THE BOILING MOAT
URGENT STEPS TO DEFEND TAIWAN
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Do Chinese Communist Party (CCP) leaders have other military options to coerce Taiwan into subjugation? A blockade of Taiwan by the People’s Liberation Army (PLA) that attempted to deny the island not just weapons but also food, fuel, and other commerce would be an alternative course of action. Indeed, as this chapter will explain, a PLA blockade of Taiwan would be difficult for Taiwan, the United States, and its allies to counter, since it emphasizes Chinese military “home court” advantages that cannot be offset by many of the US capabilities discussed in chapter 7 that would be useful in repelling an amphibious assault.

As an island, Taiwan is particularly vulnerable to a blockade. Summing the island’s consumption of crude oil, liquid fuels, coal, and liquefied natural gas, Taiwan imports 93 percent of its total energy requirement.1 Taiwan also imports about 65 percent of its daily food calorie consumption (though it also exports a significant amount of food and has large and well-diversified fishing and agriculture industries).2
Taiwan can certainly improve its national security by building stockpiles of essential commodities such as fuel and food. But stockpiles, however large, will only buy Taiwan some time. The island’s long-term survival will require breaking a prospective PLA blockade.

A blockade is not merely a “lesser and included case” within the amphibious assault scenario for US and allied military planners. The blockade scenario has separate characteristics and thus separate challenges for military planners and political decision makers. Deterring a blockade will require distinct military capabilities not essential for countering a PLA amphibious assault of Taiwan. These capability requirements are more sophisticated and more difficult to develop and produce, leaving US and allied forces with greater capability gaps compared with those revealed for the amphibious assault scenario.

For these reasons, the blockade scenario is dangerous for Taiwan and the US-led coalition—one that negates many US asymmetric military advantages while still carrying a high risk of escalating to a full war. Chinese policymakers and planners appear to understand this, as their air, sea, and missile exercises around Taiwan in August 2022 suggest.

**Why China’s Leaders Could Prefer a Blockade**

For China’s leaders, initiating a military campaign for Taiwan with a blockade has several attractive features.

First, China’s leaders would present a blockade against Taiwan as a legitimate exercise of sovereignty. China’s leaders would argue that Taiwan is Chinese territory (a condition few have yet to formally dispute) and that China, like all sovereign countries, has a legal right to extend its authority over all its territory. China’s government could begin the blockade as a customs and regulatory inspection quarantine, explained to prevent contraband and illegal goods, such as weapons, from arriving on the island. Should Taiwan resist its disarmament, China could then escalate the blockade to include more and more commerce, culminating with a complete siege, including food and fuel. The world had a hard time rallying behind Ukraine after Russia’s military
encroachments began in 2014, despite Ukraine being recognized world-wide as a sovereign state with a United Nations seat. Imagine how much more difficult it could be to rally support for Taiwan, which only a handful of small countries officially recognize with formal diplomatic ties. In contrast to the amphibious assault scenario discussed in chapter 7, a Chinese inspection quarantine could begin with little warning, causing US and allied policymakers who had not prepared for the scenario to scramble for effective options and responses.

Second, China could begin the initial inspection quarantine without kinetic military action. It would then be up to policymakers in Taiwan and elsewhere, not to mention the companies that underwrite insurance policies for commercial ships and airplanes, to “run” the blockade. If Beijing were effective at enforcing the blockade without using kinetic force—an assumption that is widely debated (more on this in a
moment)—the onus would fall on Taiwan or its partners to escalate to violent military action. China’s leaders would portray this as Taiwan or its partners “taking the first shot” in a war to resist China’s sovereignty claims.  

Third, if China were willing to use force, it could impose a complete blockade against Taiwan without exposing a critical center-of-gravity target, namely the PLA Navy, to US and allied firepower beyond China’s territory, as it would have to with the amphibious assault scenario. This is because China could use airpower and missile forces based on the Chinese mainland, as well as coast guard cutters and PLA Navy submarines, to impose the blockade on merchant shipping and air traffic in and out of Taiwan. The PLA would not have to deploy the bulk of its navy or air force assets.

