence Posture." Schar School of Policy and Government, November 2018. <a href="http://csps.gmu.edu/wp-content/uploads/2018/11/A-Question-of-Time.">http://csps.gmu.edu/wp-content/uploads/2018/11/A-Question-of-Time.</a> pdf.

Ibbetson, Ross. "India Says Soldiers Were Mutilated after They Were Killed by Chinese." Mail Online, June 18, 2020. <a href="https://www.dailymail.co.uk/news/article-8435033/India-says-soldiers-mutilated-beaten-death-Chinese-soldiers.html">https://www.dailymail.co.uk/news/article-8435033/India-says-soldiers-mutilated-beaten-death-Chinese-soldiers.html</a>.

Kitfield, James. "'We're Going to Lose Fast': U.S. Air Force Held a War Game That Started with a Chinese Biological Attack." Yahoo News, March 10, 2021. <a href="https://news.yahoo.com/were-going-to-lose-fast-us-air-force-held-a-war-game-that-started-with-a-chinese-biological-attack-170003936.html">https://news.yahoo.com/were-going-to-lose-fast-us-air-force-held-a-war-game-that-started-with-a-chinese-biological-attack-170003936.html</a>.

Korda, Matt, and Hans M. Kristensen. "US Ballistic Missile Defenses, 2019." *Bulletin of the Atomic Scientists* 75, no. 6 (November 2, 2019): 295–306. https://doi.org/10.1080/00963402.2019.1680055.

Liptak, Kevin. "Biden Vows to Protect Taiwan in Event of Chinese Attack." CNN, October 22, 2021. <a href="https://www.cnn.com/2021/10/21/politics/taiwan-china-biden-town-hall/index.html">https://www.cnn.com/2021/10/21/politics/taiwan-china-biden-town-hall/index.html</a>.

Luria, Elaine. "Congress Must Untie Biden's Hands on Taiwan." Washington Post, October 11, 2021. <a href="https://www.washingtonpost.com/opinions/2021/10/11/elaine-luria-congress-biden-taiwan/">https://www.washingtonpost.com/opinions/2021/10/11/elaine-luria-congress-biden-taiwan/</a>.

Meick, Ethan, and Nargiza Salidjanova. "China's Response to THAAD Deployment and Its Implications." U.S.-China Economics and Security Review Commission, July 26, 2017. <a href="https://www.uscc.gov/sites/default/files/Research/Report\_China%27s%20Response%20to%20THAAD%20Deployment%20and%20its%20Implications.pdf">https://www.uscc.gov/sites/default/files/Research/Report\_China%27s%20Response%20to%20THAAD%20Deployment%20and%20its%20Implications.pdf</a>.

Minnick, Wendell. "Here's Why the F-35 Won't Be Coming to Taiwan." The National Interest. The Center for the National Interest, January 20, 2019. <a href="https://nationalinterest.org/blog/buzz/heres-why-f-35-wont-be-coming-taiwan-42142">https://nationalinterest.org/blog/buzz/heres-why-f-35-wont-be-coming-taiwan-42142</a>.

Missile Defense Advocacy Alliance. "China's Anti-Access Area Denial." Missile Defense Advocacy Alliance, August 24, 2018. <a href="https://missiledefenseadvocacy.org/missile-threat-and-proliferation/todays-missile-threat/china/china-anti-access-area-denial/">https://missiledefenseadvocacy.org/missile-threat-and-proliferation/todays-missile-threat/china-anti-access-area-denial/</a>.

USNI News. "Navy Investigation into USS Bonhomme Richard Fire, Major Fires Review," October 20, 2021. <a href="https://news.usni.org/2021/10/20/navy-investigation-into-uss-bonhomme-richard-fire-major-fires-review">https://news.usni.org/2021/10/20/navy-investigation-into-uss-bonhomme-richard-fire-major-fires-review</a>.

Government Accountability Office. "Navy Ships: Timely Actions Needed to Improve Planning and Develop Capabilities for Battle Damage Repair," June 2021. <a href="https://www.gao.gov/assets/gao-21-246.pdf">https://www.gao.gov/assets/gao-21-246.pdf</a>.

Porter, Patrick. "The Tyrannies of Distance: Maritime Asia and the Barriers to Conquest." In *U.S. Grand Strategy in the 21st Century: The Case For Restraint*, 108–30. Routledge, 2018.

Reschenthaler, Guy. "H.R.1173 - 117th Congress (2021-2022): Taiwan Invasion Prevention Act." Legislation, February 18, 2021. 2021/2022. <a href="https://www.congress.gov/bill/117th-congress/house-bill/1173">https://www.congress.gov/bill/117th-congress/house-bill/1173</a>.

