



## Asia-Pacific Center for Security Studies



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### Asia's China Debate

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# A Paper Tiger No More? The U.S. Debate over China's Military Modernization

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## Executive Summary

- There appears to be a consensus among U.S. Chinawatchers that Beijing is engaged in a determined effort to modernize the People's Liberation Army (PLA) to fight and win "limited wars under high-tech conditions."
- Most U.S. assessments of the PLA accept the view that China's official defense budget greatly under-represents actual military expenditures by a factor of two to three. These estimates are only informed guesses, and it is nearly impossible to determine how Chinese military expenditures are directly affecting various aspects of PLA modernization.
- There is general agreement that the PLA has been engaged since the early 1990s in a concerted effort to replace and upgrade its military hardware, including the increased acquisition of foreign weapons systems, primarily from Russia. China is devoting increasing attention to the acquisition of weapons for asymmetric warfare.
- There are still major differences of opinion when it comes to interpreting the significance of China's force modernization efforts. Some analysts argue that the PLA is still at least two decades behind the United States in terms of defense capabilities and technology. Others, however, view China's recent military acquisitions and current research and development (R&D) efforts as marking a definite improvement of its warfighting capabilities.
- U.S. assessments of Chinese military modernization also tend to differ with regard to China's ability to develop or obtain advanced technologies and to effectively incorporate these in next-generation weapons systems and military equipment.
- The U.S. debate over China's military modernization efforts and its implications for U.S. security remains far from settled. There is still little concern that the PRC will soon constitute a global military challenge or a direct threat to the U.S. homeland. Nevertheless, assessments will continue to differ as to the impact and implications of growing Chinese military power on U.S. security interests in the Asia-Pacific.

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## AMERICA'S DEBATE ABOUT CHINESE MILITARY MODERNIZATION: STILL ALIVE AFTER 9/11

While terrorism has displaced the People's Republic of China (PRC) as the prevailing national security concern for most Americans, the U.S. debate over China's military buildup and its implications for U.S. security policy has hardly abated. Indeed, since the 1996 Taiwan Straits missile crisis, through the Lockheed/Loral affair (in which these companies allegedly passed restricted space-launch technology on to China), and up until the April 2001 EP-3 spyplane incident, the "China Threat" debate has, if anything, continued to grow. In recent years, this debate has resulted in a number of authoritative studies of China's military modernization efforts, including the annual report by the U.S. Department of Defense, the most recent of which was released in July 2003 (hereafter referred to as the DoD Report), the July 2002 report by the congressionally chartered U.S.-China Security Review Commission (hereafter, the USCC Report), and the 2003 report by an independent task force comprised of leading U.S. Chinawatchers, sponsored by the Council on Foreign Relations (hereafter, the CFR Report).

Drawing primarily from these three documents, plus other recent publications on the PLA, there appears to be a consensus among most U.S. assessments that the PRC is engaged in a determined effort to modernize its armed forces to fight and win "limited wars under high-tech conditions." This doctrine revolves around short-duration, high-intensity conflicts characterized by mobility, speed, and long-range attack, employing joint operations fought simultaneously throughout the entire air, land, sea, space, and electromagnetic battlespace, and relying heavily upon extremely lethal high-technology weapons. PLA operational doctrine also emphasizes preemption, surprise, and "shock value," given that the earliest stages of conflict may be crucial to the outcome of a war.

According to the 2003 DoD Report, the PLA has been particularly influenced by the emerging revolution in military affairs (RMA). PLA thinking on the RMA sees considerable potential for force multipliers in such areas as information warfare, digitization of the battlefield, and networked systems. At the same time, adversaries who are highly dependent upon advanced technology—such as the United States—are seen as susceptible to low-tech countermeasures or attacks on their C4ISR (command, control, communications, computerization, intelligence, surveillance, and reconnaissance) capabilities. Consequently, the PLA has put a high priority on developing asymmetric capabilities aimed at enabling "the inferior to defeat the superior."