Antiship missiles on aircraft and transporter-erector-launchers (TELs) in southeast China are presently capable of holding at-risk merchant ships bound to or from Taiwan’s ports (see chapter 7 for a description of these capabilities). Similarly, the PLA’s fighter aircraft and mobile surface-to-air missiles batteries based in southeast China could threaten air cargo attempting to fly in or out of Taiwan. The PLA can strangle Taiwan without having to bombard Taiwan or attack US or allied military forces in the region.

Fourth, CCP and PLA leaders could view a blockade strategy as a form of slow-boiling irregular warfare, the type of war that has repeatedly flummoxed US policymakers and military strategists and tested the resolve of the US public. The blockade might be much less shocking than the “sneak attacks,” such as Pearl Harbor in December 1941 and the al-Qaeda terror assault in September 2001, that enraged and galvanized Americans. Without this dramatic beginning, the US public might not respond to the situation and US policymakers would have to explain the case for intervention, which they may struggle to do. In recent decades, US policymakers and the public have struggled with how to respond to limited wars. Fears about uncontrolled escalation and resource constraints have undermined the formulation of effective strategy. China’s leaders will have a strong motivation to exploit this syndrome.
Fifth, a blockade would potentially create an opportunity for the PLA to threaten to employ its battle network, a PLA competitive advantage, against vulnerable US and allied maritime targets. Should the PLA impose a total blockade of Taiwan, saving Taiwan would require the arrival of relief convoys that would have to run through and survive the PLA’s land-based blockade forces.

As discussed in chapter 7, the PLA has specifically designed its battle network to overwhelm and defeat naval task forces that would attempt to protect a convoy of merchant ships trying to make it to Taiwan’s ports. The PLA has long prepared for this scenario, which presents a difficult challenge for the forces that would attempt to bring food, fuel, and other products to Taiwan.

**A Blockade’s Road to War**

A PLA blockade would eventually compel US policymakers to decide between reneging on their informal security commitment to the island, likely resulting in Taiwan’s defeat, and risking a large-scale missile war against the PLA.

As mentioned, a PLA blockade would likely begin with the announcement of a customs and regulatory inspection quarantine, focusing on the seizure of weapons bound for Taiwan’s defense forces. China’s coast guard would attempt to stop and board merchant ships, while the PLA Air Force would attempt to divert selected aircraft bound for Taiwan to Chinese airports for inspection.

Taiwan’s government would have to decide how to respond. It would do so based not only on its own will to resist at that time, but also on what indications of support it would receive from the US government and the international community. CCP and PLA leaders would observe while also visibly preparing additional military forces for action.

If Taiwan resists the quarantine through increasingly aggressive action against China’s coast guard cutters and fighter aircraft imposing the quarantine, it courts the likelihood of missile attacks on cutters and warships, air battles over and around Taiwan, and the PLA imposing a complete maritime and air blockade of Taiwan.
With that, Taiwan would face a rapidly growing humanitarian crisis as it consumed its fuel and food reserves. Within weeks, Taiwan would require relief convoys to keep supplies flowing and the economy functioning at a basic level. The US military would be the only force capable of challenging the PLA’s blockade. US policymakers would have to decide whether to risk doing so. If they did not, Taiwan and its population of twenty-four million would eventually have to surrender.

Should the US government intervene, it would do so by organizing a relief convoy escorted by US Navy warships and military aircraft, hopefully supported with similar military assets from allies in the region.

As the convoy approached Taiwan, China’s leaders would then face the choice of letting the convoy dock and offload in Taiwan, or attacking and destroying it. Allowing the convoy to pass would reveal the attempted blockade to be a Chinese bluff. That could end the crisis around Taiwan only to invite one inside China, where Xi Jinping could be weakened in the eyes of rival elites and the general population after having lost face so dramatically to the US Navy.

