

**Prepared Statement of
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Chairwoman Tobin and Chairman Slane and members of the U.S.-China Economic and Security Review Commission, thank you for the opportunity to participate in this panel on cross-Strait security and military developments. This is a topic that is of critical importance to U.S. interests and peace and stability in the Asia-Pacific region. I am honored to testify here today.

Taiwan (also known as the Republic of China, or ROC) is steadily advancing its capacity to exercise military power in order to defend its national territorial sovereignty, market economy, and democratic system of government. Increasingly less constrained by institutional and technological barriers that have hampered it in the past, Taiwan has been investing in innovative and asymmetric capabilities to help offset its quantitative shortcomings in the face of a much larger adversary. The People's Republic of China (PRC) and the People's Liberation Army (PLA) still consider a future cross-Strait conflict to be their most challenging military planning scenario; and Taiwan and the United States are working hard together to make sure it stays that way.

My presentation today will focus primarily on three areas of cross-Strait security developments. First, this presentation will discuss the ROC-PRC military balance and Taiwan's military modernization program. Next, I will assess Taiwan's ability to defend against non-kinetic threats and the U.S.-Taiwan military and security relationship. Finally, my presentation will conclude by offering recommendations for how Congress might consider improving Taiwan's ability to defend against Chinese military coercion. At the outset, let me state my firm conviction that Taiwan is and will long remain defendable. Moreover, it is in the national security interests of the United States to work collectively with Taiwan, as well as with Japan and our other allies and friends in Asia, to balance against the rising power of China. A peaceful and prosperous Asia requires a strong and secure Taiwan.

The Chinese Communist Party leadership in Beijing continues to view Taiwan as its most worrisome external political and diplomatic problem. As the world's first ethnically Chinese democracy, the ROC's remarkable success story casts the PRC's oppressive political system in an unfavorable comparative light. To make matters worse for the communist party, over twenty countries around the world maintain official diplomatic relations with Taiwan instead of with China, and many countries accord Taiwan with favorable, while unofficial, diplomatic treatment. For example, over 100 countries have visa waiver agreements with Taiwan that they do not share with China. To combat what it views as a grave political threat, Beijing's strategy has been to employ a mix of coercive and cooperative measures to isolate, and ultimately subjugate, Taiwan. The most prominent aspect of China's strategy is its military build-up, which aims to intimidate the voters in Taiwan and policymakers in the United States.

Cross-Strait Military Balance

Today the PLA threatens Taiwan, and by extension the United States, with a massive inventory of offensive ballistic and cruise missiles, armed drones, submarines, warships, space and cyberspace weapons, and air and ground forces. Individually, none of these weapons or capabilities can tilt the cross-Strait military balance in China's favor. Each can be countered. However, if the PLA used all the tools at its disposal in a coordinated fashion, it could turn the defense of Taiwan into the democratic world's most stressful military challenge. To put it another way, no other U.S.-friendly democracy faces the level of military threat that Taiwan does.

Having said that, I personally do not believe there has been a fundamental shift in the cross-Strait military balance. Rather, the situation remains fluid and dynamic. China has improved its ability to strike important military targets in Taiwan with missile and air attacks, and in return Taiwan has improved its missile defenses and hardened all its bases. Beijing has greatly expanded its surface and submarine fleets, and in return Taipei has developed cutting-edge cruise missiles for targeting China's ships and submarine bases. China has demonstrated its intent to develop stealth aircraft, and Taiwan has deployed radar systems capable of countering stealth.

Nonetheless, many American observers are understandably concerned that the conventional military balance is shifting, or may have already shifted, in China's favor. Some have even asserted that Taiwan could eventually become impossible to defend without nuclear weapons. Much of this fear stems from an assumption that Taiwan would rapidly lose air superiority and sea control at the outset of conflict as the result of large scale PLA missile strikes on its airbases and naval ports. Yet a review of the PLA's own writings presents a very different picture. Indeed, while its propaganda outlets spread the narrative that China could handily beat Taiwan in any conflict, the PLA's operational community views the ROC military with great respect. From the PLA's perspective Taiwan is an extremely hard target, and, thanks in large part to American security assistance, Taiwan is only getting better defended over time.