The PLA's modernization efforts, most U.S. analysts agree, are primarily intended to meet the needs of preparing for a potential conflict in the Taiwan Strait. The PLA wants to develop the capability to carry out offensive operations against Taiwan—including air and missile attacks, a naval blockade, or even an outright invasion of the island—and also to deter, delay, and complicate U.S. efforts to intervene on behalf of Taiwan.

## CHINESE DEFENSE SPENDING

China's official 2003 defense budget is RMB185.3 billion, or US\$22.4 billion—a 9.6 percent increase over the previous year and a continuation of a decade-long pattern of real increases in Chinese military spending (and the seventh

straight year of double-digit or near double-digit real growth). As a result, Chinese defense expenditures have more than doubled in real terms since the mid-1990s, and the DoD Report expects the Chinese defense budget to continue to grow at a double-digit rate at least through the Tenth Five-Year Plan (2001–2005).

In addition, most U.S. assessments of the PLA accept the view that China's official defense budget greatly under-reports actual military expenditures. Off-budget items include weapons R&D and program start-up costs, arms imports—which are financed by separate hard-currency allocations and which in recent years have run as high as \$2 billion a year—support to the paramilitary People's Armed Police, and operations and maintenance costs shared by local and provincial governments. In addition, the PLA is believed to be still benefiting financially from operating many kinds of commercial ventures—mainly farms and services such as construction—even after it was ordered in the late 1990s to divest itself of most of its civilian enterprises.

Consequently, the DoD Report estimates that actual Chinese military spending could total as much as \$65 billion, or approximately three times the official budgetary figures. The CFR Report asserts that Chinese defense expenditures likely range between two and three times higher than official figures, or \$44 billion to \$67 billion. At the high end, China would have the second largest defense budget in the world after the United States and would be the largest defense spender in Asia.

At the same time, most U.S. assessments acknowledge that there are many unknowns and uncertainties—compounded by the lack of transparency on the part of the Chinese—that complicate defense budget calculations. Beyond a few highly aggregated spending figures for personnel, operations, and equipment, there is an absence of further detail as to how Chinese military expenditures are distributed, i.e., among which particular weapons programs, or which of the three services, or such categories as training or logistics, or toward improving soldiers' living standards. Moreover, the exact level of extrabudgetary expenditures that should be included in the Chinese defense budget can be only roughly estimated—and these estimates are complicated by the fact that some U.S. China analysts argue that many formerly extrabudgetary items, such as the actual costs of PLA operations and maintenance, are now being carried on the official budget (at the same time, big-ticket expenditures such as R&D and foreign arms purchases are likely to remain off the books). Finally, since many goods and services in the Chinese defense spending “basket” cost much less than they would in the West, it makes sense to apply some kind of purchasing power parity (PPP) multiplier to any budget figure, in order to more accurately reflect its true value in terms of relative spending power; unfortunately, PPPs for China vary widely, minimizing their usefulness. Perhaps as a result of conceding these growing uncertainties, the 2003 DoD Report backs away from earlier assessments that stated that Chinese military expenditures could be as much as *four* times the official budget.

Consequently, it is nearly impossible to determine how Chinese military expenditures are directly affecting various aspects of PLA modernization, such as power projection capabilities, training, R&D, and the procurement of high-tech weaponry. For the most part, all Western estimates of actual Chinese defense spending are basically “guesstimates”—extrapolation, inference, and conjecture—with a wide margin of error.

Finally, there exists considerable uncertainty as to the long-term sustainability of Chinese defense budget increases. The CFR Report notes that military modernization is only one of several competing claims for government revenues, and that pressures to put more funds into such areas as social security, education, healthcare, and bank reform will likely grow over the next few years, crowding out possible new rises in military expenditures. Growing central government budget deficits could also dampen Beijing's enthusiasm for increasing defense spending. Some analysts argue that this could already be occurring, as the 2003 increase of 9.6 percent was considerably less than the 17.4 percent increase in 2002 and the 16.5 percent increase in 2001. Moreover, U.S. assessments of the PLA acknowledge that it is difficult to make long-term projections of Chinese economic growth, which would likely have an impact on future defense expenditures.

