

Chapter 7

Strategic Implications of a Modernizing China



Photo credit: Eric Basques

The Great Wall at Ba Da Ling Pass, about 40 miles north of Beijing. For centuries, the wall was the main line of defense against northern invaders.

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Strategic Implications of a Modernizing China

A more modernized China will also be a stronger China, one that will have enhanced capabilities to pursue its interests in the international arena. A central question for the United States, then, is whether a stronger China would be in the U.S. interest. Since technology transfer aids Chinese modernization, thus strengthening China, are today's transfers likely to become tomorrow's sources of regret? Are U.S. strategic interests, especially in Asia, likely to be served by a stronger China whose modernization has been aided by the transfer of U.S. and other Western technologies?

The "China factor" in U.S. strategic interests depends on:

1. Chinese military capabilities,
2. Chinese plans and expectations for military modernization in the context of overall economic development goals, and
3. the role of technology transfer in Chinese military modernization.

It is also important to consider prospects for the evolution of China's foreign policy and the possible implications for U.S. strategic interests in Asia.

TECHNOLOGY TRANSFER AND CHINA'S MILITARY CAPABILITIES

Military Capabilities

Although the development of a modern defense remains an important objective (military modernization has been officially ranked fourth on China's list of modernizations), defense spending occupies a much smaller share of the gross national product (GNP) than a decade ago.¹ China's slow road to military modernization does not overshadow its current strategy of introducing systematic wide-sweeping economic changes that will, over the longer term, improve military capabilities. Transfers of dual-use technology are important to that process.

No official plan for defense modernization has been announced, but it appears that the Chinese are attempting to improve combat effectiveness in the short term while building a

technology and defense industrial base capable of indigenously developing and producing advanced weapons over the long term. Limitations in financing and skilled manpower plus the inability of the defense industries to mass produce advanced weaponry have dictated this strategy. As one expert observer puts it: ". . . Even if it were possible, the defense establishment would have been overwhelmed by any rapid introduction of advanced technology. No 'quick fix' was plausible, even if it were seen as desirable. The deficiencies of currently deployed People's Liberation Army (PLA) hardware are worth noting.

China's conventional weapons are based on technology supplied by the Soviet Union in the 1950s. China received military equipment and know-how, but when the Soviets terminated their assistance in 1960, China lacked a group of trained engineers and professionals capable of designing a new generation of weapons.

¹China has, however, expanded funding for one part of its defense budget—strategic forces. See Ed Parris, "Chinese Defense Expenditures, 1967-83," in The Joint Economic Committee (JEC), *China Economy Looks Toward the Year 2000*, vol. 2, 1985, pp. 148-168.

²Paul H.B. Godwin, "Overview: China's Defense Modernization," in JEC, op. cit., vol. 2, p. 138.

China's military industries remain unable to design new systems or serially produce from foreign designs.³ China's military weaknesses in communications, logistics, and basic operations were apparent in its 1979 punitive expedition in Vietnam.⁴

At present, China does not have the power projection capabilities needed to sustain a successful offensive attack on neighboring countries, and its forces are far inferior to those of either of the superpowers.

China's air force is dependent on obsolete interceptors and bombers that could not survive long against modern air defenses. China's air force includes more than 4000 fighters, but these are modifications of foreign designs, primarily the Soviet MiG-19 and MiG-21. Much of the fleet lacks all-weather capability and night vision; speeds are generally subsonic. Most of the fighters are armed with cannons only. China's aircraft factories lack the technology and metallurgy needed to design and manufacture sophisticated, high-yield jet engines.

The Chinese navy has only a few dozen destroyers and frigates, many armed with STYX missiles that have a short range and radio-controlled guidance systems, making them vulnerable to enemy jamming. China's more than 100 submarines are deployed in shallow coastal waters. Many of the craft are diesel powered, noisy, and limited in range. Lacking electronic countermeasures and support systems, they could easily be defeated by Soviet antisubmarine warfare devices.