US and allied leaders should instead expect that CCP and PLA leaders would not begin the quarantine gambit without having thought its sequence and consequences all the way through. Since the Third Taiwan Strait Crisis in the mid-1990s, the PLA has designed and built its “counter-intervention” battle network for this scenario. China’s leaders would begin an inspection quarantine of Taiwan when they are confident that the PLA could defeat a US-led maritime relief operation of Taiwan. US and allied leaders should not assume that China’s leaders are bluffing. Instead, they should expect a relief convoy to trigger missile combat and high casualties imposed on US and allied personnel in the convoy.

**Why Breaking a PLA Blockade of Taiwan Is So Challenging**

Historically, countries imposed blockades on adversaries by positioning some of their midsized warships, such as coast guard cutters, cruisers, and destroyers, on the approaches to the adversary’s ports,
to prevent cargo ships from arriving or departing. Today, the PLA’s long-range battle networks, deployed in the Taiwan scenario on bases and mobile missile launchers in southeast China, are now sufficient to thwart the travel of cargo ships to and from Taiwan’s piers. The PLA’s battle network, spanning the Western Pacific Ocean, will continuously track, with redundant overhead imagery assets, the positions and movements of convoys, merchant ships, and their warship escorts. The PLA’s sensors and command networks are linked to a variety of long-range precision-guided antiship weapons, such as China’s land-based antiship ballistic missiles and air-launched antiship cruise missiles.

Defeating a blockade of Taiwan would thus require much more than sinking Chinese coast guard cutters, cruisers, and destroyers lurking off Taiwan’s ports. Breaking the blockade would require suppressing the PLA’s extensive battle network deployed and dispersed across southeast China.6

This means that top US policymakers must first have the will to authorize a wide-ranging and prolonged bombing campaign of the Chinese mainland. During the 2022 CSIS war-game series discussed in chapter 7, US force commanders decided against such a bombing campaign. According to the war-game report, these commanders thought such a campaign was unnecessary for thwarting the PLA’s amphibious assault attempt against Taiwan. In addition, US commanders thought the risks of aircraft losses and possible uncontrolled escalation outweighed possible benefits for the task they were assigned, defeating the PLA’s invasion of Taiwan.7

But the CSIS war-game series specifically did not examine the blockade scenario.8 As discussed above, the characteristics of the blockade scenario differ from those of the amphibious assault scenario, and the progress of a war-game modeling a blockade would reflect that. US and allied policymakers would face the threshold question of whether to authorize widespread attacks on the Chinese mainland to suppress the PLA’s land-based counter-maritime forces. Without that approval, there are no effective military options for directly breaking a PLA blockade of Taiwan. If US policymakers are unwilling to approve such a military operation, the PLA will starve Taiwan into submission.
Assuming China launched attacks on the US military and that US and allied policymakers approved counterattacks on the Chinese mainland, what would US and allied forces then attack to suppress the PLA’s anti-maritime force and reopen shipping to and from Taiwan? The list of targets is long and would be challenging to reach. Essential targets would include the PLA’s integrated air defense systems protecting southeast China. These systems consist of air bases for the PLA’s fighter-interceptor aircraft and the PLA’s mobile surface-to-air missile units. The extensive sensor and command networks linking these forces are more priority targets.

Suppressing the PLA’s air defenses would allow more freedom for US and allied airpower to then attack the PLA’s land-based anti-maritime forces. These forces include PLA fighter-attack and bomber aircraft capable of launching antiship cruise missiles. The ports, piers, and support facilities for the PLA Navy’s submarine forces is another priority target. The mobile TELs for the PLA’s antiship ballistic and cruise missiles are on the list, as are the bases and support systems for these weapons.

These targets sum to potentially thousands of aimpoints inside China that US and allied airpower and naval long-range land-attack cruise missiles would have to strike and periodically restrike to allow relief convoys to reach Taiwan’s ports. Such an effort would require US and allied leaders to commit to a major military effort against China. And it would require military forces that can find mobile targets inside China, penetrate and function inside China’s air defense in a sustainable manner, and effectively deliver firepower on required aimpoints for a prolonged and possibly open-ended duration.