Evolving PLA Threat Dynamics

True to American assessments of PLA doctrine, China's strategic missile force – the Second Artillery Force – and the PLA Air Force (PLAAF) have invested tremendous resources into developing missiles for striking fixed targets such as airbases and port facilities with cluster munitions. The volume of research and development work published in Chinese military-technical journals over the past two decades speaks to the high level of priority this technology development program has been given. But a close reading of these documents reveals that Second Artillery and PLAAF writers do not think they can deliver a “game-changing” set of weapons against Taiwan. For example, the latest engineering studies to come out of Second Artillery simulation labs demonstrate that at least 18 ballistic missiles would be required to close or “blockade” one Taiwanese airbase runway. Moreover, Second Artillery researchers conclude that Taiwan's rapid runway repair teams could have their runways operating again in as little as 75 minutes, forcing the PLA to launch numerous salvos of missiles to keep a single runway closed for long enough to make it matter.

These pessimistic views are shared by assessment teams in the PLA's General Staff Department and General Armaments Department. For example, one internal General Staff Department study in late 2008 concluded that each of Taiwan's three deployed Patriot ballistic missile defense batteries could intercept up to 24 missiles at once. If true that would mean Taiwan could intercept a total of 72 incoming missiles, which is over half of the 120 ballistic missiles China could theoretically be expected to launch in a single coordinated attack. Assuming that the surviving 48 missiles that "leaked" through were all aimed at airbase runways, and assuming they all proved to be as accurate and reliable as the PLA hopes, China could then expect to have temporarily closed two airbase runways and significantly damaged, but not closed, a third runway. Perhaps as a result, a study published last year affiliated with the General Armaments Department urged planners to prioritize the order in which Taiwanese airbases are attacked because not all can be targeted.

Reports such as these demonstrate that the PLA does not believe it will be able to obtain air superiority and sea control in a conflict with Taiwan. While this remains a long term aspiration of the Chinese military, there are no indications that I have seen that would suggest the PLA will be able to achieve its goals for Taiwan in the foreseeable future. Without the ability to dominate the air and sea domains, amphibious assault operations against an island nation like Taiwan would be disastrous. This helps explain why China's amphibious fleet has not grown since 2007. It makes little sense for any navy to spend limited resources on ships that would be rapidly sunk in combat.

Taiwan Defense Modernization

Taiwan is engaged in a comprehensive program to modernize its military. To stay ahead of evolving PLA threats, the ROC military has invested heavily in air and missile defense, counterstrike capabilities, intelligence collection, and joint training. To improve its defense against China's missile forces, Taiwan has acquired the world's most powerful ground-based radar system. Developed and built for Taiwan by the U.S., this system is a next generation version of the "Pave Paws" ballistic missile defense radar used by the U.S. Air Force. It provides Taiwan with an extremely long-range, high-fidelity picture of air (and possibly maritime) activity in and around China. It also allows Taiwan to significantly contribute to the U.S.-Japan regional missile defense shield by filling large coverage gaps that previously existed. This contribution provided the U.S. and Japan with extra warning time in late 2012 when North Korea launched a long-range rocket into the Philippine Sea. Over the next few years Taiwan will deploy seven additional Patriot missile batteries (or "fire units") and upgrade its six indigenous "Sky Bow" missile batteries. Taiwanese military analysts forecast that these additional systems will give Taiwan the ability to intercept 800 ballistic and cruise missiles by 2016.