China's first of at least three nuclear-powered attack submarines, the Han-class, was launched in the early 1970s. In addition, a Xia-class missile submarine (comparable in size to the British *Polaris* but developed largely indigenously) was launched in 1981. It has antiquated sonars and guidance systems as well as problems with the nuclear plant that appear to have kept it in the shakedown phase. Pro-

duction is likely to remain low.' In 1982 a flight test of a submarine-launched ballistic missile (from a diesel submarine) took place.' While China's nuclear fleet is likely to remain quite limited because of financial constraints, the flight test indicates that China will probably significantly increase its nuclear deterrent force through the deployment of a seaborne, strategic, second-strike capability.

The size of the PLA has been reduced by over 1 million during the past 6 years, but China still maintains the world's largest military in terms of personnel.⁷ Nevertheless infantry mobility is a major problem. Although the PLA has more tanks and armored personnel carriers than the U.S. army, the ratio of personnel to armed vehicles is approximately 10 times higher than that in the Soviet army. PLA field guns, rocket launchers, and heavy mortars are all obsolete. Antitank guns and recoilless rifles have short ranges. A major effort is now under way to streamline the PLA and to transform its role by improvements in training and by encouraging military factories to produce for the civilian market.⁸

Because China would find it difficult today to retaliate against a surprise attack by the Soviet Union, high priority has been placed on building strategic forces. Significantly, this effort has been continued even during times of drastic political change. China's more than 100 medium- and intermediate-range nuclear missiles constitute a modest arsenal by superpower standards, but they provide China with enhanced political prestige and with some capability to deter a Soviet attack.⁸ Little infor-

³Frieman, *op. cit.*, p. 29, One Xia is now in operation and a second is said to be near completion.

⁴David G. Muller, Jr., *China as a Maritime Power* (Boulder, CO: Westview Press, 1983), p. 165.

⁵See June Teufel Dreyer, "The Reorganization and Streamlining of the Chinese People's Liberation Army," for 15th Conference on Mainland China, June 8-14, 1986. The International Institute for Strategic Studies (IISS) in London estimates that the total size of the PLA was 3.9 million in 1985-86, of which about 2.9 million were in the army. See IISS, *The Military Balance, 1985-86*, p. 113.

⁶Opinions differ sharply as to whether the PLA will be plagued by resistance to such programs or whether it can be a "vanguard" in the modernization process. See Dreyer, *op. cit.*; and Monte R. Bullard and Edward C. O'Dowd, "Defining the Role of the PLA in the Post-Mao Era," *Asian Survey*, June 1986.

⁷Robert G. Sutter, "Chinese Nuclear Weapons and American Interest—Conflicting Policy Choices," in JEC, *op. cit.*, vol. 2, p. 170.

³Wendy Frieman, "National Security Risks of Dual-Use Transfers to China," Science Applications International Corp., July 7, 1986 (app. 6 in vol. II of this report).

⁴Paul H.B. Godwin, "Overview: China's Defense Modernization," in JEC, *op. cit.*, vol. 2, p. 137.

mation is available about performance or accuracy, but it is generally agreed that China's intercontinental ballistic missiles (ICBMS) are liquid fueled, requiring a long lead time for launch preparation. Today, China has only a handful of ICBMS capable of reaching the United States. Nevertheless, its strategic program is a 'pocket of excellence' in its defense sector, one that testifies to the maxim that significant developments are possible when a program is given high priority.

At the same time, it should be noted that PLA equipment has proven adequate for most important military functions undertaken since 1949. China does not need the most technologically advanced systems in all areas to maintain a position as a regional power. China's defense expenditures are, moreover, of significant value,¹ and its extensive defense industrial base has produced large amounts of conventional arms. These weapons, while unsophisticated when compared with those of the two superpowers, are selling well on the international market, particularly to developing countries.² China's reported arms sales to both Iran and Iraq suggest that its arms export policies may be a significant factor in some Third World conflicts. China may also extend its influence in space-related activities, as indicated by its offers to launch foreign satellites.