**Deterring a Blockade**

The good news is that, despite China’s military advantages, the political and economic downsides to Beijing pursuing a blockade are also significant. Enforcing a blockade using nonlethal means is notoriously difficult, even for big coast guards and big navies like those China has. Taiwan could nationalize commercial vessels and aircraft to keep trade
flowing to and from the island. Container ships are a lot larger than even the biggest Chinese coast guard cutters, which would not fare well in games of “chicken” on the high seas. Taiwan’s position as the world’s primary manufacturer of high-end semiconductors could also be leveraged to Taiwan’s advantage in a blockade scenario in ways it couldn’t in an invasion. Chips are normally shipped by air in any case, and Taiwan’s production could be directed to friendly countries and withheld from China. The United States and its allies could simultaneously squeeze the input and output of mainland Chinese chip plants through bans and tariffs and export controls, dealing a severe economic blow to the Chinese economy. The United States, Japan, and other friendly countries could assist in running the blockade, generating sympathy from democracies and comparisons with the successful Berlin Airlift during the Cold War. Economic and financial sanctions and a heightened trade war with the West would follow at a time when China still depends heavily on external trade, despite its concerted strategy to achieve economic self-reliance.

If Beijing resorted to force against the United States, it would mean war. And although the United States and its allies may lack the military capabilities or will to directly deny a PLA blockade of Taiwan through strikes against mainland Chinese targets—and therefore lack credible “deterrence by denial” for this prospective PLA strategy—the coalition could still resort to “deterrence by punishment.”

As discussed in chapter 7, deterrence by punishment is a weaker and less desirable alternative to deterrence by denial but may be the only available fallback option for preventing a PLA conquest of Taiwan through a blockade.

As the name suggests, deterrence by punishment seeks to impose pain on the aggressor’s decision makers in the hope of altering their behavior toward outcomes favorable to the defender. With a punishment strategy, the aggressor retains the initiative because it gets to decide how much pain it is willing to tolerate, something the defender will not know in advance and may never find out during the conflict. Achieving success with a punishment strategy will likely require more ruthlessness than a defender might have initially presumed; leaders targeted for punishment
may then view the conflict’s stakes as existential, limiting the options for a negotiated end to the fighting.

Despite these drawbacks, the US-led coalition may conclude that punishment is the only available option. In that case, US and allied policymakers would have to search for vulnerable points of leverage that could coerce CCP leaders into settling a Taiwan conflict on terms acceptable to the US-led coalition.

The paramount goals for CCP leaders are to maintain control over the CCP itself and its monopoly over China’s political system, the PLA, and the broader Chinese population. US and allied policymakers and military planners would presumably value kinetic and non-kinetic actions—including economic ones like the measures just discussed—that would weaken CCP control, putting at risk that which CCP leaders value the most.

Targets under this theory could include prestigious symbols of the CCP’s achievements, such as the PLA Navy’s capital ships and China’s space ports, which would also be legitimate military targets after China initiated hostilities. Using cyber and information warfare to degrade China’s controls over information could weaken the party’s control over the population. Public exposure, seizure, and destruction of the personal assets of senior CCP officials could create dissent within the party; in the 1999 Kosovo conflict, NATO employed this tactic against Serbia’s leadership, helping end that war. Finally, US and allied governments could employ information operations to divide the Chinese population from the CCP.

A controversial but feasible action would be a “counter-siege” directed at the Chinese population in response to a prospective PLA siege of Taiwan that cuts the island off from food and fuel. An at least partial counter-siege of the Chinese mainland would likely occur spontaneously in any case, as most merchant ships would avoid a missile-combat war zone in the western Pacific Ocean. US and allied military forces could deepen this spontaneous blockade by mining Chinese harbors or the approaches to them. The goal of these actions, justified in response to the PLA siege of Taiwan, would be to induce the Chinese population to resist the CCP’s war policy against Taiwan.
Punishment strategies are often morally questionable, are fraught with unknowable consequences, and have frequently failed in the past. A counter-siege of China will be more porous than the PLA’s siege of Taiwan since China has land borders and Taiwan does not; the CCP may be able to endure a siege longer than Taiwan.¹⁰

For these reasons, policymakers and military planners prefer military capabilities that are ready to directly defeat an adversary’s military aggression. When these capabilities are present, displayed, and understood by decision makers on all sides, the defender will have achieved deterrence by denial.