Ritter, Scott. "U.S. Missile Defense: Not as Effective As We Think." The American Conservative. Accessed November 3, 2021. <a href="https://www.theamericanconservative.com/articles/u-s-missile-defense-not-as-effective-as-we-think/">https://www.theamericanconservative.com/articles/u-s-missile-defense-not-as-effective-as-we-think/</a>.

Ryall, Julie. "Most Taiwanese Think Japan Would Help in War with Mainland China. Japanese Not so Sure." MSN, November 5, 2021. <a href="https://www.msn.com/en-xl/news/other/most-taiwanese-think-japan-would-help-in-war-with-mainland-china-japanese-not-so-sure/ar-AAQmdHf">https://www.msn.com/en-xl/news/other/most-taiwanese-think-japan-would-help-in-war-with-mainland-china-japanese-not-so-sure/ar-AAQmdHf</a>.

Schmidle, Robert, and Mark Montgomery. "A Report on the Fighting Culture of the United States Surface Fleet." The Office of Senator Tom Cotton, July 12, 2021. <a href="https://www.cotton.senate.gov/imo/media/doc/navy\_report.pdf">https://www.cotton.senate.gov/imo/media/doc/navy\_report.pdf</a>.

Scott, Rick. "S.332 - 117th Congress (2021-2022): Taiwan Invasion Prevention Act." Legislation, February 22, 2021. 2021/2022. https://www.congress.gov/bill/117th-congress/senate-bill/332.

Shaheen, Therese. "Why Taiwan Matters." National Review, July 15, 2021. <a href="https://www.nationalreview.com/magazine/2021/08/02/why-taiwan-matters/">https://www.nationalreview.com/magazine/2021/08/02/why-taiwan-matters/</a>.

Shugart, Thomas, and Javier Gonzalez. "First Strike: China's Missile Threat to U.S. Bases in Asia." CNAS, June 28, 2017. <a href="https://www.cnas.org/publications/reports/first-strike-chinas-missile-threat-to-u-s-bases-to-asia">https://www.cnas.org/publications/reports/first-strike-chinas-missile-threat-to-u-s-bases-to-asia</a>. Smeltz, Dina, and Craig Kafura. "For First Time, Half of Americans Favor Defending Taiwan If China Invades." *The Chicago Council on Global Affairs*, August 2021, 9. <a href="https://www.thechicagocouncil.org/sites/default/files/2021-08/2021%20Taiwan%20Brief.pdf">https://www.thechicagocouncil.org/sites/default/files/2021-08/2021%20Taiwan%20Brief.pdf</a>.

Taiwan Ministry of National Defense. "2021 Quadrennial Defense Review," March 2021. <a href="https://www.ustai-wandefense.com/tdnswp/wp-content/uploads/2021/03/2021-Taiwan-Quadrennial-Defense-Review-QDR.pdf">https://www.ustai-wandefense.com/tdnswp/wp-content/uploads/2021/03/2021-Taiwan-Quadrennial-Defense-Review-QDR.pdf</a>. Teng Pei-ju, and Liu Kuan-ting. "Tsai confirms U.S. troop presence, expresses faith in Biden defense vow." Focus Taiwan, October 28, 2021. <a href="https://focustaiwan.tw/politics/202110280008">https://focustaiwan.tw/politics/202110280008</a>.

U.S.-China Economic AND Security Review Commission. "U.S.-China Economic and Security Review Commission 2021 Annual Report to Congress." USCC.gov, November 17, 2021. <a href="https://www.uscc.gov/sites/default/files/2021-11/2021">https://www.uscc.gov/sites/default/files/2021-11/2021</a> Annual Report to Congress.pdf.

Yu, Su-wei. "More than 77 Percent Willing to Fight in the Event of an Invasion by China: Poll - Taipei Times." Taipei Times, October 25, 2020. <a href="https://www.taipeitimes.com/News/taiwan/archives/2020/10/25/2003745764">https://www.taipeitimes.com/News/taiwan/archives/2020/10/25/2003745764</a>. Yu-Fu, Chen, and Jonathan Chin. "Nearly 90 Percent of Public Identify with Taiwan: Poll." Taipei Times, August 11, 2021. <a href="https://www.taipeitimes.com/News/front/archives/2021/08/11/2003762406">https://www.taipeitimes.com/News/front/archives/2021/08/11/2003762406</a>.