Military Strategy

China's overall military strategy remains a subject of debate in the West, but deterring a Soviet invasion remains the top priority. Chinese military planners also intend to improve their ability to conduct military operations on their borders and to ensure coastal defense.

¹"RIPS, *Asian Security 1985*, pp. 77-78: China's defense budget is now exceeded by that of Japan.

²Estimates of the value of China's arms sales vary. See Claire Hollingsworth, "Your Friendly Chinese Arms Merchant," *Wall Street Journal*, June 17, 1985 for an estimate of \$1.6 billion in Chinese arms sales in 1984 alone. See also Anne Gilks and Gerald Segal, *China and the Arms Trade* (New York: St. Martin's Press, 1985). According to one estimate, China became the fourth largest arms exporter in 1986. See Michael R. Gordon, "War in Gulf Spurs China's Arms Export Role," *The Washington Post*, May 19, 1987.



Photo cred((Xinhua News Agency

The Long March 2 rocket at the Jiuquan (northwest China) launching site. This two-stage, liquid fuel rocket first flew successfully in November 1975 and is used to place payloads in low-Earth orbit. Sweden's Mail star may be launched by a Long March 2.

Threat assessments appear less pessimistic than they were before the death of Mao. A new strategy called 'People's War Under Modern Conditions' features less emphasis on mobile and more on positional warfare, less on luring deep and more on developing capabilities to counter a front-line offensive threat.¹ China seeks not only to deter Soviet aggression, but also to develop a reliable strategic retaliatory capability in case deterrence breaks down.² A costly "people's war" of attrition would be

¹See June Teufel Dreyer, "The Streamlining and Reorganization of the Chinese People's Liberation Army," paper prepared by International Studies Association, March 1986, p. 8.

²Sutter, op. cit., p. 179.

used today only as a last resort. Instead, China seeks to develop the conventional and nuclear capability to defeat an invader. While the future shape of China's strategic forces is an unknown, gradual modernization of existing forces is expected. A quick strategic buildup could alarm both superpowers. Uncertainty remains in the West, however, about the speed and type of military modernization planned for China's strategic forces.

Technology Transfers

Given China's broad range of modernization goals and its limited financial and skilled manpower resources to assimilate technology, it is not surprising that military imports have been limited during the past decade. Western observers have been unable to identify an overarching theme that guides China's acquisition of foreign weapons systems.¹⁴ China's few military acquisitions in the past decade have spanned the gamut of mission areas, as indicated in table 2 of appendix 6, volume II.

Despite this apparently unsystematic approach to foreign weapons acquisition, significant incremental changes can be discerned. The T-69 tank, an upgrade of the T-59, includes a foreign-made, infrared searchlight and laser range finder. Electronic improvements in the F-8 will also result in incremental changes if implemented as planned. Generally speaking, importation of foreign military technology has been geared toward marginal improvements in already existing Chinese military systems. Purchases have often been small, representing in many cases "samples" for study.¹⁵

Prospects for expanded procurements of foreign military weapons have undoubtedly improved in recent years. However, China will probably continue to find it too expensive to

¹⁴One explanation for this lack of coherent strategy is that some parts of the Chinese bureaucracy appear more eager to import foreign weapons than others. There is a natural divergence in perspective between the Chinese factories producing antiquated hardware and the end users attracted to technologically advanced foreign products. There is also a sharp divergence between the strategic programs, where importation is virtually precluded, and China's conventional force needs.

¹⁵International Institute for Strategic Studies, *The Military Balance 1986-87* (London: 1986), p. 140.

import weapons on a large scale. Nor does it seem likely that China would readily turn to foreign suppliers for complete weapon systems. China's limited importation of military technology is guided by the goal of improving indigenous design and production capabilities over the long term. See chapter 8 for a discussion of U.S. military sales to China.