The United States and some of its allies now have programs that could create credible military capabilities for defeating, and thus perhaps deterring, the blockade scenario. Unfortunately, most of these efforts should have begun a decade ago. The present, and urgent, challenge is for policymakers and military planners to do what they can in the short term to thwart a prospective PLA blockade of Taiwan.

**Mission Requirements and Capability Gaps**

So, if China were to violently enforce a Taiwan blockade, would US and allied military forces have the equipment, training, and doctrine to credibly suppress the PLA’s land-based anti-maritime forces? As just described, this would be a highly challenging mission, more challenging than defeating a PLA amphibious assault. US and allied forces are lacking some critical capabilities.

The first capability US and allied forces would need are comprehensive and resilient overhead intelligence, surveillance, and reconnaissance (ISR) networks covering southeast China. These networks would ideally be based in space, given the dangers posed by the PLA’s integrated air defenses. The task for the ISR networks would be to monitor the PLA’s air, naval, and missile bases in near real time. More challenging would be monitoring in near real time the locations and movements of the PLA’s mobile TELs used for moving and launching surface-to-surface and surface-to-air missiles. The US Space Force and the National Reconnaissance Office have plans for space-based
ground-moving target indicator (GMTI) systems to track the position and movements of military vehicles, such as TELs, from space. Mature space-based GMTI capabilities are still in development.\textsuperscript{11} Next, the United States and its allies would need resilient regional and global command, control, and communications (C3) systems for transporting data and commands among disparate units and assets across all five war-fighting domains (space, air, naval, land, and cyber). These C3 systems should remain functioning while under physical, electronic, and cyberattacks. This implies that they should be distributed among hundreds or even thousands of nodes; be self-healing while under stress; be redundant; and resist jamming, adversary decryption, and deception. The US Space Force is currently deploying its Proliferated Warfighter Space Architecture satellite constellation, discussed in chapter 7.

To suppress the PLA’s mobile land-based anti-maritime forces in southeast China, the United States and its allies would need the capability to respond rapidly to fleeting targets identified by their ISR networks. This implies stealth bombers continuously on patrol nearby, armed with hypersonic air-to-surface munitions to effectively strike targets before they disperse and hide again. The US Air Force is supplementing and eventually replacing its B-1B and B-2A forces with the new B-21 Raider stealth bomber. But that aircraft is just entering its initial test-flight phase of development and is years away from a substantial combat capability over China. Research and development continues on hypersonic air-to-surface munitions.

Various program offices inside the Pentagon have developed, at least conceptually, ideas for large numbers of low-cost and autonomous aircraft and undersea vehicles that would search for and attack specific targets the weapons’ sensors would find. Engineers successfully developed some aspects of this technology more than two decades ago.\textsuperscript{12} Such technical capabilities would be highly useful for holding at risk the PLA’s land-based anti-maritime forces. However, US policymakers have imposed strict review processes (almost certainly stricter than those of the PLA) for the approval of lethal autonomous search-and-strike weapons.\textsuperscript{13} These policies are slowing the fielding of
low-cost autonomous attack weapons that would be especially useful in the scenario described in this chapter.

Finally, US and allied forces will need to defeat large numbers of PLA Navy attack submarines that would hunt merchant ships sailing to and from Taiwan. And the allies will need to continuously clear naval mines that the PLA would overtly or covertly emplace to thwart shipping in and out of Taiwan’s ports. Taiwanese and allied personnel will need techniques and equipment for delivering bulk cargo to Taiwan without the benefit of piers and port infrastructure, which they should assume the PLA will destroy.

This is a daunting list of mission requirements, all which US and allied forces would need to accomplish to keep goods flowing in and out of Taiwan and thus directly deny the PLA’s blockade strategy. Across the mission requirements needed to directly counter a PLA blockade of Taiwan—target acquisition, resilient communications, enough stealth bombers, rapid response weapons, and autonomous search-and-strike weapons—US and allied military forces are a decade behind where they should be to directly deter this potential PLA course of action.

