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Questions of Balance

The Shifting Cross-Strait Balance and Implications for the U.S.

DAVID A. SHLAPAK

CT-343

March 2010

Testimony presented before the U.S.-China Economic and Security Review
Commission on March 18, 2010

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Questions of Balance
***The Shifting Cross-Strait Balance and Implications for the U.S.*^{2, 3}**

Before the U.S.-China Economic and Security Review Commission

Hearing on “China-Taiwan: Recent Economic, Political, and Military Developments Across the Strait and Implications for the United States”

March 18, 2010

Status of the Cross-Strait Balance

For about 20 years, China has been embarked on process of military modernization intended to transform the People’s Liberation Army (PLA) from a conscript-based mass “army of rifles and millet” to a force capable of effective operations on the contemporary battlefield. By any measure, the results have been impressive. While it is important not to overstate its progress—the PLA after all lacks any experience in modern warfare, its commanders unproven, its doctrine untested—China’s military has steadily improved more or less across the board. The result today is a cross-Strait military balance that is tilting increasingly in Beijing’s favor.

The lion’s share of the wide-ranging and diverse improvements in the PLA’s capabilities appear to have one element in common: they enhance China’s ability to take offensive action against Taiwan while deterring, slowing, or blunting U.S. power projection into the East Asian littoral. Among these new Chinese capabilities are two possessing a synergy that presents a serious and growing challenge to Taiwan’s defense even with the help of the United States: these are China’s growing arsenal of surface-to-surface missiles and its increasingly modern air force.

According to the Department of Defense’s 2009 report on Chinese military power, China had fielded over 1,000 short-range ballistic missiles (SRBMs) at that time and was increasing its stockpile by

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about 100 a year. The newer versions of China's DF-11 (CSS-7) and DF-15 (CSS-6) missiles feature, according again to DoD, "greater ranges, improved accuracy, and a wider variety of conventional payloads, including unitary and submunition warheads." Both the DF-11 and DF-15 are road-mobile, solid-fuel missiles that may incorporate features, such as decoys and maneuvering warheads, to help defeat anti-missile defenses. In addition to SRBMs, China is deploying ground- and air-launched land attack cruise missiles (LACMs) that also threaten a wide range of targets on Taiwan.

A prime target for China's SRBM force would be Taiwan's military air bases. The Republic of China Air Force (RoCAF) flies its combat aircraft from 10 bases scattered across the island. Analysis suggests that China—using perhaps one-fourth of its SRBM force—could potentially deliver a staggering blow to the RoCAF in the first minutes and hours of any cross-Strait conflict by attacking the runways on each base and striking unsheltered aircraft parked outside on the ramps.

Earlier generations of China's SRBMs had not been nearly accurate enough to be usefully employed against these targets, but the versions that are currently being deployed appear to have sufficient accuracy as well as the appropriate warheads to suppress the RoCAF's fighter force.

To attack a runway, China would deliver a number of missiles equipped with submunition payloads optimized to penetrate the runway surface before exploding, resulting in a crater. If enough of these craters can be produced, the runway will become unusable. Civil engineer teams are trained and equipped to assess and repair damage to runways, but they would face great difficulty repairing the sheer number of potholes that could be created by an attack like this. And, China would still have at its disposal more than enough missiles to re-attack those bases whose runways are repaired.

Many of Taiwan's fighter aircraft are parked in hardened shelters that would protect them from China's ballistic missiles. Aircraft that are parked outside, however, would be endangered. Missiles with a different kind of submunition warhead, optimized to damage dispersed aircraft, could detonate above the parking ramps. With each missile releasing hundreds of these submunitions, a very small number of SRBMs would suffice to destroy every unsheltered aircraft.

The work I conducted with my RAND colleagues concludes that a total of 90-250 SRBMs—the exact number depends on the missiles' accuracy—would suffice to cut every runway at Taiwan's 10 fighter main operating bases and damage or destroy virtually every unsheltered aircraft

located on them. Such an attack, which should be within China's capabilities in a few years if it is not already, could cripple Taiwan's ability to defend itself against further attacks.