In contrast to purely military sales, dual-use technology transfers have expanded markedly during recent years. Theoretically, such dual-use exports could contribute to military modernization. A powerful computer, for example, could be used to improve the efficiency of a military or a civilian production facility. How have these transfers affected China's military capability?

During 1985, U.S. exports of computers and office machines to China were valued at more than \$187 million.¹⁷ Table 8 in chapter 4 provides an overview of the expanding values of licenses granted for exports to China during recent years. Electronic machinery imports, particularly computers and integrated circuit manufacturing technology, have been a particularly prominent growth area as shown in the licensing data. Imports of dual-use technologies came from a wide array of supplier countries, and a number of Chinese organizations were involved.

Most dual-use imports are imported by civilian end-users in China, but it would be a mistake to assume that the military could not acquire them. On the other hand, it is not clear that military factories would necessarily be able to assimilate and use such imports suc-

"Dual-use technology" has both military and civilian applications. Much advanced technology today falls into this category. The United States controls exports of such technology through required review of export licenses, as outlined in the CCL. For purposes of this study, dual-use technologies of particular concern are included in the technologies and products that today require interagency and COCOM review for export to China. As discussed in ch. 8, U.S. policies have shifted during the past 7 years to loosen restrictions on exports to China, but many high-technology products still require such reviews.

¹⁷U.S. Department of Commerce trade data. During the same year, the U.S. Government issued licenses for \$3.8 billion in computer exports to China. Clearly, in many instances final shipment never occurred. This discrepancy is analyzed in ch. 8.

cessfully. Nor does the range of imports suggest a strategy designed to target dual-use imports to a few key military operations.

The question of military access to dual-use technology hinges centrally on the degree of overlap between civilian and military production. All of China's six major ministries involved in weapons-related production are also responsible for producing civilian products. The Ministry of Aviation and the China State Shipbuilding Corp. build planes and ships, for example, for both civilian and military uses. As in the United States, many defense factories are managed by civilians. Similarly, China's premier research establishment, the Chinese Academy of Sciences, has been strongly involved in the strategic program and in avionics and aircraft research and development.

Although military factories do have some advantages over civilian factories (e.g., in their priority for acquiring resources), there is no evidence that they have superior capability across the board. Even if China's military can obtain foreign advanced technology, history suggests that it will not be an easy task to assimilate it. This is illustrated by the case of dual-use transfer to the military involving the Spey jet engine. Despite the fact that it was a landmark project, the factory never began serial production. A number of factors undoubtedly contributed to this situation, but the result was that the Chinese did not fully assimilate the Spey technology so that they never began manufacture.

Moreover, examples of successful reverse-engineering by the military are few. China's production system is plagued by systemic problems that limit productivity and reduce the potential effects of technology transfer domestically. China faces a number of obstacles to the full assimilation of foreign technology in areas important for military production: China does not have adequate semiconductor

materials technology, precision testing equipment, and the clean-room facilities required for mass production of integrated circuits. (The circuits are vital to the manufacture of sophisticated electronic systems necessary to upgrade PLA command, control, and communications.) Nor does China have the capacity to produce the metal alloys required for advanced airframe construction. Although China is richly endowed with metals such as nickel, titanium, molybdenum, magnesium, and cobalt, China's factories have been unable to ensure the requirements for processing high-purity metals.

Regardless of whether or not the military factories will effectively make the transition to civilian production, the effect of current reforms (if implemented) will be to blur further the distinction between civilian and military production. This will make it even more difficult for foreign suppliers to set constraints that limit use of their technology by the military.

Military needs are probably factored into the purchases of foreign technology and equipment by the machinebuilding industries, though not through any monolithic targeting strategy like the one developed by the Soviet Union to obtain advanced Western technology. The National Defense Science, Technology, and Industry Commission (ND STIC), however, reviews requests for foreign technology above certain dollar amounts to determine priorities and whether Chinese-made equipment could be substituted, thus ensuring that military requirements are at least taken into account in major foreign technology acquisitions.¹⁹ The China Defense Science and Technology Information Center was set up a decade ago to monitor foreign technology developments for the military.