## MODERNIZATION OF PLA EQUIPMENT

There is general agreement within the U.S. China-watching community that the PLA has been engaged since the early 1990s in a concerted effort to replace and upgrade its military hardware. Even if only the official defense budget is considered, funding for the procurement of new military equipment rose nearly 125 percent between 1997 and 2002, from \$3.1 billion to \$6.9 billion per year. Moreover, arms purchases from abroad—mostly Russian—have at least doubled in recent years, to around \$1.5 billion to \$2 billion per year. While the PLA has for the past decade relied heavily on Russian (and to a lesser extent, Israeli) defense firms to meet its immediate requirements for advanced armaments, China's defense industry is beginning to deliver new indigenous weapons systems to the PLA.

China's strategic missile forces, for example, have been upgraded in recent years by the deployment of the new CSS-4/DF-5 Mod 2 intercontinental ballistic missile (ICBM). In addition, the Chinese are developing a solid-propellant, road-mobile ICBM, designated the CSS-X-10/DF-31, which will likely be deployed in the next few years; an improved, longer-range DF-31, as well as a submarine-launched version, designated the JL-2, could be operational by 2010. The DoD Report estimates the number of Chinese ICBMs capable of hitting the United States could rise to sixty missiles by 2010—from a current level of twenty missiles—some of which could be fitted with multiple warheads.

The U.S. Defense Department estimates that up to 450 short-range ballistic missiles (SRBMs)—mostly CSS-6/DF-15s and CSS-7/DF-11s—are now deployed opposite Taiwan. The DoD Report also states that China is deploying such missiles at a rate of seventy-five per year—up substantially from previous estimates of fifty missiles per year.

China is also acquiring considerable numbers of new fighter aircraft, including 272 air-defense Su-27s (200 of which will be locally produced) and approximately eighty ground-attack Su-30s. The PLA Air Force (PLAAF) has also purchased AA-12 active-radar guided air-to-air missiles for its Su-27s, while some Su-30s will be equipped with the Russian-made Kh-31 supersonic antiship cruise missile (ASCM). In addition, China is working on an improved version of its FB-7 fighter-bomber, while the F-10, China's long-awaited, indigenously developed fourth-generation-plus fighter aircraft, will likely become operational within the next few years.

For its part, the PLA Navy (PLAN) is buying two new Sovremenny-class guided-missile destroyers, in addition to the two Sovremennys it acquired in the 1990s, as well as eight new Kilo-class diesel-powered submarines, besides the four Kilos already operational in the PLAN. The new Kilos will be armed with the 3M-54E Novator Alpha ASCM and the 53-65KE wake-homing torpedo. In 2002 China launched the first ship in a new class of domestically developed, 9,000-ton guided-missile destroyer, the Type 052B; the Type 052B destroyer is equipped with a long-range air-defense missile system and incorporates low-observable features into its design. A further refinement of this destroyer, equipped with a rudimentary Aegis-type phased-array radar and designated the Type-052C, is currently under construction. China has also launched at least three Song-class diesel-electric submarines, the first indigenous submarine to have a skewed propeller (for improved quieting) and to carry an encapsulated ASCM capable of being launch from a submerged submarine.

The PLAN has finally begun to replace its small and aging fleet of nuclear-powered submarines. The first in a new class of nuclear attack boats (SSNs), the Type-093 was launched in 2002 and could be operational as early as late 2004; three more Type-093 SSNs could enter service by 2010. In addition, a ballistic missile-carrying (SSBN) variant of this submarine, designated the Type-094, is currently under development; the Type-094 will carry the JL-2 SLBM.