Recognizing that the best defense against air and missile attacks is a credible counterstrike force, Taiwan has been developing surface-to-surface missiles since the 1970s. These capabilities allow the ROC military to interdict or disrupt Chinese missile launch units before they can strike. They also give Taiwan's president the ability to respond to PRC strikes in a proportional fashion. An internal PLA report assessed that Taiwan had approximately 200 surface-to-surface missiles deployed on the front-line Kinmen and Matsu island groups by 2005. More recent reports

suggest that Taiwan has developed an innovative, ramjet-powered missile that does not travel along a traditional ballistic trajectory. In a conflict, these missiles would likely be used in coordination with Taiwan's three squadrons of strategic ground-launched cruise missiles, which are based outside Taipei. Taiwan also has hundreds of land attack cruise missiles that it can launch from its ships, submarines, and fighter aircraft. Mainland Chinese reports suggest that the principal targets of Taiwan's missile forces would be the PLA's naval port facilities, air bases, command and control centers, radar stations, communications stations, and transportation nodes. They also note that Taiwan may develop penetrating warheads to destroy hardened targets such as underground command posts and hardened bunkers.

Even more important than advanced weapons are the investments Taiwan is making into high quality military personnel. Currently the ROC military is transitioning into an all-volunteer force to assure it can meet the challenges of the 21st Century battlefield. Initially, this program suffered a string of setbacks, and Taiwan's Ministry of National Defense was not able to meet its early recruitment goals. However, according to officials at the American Institute in Taiwan, the ROC military establishment was quick to adapt and is now on track to exceed its recruitment goals for this year.

To give it a marked qualitative edge over the PLA, Taiwan sends large numbers of military officers to U.S. service academies and command schools. Thousands of Taiwanese fighter and helicopter pilots, ship crews, army soldiers, marines, and special operations personnel also receive advanced training at U.S. military bases. Moreover, Taiwanese fighter pilots continue to fly at least fifty percent more than their adversaries in the PLAAF. The rigor of pilot training, the high number of flying hours they maintain, and the advanced age of some of their aircraft have contributed to a number of pilot deaths in recent years. However, Taiwan's high-quality training regime gives it a decided advantage over China. This is something that has become particularly important as China's numerical superiority continues to increase and a cross-Strait "fighter gap" emerges.

PLA evaluations of Taiwan's air defense capabilities highlight the qualitative advantage that Taiwan enjoys in the air. One General Staff Department report assessed that Taiwanese pilots are able to sortie two to three times on average per day, but are capable of organizing up to four daily sorties if needed. This assessment noted that during night-time training drills, Taiwan's air force can launch significant numbers of aircraft on a single sortie. It also observed that Taiwan's fighter pilots are trained to fight outnumbered, with each pair of Taiwanese fighters capable of intercepting four PLAAF fighters. To increase its tactical proficiency and operational flexibility, Taiwan maintains an entire F-16 fighter squadron at a training base in Arizona. In a conflict scenario, this squadron could rapidly deploy across the Pacific and arrive to the cross-Strait fight at whatever point it was most needed.

Taiwan's Defense Strategy

As a defensive or "status quo" state that is content with its existing territorial borders, Taiwan's strategy is to employ asymmetric and innovative means to defend itself at the lowest possible cost. Taiwan's security objectives are limited to deterring, or if necessary defeating, a Mainland Chinese attack. As such Taipei can achieve its strategic objective by merely inducing China to

forego its efforts at conquest. By convincing China that the risks of aggression outweigh the benefits, Taiwan attains victory. Conversely, as a revisionist state that is unsatisfied with its territorial bounds, the PRC must isolate and subjugate the ROC in order to gain its strategic objective. Beijing must therefore court immeasurably greater risks and expend far more resources in the attempt. Yet by trying to decisively outmatch a well defended Taiwan, the Chinese Communist Party is likely to defeat its own purposes and exhaust itself so much that it cannot resist the internal effects of overstrain. As such, Taiwan does not need to engage in an arms race with China. Taiwan already maintains an unusually large army and spends a larger portion of its GDP on defense than the American treaty allies Japan and Australia. Moreover, Taiwan's military modernization and defense reforms appear to be having a cost-imposing effect on China, forcing the PLA to invest heavily in expensive weapons systems to counter some of Taiwan's advantages. This dynamic works to Taiwan's benefit.