The conclusion that follows from this analysis is that the military could in principle obtain dual-use technologies, but would not necessarily be in a better position than a purely

¹⁹See, for example, K.C. Yeh, *Industrial Innovation in China With Special Reference to the Metallurgical Industry* (RAND Note), May 1985. Yeh notes that by the early 1980s the ratio of scientific and technical manpower to total employment in the defense industries was three times that for the country as a whole.

¹⁹See U.S. Department of Defense, *Soviet Acquisition of Militarily Significant Western Technology: An Update*, September 1985, for a description of the Soviet targeting effort.

²⁰See Frieman for a discussion of the role of the NDSTIC and its interaction with various ministries, pp. 10-19.

civilian factory to assimilate them. Nor is there evidence that past dual-use transfers have led to significant improvements in China's military capability.²¹

On the other hand, the cumulative impact of dual-use transfers will probably be noticeable in China's military production by the year 2000. While the most significant and dramatic improvements in China's military capability may occur through military imports, dual-use transfers will permit gradual overall improvements in production capability. More specifically, raising the technical skills of the workforce, upgrading numerical and quality control, and improved management and manufacturing techniques should eventually lead to better production in military as well as civilian factories.

Over the short term, China faces such a wide array of shortcomings in its military that most imports of sophisticated dual-use technologies are likely to result in improvements only on the margin. Unlike the Soviet Union, where a single dual-use technology may fill a critical hole in a modern military system, China's more extensive needs cannot be effectively addressed in this way. In China, however, incremental progress across the board may well be coupled with substantial improvements in key areas such as launch capabilities for strategic weapons. These developments will surely heighten China's role, particularly as a regional power in Asia, during the 20th century.

Looking ahead to the year 2000, many dual-use transfers carried out over the 20 years previous can be expected to contribute to an overall upgrading of China's military capability. China cannot emerge as a military superpower on par with the United States or the Soviet Union by 2000, but if it succeeds in its overall economic modernization program, it will be poised to make significant leaps in overall military capability thereafter. Even before that time, improvements in key areas of military operations or in logistics and transportation may occur that will improve China's ability to

defend itself or launch attacks against neighboring countries. Because the United States and the Soviet Union will continue to improve their own military capabilities, however, China stands little chance of catching up with either of the superpowers over the next 30 years.

U.S. Policy Considerations

U.S. policies concerning transfer of dual-use and military technologies are based on assessments of myriad factors, among them, potential risks or benefits to U.S. national security. Current policies reflect an evaluation that transfers of most dual-use technologies are unlikely to affect China's overall military capability significantly in the near term. Therefore, with improvements in bilateral relations has come a loosening of U.S. export restrictions. As discussed more fully in the next chapter, controls are maintained on the most sensitive technology exports.

Military transfers (to date, few in number) are guided by the principle that military cooperation is a natural part of the bilateral relationship and that improvements in Chinese air defense and antiarmor capabilities can help deter the Soviets without threatening China's non-Communist neighbors. U.S. policy on munitions restricts exports that would improve China's capabilities in key mission areas: nuclear weapons design, antisubmarine warfare, electronic warfare, intelligence gathering, and the projection of power (Table 15 lists the technologies involved in the anti-submarine warfare mission area.)

The limited scope of U.S.-China military cooperation is illustrated by the scope of government-to-government sales through the Foreign Military Sales program.²² Despite a host of official visits of defense-related officials from both countries, many observers believe that military cooperation will proceed slowly in the near term.²³ The trend so far has thus been for

²²The Foreign Military Sales program has been permitted to make sales to China since 1984, but few have yet occurred.

²³Kerry B. Dumbaugh and Richard G. Grimmett, *U.S. Arms Sales to China*, Congressional Research Service Report No. 138-F, 1985.

²¹See ch8 for discussion of dual-use sales to China's military.