The next blow would be aimed at, among other targets, aircraft that had survived the missile barrage inside hardened hangars. With Taiwan's air defenses suppressed, the PLA Air Force (PLAAF) could launch dozens, perhaps hundreds, of air-to-ground strike aircraft against the RoCAF, using precision-guided munitions (PGMs) to destroy those shelters and the aircraft within them. In fact, any number of targets too robust, small, or numerous to be credibly threatened by China's missiles—command bunkers, for example—could be attacked by the PLAAF after the SRBMs had “kicked down the door.”

The PLAAF's ability to deliver this kind of knockout blow to the ROCAF has increased substantially in recent years as China added numbers of modern fighter-bomber aircraft and air-to-surface weapons to its arsenal. The aircraft—Su-27 and Su-30 FLANKERS purchased from Russia and the indigenously designed and produced FB-7B and J-10—are broadly similar to fourth generation aircraft like the F-15, F-16, and F/A-18 fighters in the U.S. inventory, and the PLAAF's air-to-air missiles and air-to-ground weapons are likewise being improved. Only the most advanced U.S. fighters—the F-22 and in the future perhaps the F-35—retain a significant technological edge over the PLAAF's new combat aircraft, and even they may be liable to being overwhelmed by the sheer numbers of fighters that China could put into the air. And that advantage may be relatively short lived, too; the deputy commander of the PLAAF confirmed in a November interview that China is working on its own “fifth-generation” fighter, slated to be operational in 2020 or earlier. American experience with developing sophisticated, stealthy warplanes suggests that this may be an optimistic timeline, but the announcement of the fifth-generation project nonetheless signals that China is not done trying to close the gap between the PLAAF and U.S. air power.

More generally, China is assembling a military capable of providing the leadership in Beijing with credible options for the use of force against Taiwan, even in the face of U.S. opposition. The PLA Navy (PLAN) is introducing new and more advanced hulls in both its surface and submarine forces, and speculation continues to surround the prospect of China building one or more aircraft carriers. China's air defenses have been immensely improved by the incorporation of the most modern Russian surface-to-air missiles (SAMs) like the S-300/400 family, and the introduction of new indigenous models such as the HQ-9. China is also a space-faring nation, having joined the U.S. and Russia as the only countries to launch manned flights into Earth orbit. It is also orbiting a wide range of civilian and military payloads including communications, reconnaissance, and

navigation satellites. And, China is almost universally believed to be developing a range of cyber warfare capabilities that they seek to integrate into military planning and operations.

In short, the difference between the cross-Strait balance 10 or 20 years ago and today is substantial and can be summed up thus: After decades of offsetting the mainland's quantitative superiority by exploiting decisive qualitative advantages, Taiwan and the U.S. are seeing those qualitative edges erode while the numerical handicap persists. For the first time since the end of the Cold War, the United States confronts in China a potential challenger that can hope to compete with it in virtually every relevant dimension of warfare—in the air, on and under the sea, in space, and along the information frontier.

What is the Current Capability of the Taiwanese Air Force to Defend Taiwan?

In the event of a large-scale attack, China's ability to suppress Taiwan's air operations in the opening hours of the conflict dominates any assessment of the RoCAF's combat potential. If China can largely shut down Taiwan's air bases for even a few hours, it would gain a substantial—perhaps decisive—advantage in the air.

Were Taiwan's air force badly damaged by Chinese attacks, the U.S. would find itself facing a difficult, perhaps impossible, task trying to protect Taiwan's airspace on its own. U.S. Air Force fighters lack well-situated bases from which to operate; those bases that are close to Taiwan, like Kadena, are threatened by Chinese missiles while those safe from the missiles, such as Andersen on Guam, are a long way from the fight. U.S. Navy aircraft carriers would likewise face limitations; absent a long pre-war warning phase, only a few navy air wings would likely be on the scene at the start of any conflict. The relatively small number of U.S. fighters that would be available in these circumstances would face an uphill struggle to defeat the PLAAF's more numerous attackers.