Other major weapons systems currently under development or in production include the HQ-9 long-range surface-to-air missile and the Type-96 main battle tank (which the CFR Report refers to as the Type-98); the DoD Report states that some 1,500 Type-96 tanks could be deployed by 2005.

Recent studies of Chinese military modernization pay considerable attention to the PLA's efforts to expand and improve its C4ISR and information operations/information warfare capabilities. The DoD Report states that developing an advanced joint C4ISR system is a high priority for the Chinese military. Accordingly, the PLA has reportedly created a separate military communications network, using fiber-optic cable, satellites, microwave relays, and long-range high-frequency radio; PLA C4I capabilities have also benefited from leveraging advances and improvements in China's commercial information technology (IT) sector. The USCC Report states that China already possesses a rudimentary satellite navigation system, and that it will launch several new space platforms over the next several years, including high-resolution imagery satellites and signals intelligence-gathering satellites.

Information warfare (IW) is also seen as a potentially critical new development in the PLA's warfighting capabilities. The PLA is reportedly experimenting with IW operations and has established special information warfare units to carry out attacks on enemy computer networks to blind and disrupt an adversary's C4I systems. As with the PLA's emerging C4I capabilities, much of the hardware and skill base for conducting IW is dual-use in nature, and therefore the military is benefiting from piggy-backing on developments and growth in the country's commercial IT industry.

Recent U.S. writings on the PLA have increasingly devoted considerable attention to China's pursuit of weapons for asymmetric warfare weapons—sometimes called “assassin's mace” or “trump card” weapons. Some assassin's mace weapons are intended to attack an enemy's vulnerabilities, such as the

aforementioned computer-network attacks. Other assassin's mace weapons are basically "old wine in new bottles": already existing programs—such as fighter-bombers, ballistic and antiship missiles, submarines, torpedoes, and mines to destroy enemy aircraft carriers—that are seen as the most effective weapons in the PLA's arsenal and whose development or deployment has therefore been accelerated. Finally, this category of trump card weapons also includes so-called "new concept" arms, such as kinetic energy weapons (e.g., railguns), lasers, radiofrequency and high-powered microwave weapons, and antisatellite (ASAT) systems.

The PRC is combining these force modernization efforts with actions intended to increase professionalization and jointness within the PLA. The DoD reports that PLA officers and NCOs are receiving increased training and education, while recent military exercises have emphasized amphibious warfare with "limited multi-service participation." PLAAF and PLAN Air Force training devote more time to supporting amphibious operations, while PLA ground forces are increasingly integrating training and exercises with maritime, airborne, and special operations forces.

Overall, most U.S. assessments agree that the PLA has made considerable progress over the past decade in adding new weapons to its arsenal, and that China has noticeably improved its military capabilities in several specific areas—particularly missile attack, power projection over sea and in the air, and information warfare. At the same time, however, striking differences of opinion still exist when it comes to interpreting the significance of these hardware developments. Many U.S. analysts assert that the PLA continues to suffer from considerable deficiencies and weaknesses that limit its ability to constitute a major military threat. In particular, the PLA still lacks the logistical and lift capacity—both by sea and by air—for projecting force much beyond its borders. China also lags far behind the West in areas such as C4I architectures and surveillance and reconnaissance capabilities. Consequently, this school of thought argues that China's current rearmament program is an incremental and long-term modernization process that must be viewed in the context of competing force modernization activities taking place among China's likely rivals. The CFR Report, for example, asserts that China, despite a "deliberate and focused course of military modernization," is still at least two decades behind the United States in terms of defense capabilities and technology. On the other hand, both the DoD and USCC Reports, while conceding the PLA's many problems and impediments, generally interpret China's recent military acquisitions and current R&D efforts—particularly its emphasis on trump card weapons for asymmetric warfare—as critical developments in the improvement of its warfighting capabilities. Therefore, the Chinese military power relative to its likely competitors in the Asia-Pacific region—and especially to Taiwan—and subsequently to the United States, will increase significantly over the next ten to twenty years.