Rather than engage in an arms race, Taiwan's challenge is to meet its limited security objectives in the most strength-conserving way possible to ensure its future as well as its present. To some, it might seem that pure defense would be the most ideal strategy Taiwan could adopt, but passive defense strategies have historically proven to be dangerously fragile and often defeated. Economy of force and deterrence are best balanced in the strategy that the ROC military currently employs, based on layered defenses and high mobility counterstrikes that carry the power of quick and proportional response to aggression. To date this strategy has greatly improved Taiwan's ability to defend against a Chinese minimum warning invasion scenario – the most stressful military contingency Taiwan could one day face. In the worst possible case imaginable, Taiwan estimates that it could now “hold out” for at least one month without any outside help. This is a considerable increase over earlier forecasts that found Taiwan could only defend itself for one or two weeks. This trend reflects the positive steps Taiwan is taking to improve its national defense, and it allows the U.S. needed time to mobilize support in the event of a sudden cross-Strait conflict.

Non-Kinetic Threats to Taiwan and the U.S.-ROC Security Partnership

China recognizes that Taiwan will remain an extremely difficult military target as long as Taipei continues to maintain a close security partnership with the United States. To undercut American support for Taiwan, China has engaged in a large scale perception management or “political warfare” campaign that aims to shape the decisions made by Washington policymakers in a way favorable to Beijing. Much of this effort centers on persuading policymakers to re-interpret or abrogate the Taiwan Relations Act of 1979 and the Six Assurances of 1982. Beyond overt efforts in this area, China also appears to use clandestine intelligence operations as one method of undermining U.S.-Taiwan relations.

Cross-Strait Intelligence Operations

China continues a large scale effort to recruit and exploit spies within Taiwan and the United States, resulting in a situation whereby neither side can completely trust that the other has not been penetrated. For example, there have been around twenty alleged cases of Chinese espionage against Taiwan since 2004, and one or two dozen against the United States. Both Taiwan and the U.S. have succeeded in stopping many of these espionage cases before they have

gone on too long—sometimes within weeks or months. American counterintelligence experts and retired government officials note that Taiwan has been equally (and sometimes more) successful at protecting military secrets and advanced weapons technologies when compared to South Korea and Japan. They also note that, while there have been a fair amount of espionage cases in Taiwan, it is not clear that large amounts of information have been lost. Our joint security measures are ameliorating the Chinese intelligence threats, but the political impact remains troubling in light of the important role joint intelligence sharing plays in the U.S.-Taiwan relationship.

Providing advanced warning of Chinese preparations for an attack on Taiwan or its principal security partner the United States, or providing warning that an attack may be underway, are almost certainly the highest priority for all Taiwanese information collection platforms. Indications and warning (I&W) is essential during peacetime to prevent China from obtaining the advantage of surprise. As has been demonstrated repeatedly over the past two decades, I&W information is especially critical during periods of crisis or limited conflict to provide strategic warning of imminent Chinese actions or escalation of armed hostilities. Taiwan's timely and reliable I&W contributes to good decision-making, allowing leaders in Taipei and Washington to take appropriate steps ranging from increasing the readiness levels of forces to activating contingency plans.

Information about Chinese activities obtained from Taiwan's early-warning radar systems is combined with information collected by other sources as a basis for action by Taiwan and U.S. decision-makers. Several capabilities fielded by Taiwan have the potential to contribute important I&W information. Taiwan works closely with the United States to provide signals intelligence on the intentions, activities, and capabilities of China's military and security forces. Taiwan exploits a large number of land, air, and sea-based listening posts, its close proximity to China, and its world-class information and communications technology expertise to collect signals intelligence. Further advancing its favorable position in this area, Taiwan was one of the first countries in the world to establish a cyber warfare command. Its ability to penetrate Chinese cyber systems likely benefits from Taiwan's well-regarded computer hacking and computer security communities – as well as its commanding position on the supply chains that support China's electronics and computer technology industries. While direct comparative analysis is unavailable due to the opaque nature of the subject, anecdotal evidence suggests that Taiwan's computer and software engineering talent continues to outpace competition in China.