As discussed above, possession of air superiority over Taiwan would permit China to launch heavy air attacks that could, among other things, wreak sufficient damage upon Taiwan's air bases to keep them closed for days, if not permanently. In that time, China could exploit its control of the air to strike a wide range of military and economic targets in an attempt to coerce Taiwan's capitulation or severely degrade its ability to defend itself against an invasion attempt. While our analysis suggests that such an attempt remains a risky proposition for China, seizing control of the skies over the Strait and Taiwan itself makes it a more plausible undertaking than has heretofore been the case.

Our analysis indicates that adding 50 new fighters to the RoCAF might improve Taiwan's situation, but those results depended strongly on the island's air bases remaining operational. An F-16C that cannot fly because its base has no usable runways or one that has been destroyed by an attack on its outdoor parking area or its shelter offers no advantage over an older fighter similarly situated.

There are improvements that could somewhat improve the RoCAF's ability to operate under attack. Air bases could be further hardened, by e.g., burying all fuel storage and providing shelters for all aircraft. Taiwan's air force could also seek to acquire some number of short take-off, vertical landing (STOVL) fighters like the F-35B currently being developed for the U.S. Marine Corps, which require a much shorter stretch of intact runway from which to operate. Taiwan could also procure mobile SAMs, increasing the challenge China would face in fully suppressing its air defenses. Each of these options would, however, prove expensive and represents only a partial solution to the challenge the RoCAF faces. Implementing all three together might be more useful but would likely be prohibitively expensive and would take years, perhaps decades, to put in place.

Do Changes in the Cross-Strait Balance Affect the U.S.?

The deteriorating cross-Strait military balance has two broad implications for the United States; one is more immediate, the other longer term.

Today, the job of defending Taiwan is getting harder. As discussed above, the combat effectiveness of Taiwan's air force is seriously imperiled by China's growing force of modern SRBMs, but other changes are afoot as well. China's force of modern surface combatants and submarines will make it difficult and costly for Taiwan's navy to operate in the Strait, while advanced SAMs and modern fighters will confront any Taiwanese or American aircraft that manage to become airborne with a highly lethal environment. U.S. Navy carriers and other warships will soon be at risk not just from PLAN submarines equipped with supersonic anti-ship missiles but from the world's first anti-ship ballistic missile (ASBM), a version of China's DF-21 (CSS-5) medium range ballistic missile (MRBM). When integrated with the appropriate surveillance and targeting capabilities—provided by satellites, unmanned aerial vehicles (UAVs), or long range “over-the horizon” radars, all of which China has or is developing—the ASBM will threaten U.S. carriers operating closer than about 1,000nm from China's coast. Finally, if China can suppress Taiwan's air force and air defenses, the increasingly modern PLAAF will be able to strike many target classes with PGMs. These changes lay hard strategic, operational, and programmatic decisions before both Washington and Taipei, and they obviously do not bode well

for the future stability of the situation along the Taiwan Strait. There is no quick, easy, or inexpensive way out.

In the longer term, the United States and Taiwan may confront an even more fundamental strategic dilemma, one inherent in the basic geography of the situation. Taiwan lies only a few hundred miles from the military might of the PLA; Taipei, meanwhile, is about 1,500nm from the nearest U.S. territory on Guam; it is nearly 4,400nm from Honolulu, and about 5,600nm from the West Coast of the United States. This geographic asymmetry combined with the limited array of forward basing options for U.S. forces—and China's growing ability to mount sustained and effective attacks on those forward bases—calls into question Washington's ability to credibly serve as guarantor of Taiwan's security in the long run.

The parallels to a pair of Cold War examples are instructive. Havana is about 205nm from Miami; it is roughly 5,200nm from Moscow. Cuba during the Cold War was thus in a situation broadly analogous to Taiwan's today: it was a long way from its patron and uncomfortably close to its adversary. That disparity played out most dramatically in 1962, when U.S. dominance of the Caribbean posed a conventional threat to Cuba that the Soviet Union could offset only with nuclear brinkmanship.