## **CHINESE TECHNOLOGY ACQUISITION, R&D, AND THE DEFENSE INDUSTRY**

**C**hina's long-term military modernization plans depend heavily on its continued ability to develop or obtain advanced technologies and to effectively incorporate these in next-generation weapons systems and military equipment.

Both the DoD and USCC Reports note China's considerable technology acquisition programs, particularly its efforts to access advanced foreign technologies through licensed production and technology transfer, including training, technical skills, and manufacturing know-how; the targeted purchase of dual-use technologies, such as telecommunications, computers, and semiconductors; reverse-engineering; and the exploitation of overseas ethnic Chinese and Chinese students studying abroad. The USCC Report asserts that over the next decade "China will acquire a modernized industrial capability to build advanced conventional and strategic weapons."

Other assessments of the PLA, however, argue that China's capabilities to develop, design, develop and manufacture advanced weapons systems will remain limited for quite some time, and that foreign assistance will not fully compensate for these domestic deficiencies. The CFR Report notes that the Chinese arms industry has overall demonstrated a poor record of delivering to the PLA the types of advanced weapons it wants, when it wants them, and that the continued reliance upon foreign suppliers is "symptomatic of the weakness of China's own defense industrial base." These weaknesses include: (1) the continued inability to transfer promising civilian technologies into military R&D; (2) overcapacity and duplication of effort, which saps scarce resources; (3) weak management and systems integration skills; and (4) a state-owned enterprise system of development and production that is reluctant to innovate and take risks.

Consequently, when it comes to domestic acquisitions, Chinese military modernization will likely continue to center on "pockets of excellence" in its defense technology and industrial base, most notably its ballistic and cruise missile programs, and perhaps IW operations. At the same time, it should be noted that the Chinese are continuing to upgrade production facilities—particularly shipyards and aviation and aerospace factories—and are importing and incorporating considerable quantities of foreign technology into their defense and dual-use industries. Increased spending on defense R&D and procurement will doubtless have a positive impact on China's defense technology and industrial base. Therefore, some U.S. assessments increasingly argue that the PRC military-industrial complex, along with selective foreign arms acquisitions, could at the very least be sufficient to permit the PLA to successfully engage technologically superior adversaries.

## CONCLUSIONS

The U.S. debate over China's military modernization efforts remains far from settled. Most assessments agree on the basics, i.e., the PLA's current operational doctrine of limited, high-tech war, its likely range of actual defense expenditures, and recent and future likely Chinese acquisitions of military equipment. Certainly the PRC is making *absolute* gains in terms of military capabilities, adding more and better military equipment to its arsenal, improving troop training and professionalization, and attempting to lay the groundwork for a long-term improvement in its defense technology and industrial base.

Beyond these points, however, recent U.S. assessments continue to differ as to the significance of these developments when it comes to increasing *relative* Chinese military power and its implications for U.S. security. There is still little



concern that the PRC will soon constitute a global military challenge to the United States or a direct threat to the U.S. homeland. The potential impact of growing Chinese military power for U.S. security interests in the Asia-Pacific region is a quite different matter, however. China's readiness to confront the United States politically, economically, and militarily in Asia—over Taiwan, in the East and South China Seas, and elsewhere in the region—could rise as its military strength increases. A stronger and more assertive China would greatly complicate the U.S. security calculus in the region. At the same time, this process of advance and confrontation could take years, even decades, to play out. Gauging the pace and critical determinants of Chinese military modernization, therefore, will continue to be as contentious as agreeing upon its implications.

The views expressed in this publication are those of the author(s) and do not necessarily reflect the official policy or position of APCSS, U.S. Pacific Command, the U.S. Department of Defense, or the U.S. Government.

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