Taiwan also has a long history of leveraging its close cultural, linguistic, and economic ties to China for collecting traditional human intelligence. Western media reports generally focus on China's intelligence threat to Taiwan, while overlooking Taiwan's track-record of penetrating high-level targets in China. Since 2004, China has suffered from dozens of Taiwanese espionage cases. Taiwan's agents have included the leadership of China's Air Force Command Academy, a Central Committee member, and more. Recent examples of success include Taiwan's ability to collect detailed information on China's anti-ship ballistic missiles, drones, and airbases. Taiwan also obtained timely forewarning of China's intention to declare an air defense identification zone over the East China Sea in November 2013. This allowed the ROC National Security Council to call an emergency meeting and deliberate in advance of Beijing's declaration.

Taiwan's Role in the U.S. Military Rebalance to Asia

Taiwan has so far had an important, if low-key, role in the military component of the U.S. rebalance to Asia. Taiwan's critical geostrategic location has long made it a natural partner for the U.S. military. Further adding to its appeal, Taiwan is a liberal democracy that protects human rights and shares U.S. national values. Reflecting its importance to the rebalance, there has been a large increase in the number of military exchanges between the U.S. and Taiwan. For example, over 2,000 U.S. Department of Defense visits to Taiwan occurred last year – over 500 more than the year prior. Significant numbers of U.S. military personnel are now conducting Chinese language and cultural immersion studies in Taiwan, while others are involved in programs to assist Taiwan further develop highly specialized military skills. Programs include sniper training, rapid runway repair training, and unexploded ordinance disposal – just to name a few. The ROC military has also played an important role in supporting U.S.-led disaster relief and humanitarian assistance operations, for example by being the first responder to arrive after Typhoon Haiyan devastated parts of the Philippines last November.

Going forward, the U.S. should continue to expand and deepen its military exchanges with Taiwan as part of the rebalance to Asia. Taiwan should be renewed as a hub for training U.S. government personnel in the Chinese language and culture. Given the unique expertise and historical experiences – as well as unparalleled access to data – that Taiwan's research centers offer, they should be leveraged by American military and intelligence officers studying the PLA. Even more importantly, the U.S. Navy should conduct port visits in Taiwan – as it does regularly in Hong Kong – and invite Taiwan to the Rim of the Pacific Exercise and other maritime and air warfare events. The U.S. Pacific Command has war plans for fighting alongside Taiwan's military. To assure that these plans could be fully executed, U.S. military leaders at all levels – up to and including the Commander-in-Chief – should engage with their Taiwan counterparts as a means of building greater trust and interoperability.

Advancing U.S.-Taiwan Security Cooperation

Improving people-to-people contacts in the government is vital for a healthy U.S.-Taiwan military and security relationship. There are also many opportunities for cooperation between the U.S. and Taiwan defense industries that have yet to be realized. Taiwan is one of the world's leading consumers of American defense articles and services, in both the areas of foreign military sales and direct commercial sales. However, Taiwan's indigenous defense industry offers many innovative capabilities that could benefit the U.S. military. For example, Taiwan's *Hsiung Feng III* “Brave Wind” anti-ship missile is far more capable than any comparable system fielded by the U.S. Navy. Taiwan's new air-launched *Wan Chien* “Ten Thousand Arrows” cruise missile also appears more capable than anything comparable in the U.S. Air Force inventory. Both are world-class systems optimized for the unique threat environment that exists in the Western Pacific; and both are almost certainly cheaper than anything the U.S. defense industry could produce on short-notice.