Throughout the years of East-West confrontation, West Berlin found itself in a similarly precarious situation, particularly up to and through the construction of the Berlin Wall in 1961. Crises revolving around actual or feared Soviet threats to the city were a periodic feature of the Cold War in the late 1940s, 1950s, and early 1960s.

In the cases of both Cuba and West Berlin, the defending superpower's ability to mount a credible conventional defense of its outpost was very limited. Under those circumstances, the security of Cuba and West Berlin came to be seen as dependent on their being folded into the broader set of extended deterrent commitments made by Washington and Moscow. These commitments in turn ultimately rested on each side's declared willingness to risk any level of conflict up to nuclear conflagration in defense of its interests. The strategy for each side was to make clear to the other that any "limited" attack on West Berlin or Cuba would not remain "limited" for long. A conflict over these small-seeming stakes would rapidly become a larger war between the United States and the Soviet Union, the consequences of which were ghastly to contemplate.

Is this the future of the U.S.-Taiwan security relationship? If China's military power continues to grow and a permanent solution to the China-Taiwan imbroglio remains elusive, this question could take on increasing salience. Is the security of Taiwan of sufficiently great importance that

the United States would be willing to rely not on a decreasingly-credible conventional deterrent but instead threaten Beijing that any attack on Taiwan would risk a broader, more dangerous conflict between China and the United States? If not, then where and how will Washington be willing to draw the line regarding possible Chinese challenges to U.S. interests in East Asia? With another decade of improvements in the PLA like what has been seen in the past 10 years, these issues may become troubling indeed for the U.S. leadership.

This is not to endorse one answer or another, nor to imply that Beijing has or will develop any sort of hegemonic appetite regarding East Asia. I do want to suggest, however, that a China that is conventionally predominant along the East Asian littoral could pose a direct, difficult, broad, and enduring challenge to the U.S. position as guarantor of regional stability and security, a challenge that could extend well beyond Taiwan.

It is at least a little paradoxical that at a time when the cross-Strait political dynamic is more placid than it has been at any time in 15 or so years, the military balance should be assessed as increasingly problematic for Taiwan's defense. Beijing appears to be building the PLA needed to support a range of military options against Taiwan at the same time that it seeks through diplomacy and economic interaction to render such a conflict unnecessary. The two efforts are not unrelated.

It is probably worth noting that relations between China and Taiwan seem subject to rapid and dramatic changes in tone and trajectory. A DPP comeback in the next election cycle—motivated by increased fears of China, perceptions of corruption or ineffectiveness in the Ma administration, or other factors—could upset the apple cart. A political or economic crisis in China could impair the legitimacy of the Communist leadership, which might then seek to burnish its nationalist credentials by adopting a more forceful attitude toward Taiwan. While Beijing has recently announced that it is somewhat slowing the rate of increase in its defense spending, China's military capabilities will continue to improve and in any event will not reverse themselves in the policy-relevant future. So, the problem of defending Taiwan will remain an important one for U.S. defense planners and security strategists.

Beyond the stakes for Taiwan, the cross-Strait situation may prove to be a prelude to a broader challenge to the United States in East Asia that might emerge in the next 10-20 years. As with almost every question impinging on Sino-U.S. relations, these are questions of balance. The U.S. and its allies must continue to pursue a strategy that simultaneously hedges against Chinese military power while engaging and enmeshing Beijing in networks of political, economic, and human ties that, it may be hoped, will eventually render military power anachronistic.

As China's military power grows, the price tag associated with this hedging policy will also increase. But the present Taiwan dilemma also raises an important question of long-term geopolitical interest: What roles should and can the U.S. seek to play in an East Asian landscape that includes an economically vibrant, militarily powerful, politically unified, and self-confident China? Looking at Taiwan and beyond, what is the new equilibrium in East Asia, and how can the forces at work there be managed to make that equilibrium tolerable to the United States? That is the ultimate "question of balance" posed by any examination of the growing imbalance of military power across the Taiwan Strait.