**A Two-Year Action Plan**

What actions can US and allied policymakers take over the next two years to prepare their military forces to counter a PLA blockade of Taiwan?

1. During the current prewar period, senior US policymakers should direct military commanders and their staffs to prepare war plans that will include extensive and sustained kinetic and non-kinetic military action against the Chinese mainland should the PLA blockade Taiwan. It will be necessary to strike the Chinese mainland to counter such a blockade, and US policymakers and military planners should formulate plans for such in advance. And to deter a PLA blockade, US policymakers should inform their Chinese counterparts about their willingness and preparations for such actions.
2. US Indo-Pacific command, along with allies in the region, should periodically rehearse relief convoy operations to prepare for such a scenario regarding Taiwan. The US Department of Transportation’s Maritime Security Program (MSP) maintains a fleet of commercially viable, militarily useful merchant ships active in international trade and could be the core of relief convoy rehearsals and operations. Training will entail preparing MSP ships on short notice and coordinating convoy and warship escort operations across potentially hostile areas. The US government should enlist allied nations to participate in these rehearsals.

3. Senior US policymakers should promulgate policies that will accelerate the development and fielding of effective low-cost autonomous search-and-strike weapons. US and allied forces will need large quantities of these weapons to suppress the PLA’s land-based anti-maritime forces in southeast China. Although the Pentagon’s current policy on lethal autonomous weapons does not ban their development or require continuous human supervision of such weapons after they are launched, the current policy institutionalizes an elaborate review process that is slowing the development and fielding of needed capabilities. The urgency of the blockade threat to Taiwan now requires changes that will accelerate the fielding of these lethal autonomous weapons.

4. US and allied defense policymakers should accelerate the development and fielding of robust, redundant, and survivable target acquisition systems to support the suppression of PLA systems in southeast China. These systems should include air- and space-based sensors to identify ground- and sea-based moving targets. These target acquisition systems should include high-altitude long-endurance unmanned air systems, satellite constellations, and low-cost expendable unmanned air and undersea vehicles.

5. US and allied defense policymakers should accelerate the deployment of distributed and networked satellite communication
constellations such as the follow-on tranches of the US Space Force’s Proliferated Warfighter Space Architecture, a capability that US and allied forces will need for a suppressive campaign over southeast China.

6. US defense policymakers should accelerate the development and fielding of affordable hypersonic air-to-surface munitions that US bombers will need to rapidly engage the PLA’s mobile and fleeting ground-based anti-maritime forces in southeast China. Such weapons are technically feasible and will require commitments from the US Defense Department to the defense industrial base.

7. US and allied maritime forces, in coordination with Taiwan, should prepare for clearing naval mines on the approaches to Taiwan’s ports; antisubmarine operations against the PLA Navy’s submarines; and methods for transferring bulk cargos from ship to shore on Taiwan in the absence of functioning port infrastructure.

8. Senior US and allied policymakers and military planners should prepare in advance for a prospective campaign of punishment aimed at coercing the CCP leadership toward a favorable conflict outcome should military denial options not be available. To do so, policymakers and planners should study how to obtain coercive leverage over CCP leaders and develop supporting military and nonmilitary plans to achieve this coercive leverage during a prospective conflict.

This is a difficult list of actions to execute, especially during a compressed period. The list of military preparations, especially those directed at targets at China’s mainland, are technically challenging and are at the current limits of military science and engineering. The policy challenges are equally daunting, requiring policymakers to take uncomfortable moral and escalatory risks on lethal robotic weapons, a sustained bombing campaign of mainland China, and the possible necessity to engage in the overt coercion of China’s leadership.
NOTES

5. Martin et al., Implications of a Coercive Quarantine, 12–13.
8. Cancian, Cancian, and Heginbotham, First Battle of the Next War, 20.
10. Martin et al., Implications of a Coercive Quarantine, 22–23.