The Pentagon now faces a number of pressing strategic requirements in the Pacific and a fiscally austere budget environment at home. The U.S. government should seek licensing agreements with Taiwan that would allow the flow of defense technology to go both ways. Instead of

treating Taiwan like a wealthy customer (as we often do), American national interests would be better served by developing a truly cooperative relationship in the defense arena. The benefits for U.S. military capabilities and the defense savings could be immense. Missile technology is just one of many areas the U.S. could benefit from Taiwan's cutting edge defense science and engineering sectors.

Taiwan's Role in Air-Sea Battle

The Air-Sea Battle concept of operations is a classified Pentagon framework for coping with the rapid spread of anti-access/area-denial capabilities. Publically available information indicates that it seeks closer cooperation between the services in order to counter the potential for a devastating enemy attack on forward-deployed forces using sophisticated, but relatively inexpensive, long-range strike systems. Air-Sea Battle also calls for closer cooperation between U.S. forces and coalition partners in forward deployed locations. Because of its strategic location and close military partnership with the U.S., Taiwan will naturally play a vital role in the success (or failure) of the concept in any future conflict involving China.

There are several indicators as to how successful the U.S.-Taiwan partnership is likely to be in shaping the future security environment in the Western Pacific. At the tactical level, the PLA's capabilities will add complexity to theater airbase and naval base defense and impose greater risks on aircraft and warships operating in contested areas. To meet these challenges, it will be imperative that American and Taiwanese investments are made into electromagnetic and laser weapons for future air and missile defense. Greater investments are also required in electronic, cyber, and space warfare so that aggressors face a layered defense that includes both kinetic and non-kinetic means. In the interim, Taiwan's development of active and passive defenses for defending against large-scale missile attacks should be emulated by other Air-Sea Battle partner nations that face similar threats, especially Japan. The remarkably high-level of resiliency built into Taiwan's east coast airbases could also make them ad hoc candidates for front-line American air units engaged in wartime dispersal operations. Going forward, the American, Japanese, and Taiwanese military planning communities should work closer together to make sure they could seamlessly coordinate operations in the event that known contingencies occur.

Recommendations

There are a number of ways in which Congress should consider improving the ROC's ability to defend against PRC kinetic and non-kinetic coercion. First, I recommend that Congress strongly encourage the administration to relax self-imposed limits on senior U.S. military officer interactions with Taiwan. This would benefit the U.S. and Taiwan in several important ways. It would allow flag-grade officers to visit Taiwan and get to know their counterparts and learn about the battlespace firsthand. Relying on second-hand information transmitted through distant intermediaries is not a position our generals and admirals should be put in, especially when the success or failure of a key war plan is at stake. Keeping our top military leaders blind and confused – and by extension the U.S. president who relies on their good judgments – would be a key adversary goal in a conflict. We should not be doing the PLA's work for them. Moreover, Taiwan's generals, in the absence of strong personal relationships with their American partners, could assume the worst in a conflict and take measures against the Mainland in the defense of

their country that would otherwise be unnecessary. As in any relationship, trust is critical, especially when life and death and the fate of nations are at stake.

Second, I recommend Congress mandate a U.S. government policy to promote bilateral defense industrial cooperation with Taiwan. Rather than wasting finite resources on “re-inventing the wheel,” the U.S. military would greatly benefit from many of the defense technologies that Taiwan already possesses. Starting with licensing arrangements that would allow U.S. defense industries to build Taiwanese systems in America, our two nations could gradually move toward joint technology development programs similar to those we have with Japan.

Third, I recommend that Congress exercise its oversight authorities to assure that the U.S. executive branch fully incorporates Taiwan into the rebalance to Asia and Air-Sea Battle. The constant pressure that Beijing puts on the White House, the State Department, and the Pentagon inevitably threatens to make any U.S. decision regarding Taiwan difficult and politicized. Congress has a critical role to play in keeping China from shaping U.S. policy behavior in ways that do not reflect American interests and values. Nowhere is this more evident than in the Taiwan Relations Act of 1979. As we mark the 35th anniversary of that landmark piece of legislation, Congress has the opportunity to reaffirm that America will be unflinching as it meets its legal and moral obligations to Taiwan for the decades to come.