Table 15.—Anti-Submarine Warfare Technology

Anti-submarine warfare (ASW) consists of those warfare elements that result in the detection, identification, and destruction or disabling of an enemy submarine. ASW can be conducted from any suitable “platform” from the air, sea surface, or from another submarine. The basic **functions** needed to successfully conduct the ASW mission are the same for each platform and are described below.

Functions:

1. **Detection** of the enemy submarine by either acoustic or nonacoustic methods.
2. **Classification** determination of the type of target.
3. **Localization** target motion analysis and contact management.
4. **Approach to the Target** closing in on the submarine to within range of one’s own ship or aircraft weapons.
5. **Weapon Deployment (Launch)** the actual attack.
6. **Evasion and Reattack** activities performed if necessary.
7. **Related Functions** tactics such as mine avoidance, mine deployment, and surveillance that are performed as necessary,

Although the basic required ASW functions listed above are always the same, the complexity and difficulty of each of these elements varies from case to case and from platform to platform.

Technologies:

The **technologies** required to accomplish the above functions effectively span a large range of engineering and scientific disciplines. They can be categorized as follows:

1. *Mechanica/ Engineering*: propulsor design, low-noise machinery, low-speed turbines, bearing design, and quiet weapon launch design.
 2. *Hydrodynamics*: hull design (for speed), boundary layer control theory, and pipe-flow design.
 3. *Material/s Engineering*: corrosion-resistance technology, ceramic design, elastomer technology, lightweight structure development, composite materials, and sensor technology.
 4. *Acoustic Engineering*: sonar dome/outer decoupler design, transducer design, baffle design, machinery sound isolation, quiet weapon launch design/propulsion, acoustic miniaturization, and damping material design.
 5. *Sonar Design*: algorithmic development for classification techniques, acoustic correlation techniques, tracker design, contact motion analysis techniques, beam forming techniques, spectrum analysis, adaptive noise cancellation, transient analysis, automated detection techniques, automated classification techniques, automated trackers, and adaptive processing.
- Additional technologies involved in sonar design are passive ranging techniques, multi path processing techniques, weapon guidance techniques, acoustic performance prediction techniques, environmental sampling techniques, active sonar processing techniques, low probability of intercept concepts, and satellite environmental observation.
6. *Power Engineering*: high-density, power-pack design; small-size, high-power train design; and high-impulse/exotic fuel design.
 7. *Computer Design*: bus/local area network design, spectrum analyzer design, microelectronic design, beamforming design, high-speed mathematics processor design, minicomputer design, and transient processor design.
 8. *Graphic Engineering*: high-speed graphic techniques, color/bit plane graphics, large-field graphic design, and man-machine techniques.
 9. *Warhead Engineering*: shaped-charge techniques, fusing design, and high-explosive technology.
 10. *Electrica/ Engineering*: power engineering, pulse-forming design, and high power/rapid transient design.
 11. *Vonacoustic Engineering*: magnetic anomaly detection technologies.

It is clear that there is no one ASW technology; capabilities are required across a broad spectrum of engineering and science. Some technologies are critical in the sense that if their performance is substandard, the whole ASW system is significantly affected. It is necessary to conduct each stage of an ASW attack adequately to be successful. On the other hand, there are degrees of successful implementation of each stage. Each increased level of sophistication will have a higher level of success in ASW, but there are many different levels that can be successful.

SOURCE Adapted from “Assessment of ASW Technology Transfer to the People’s Republic of China,” contractor report prepared for OTA by Global Associates, Ltd Alexandria VA Dec 17 1986

rapidly expanding sales of dual-use technologies, coupled with increasingly frequent military visits and infrequent military sales (e.g., the avionics package for the F-8).

If controls are further relaxed, the key question from a national security perspective is: Which technologies currently restricted could make a significant difference in China’s military capability if transfers were permitted? If

China were to import greatly advanced radars and electronic countermeasures (above those needed for air defense), the ability of the air force to mount offensive attacks against neighbor states would be strengthened. The navy’s capabilities could be upgraded through improved propulsion systems, electronic surveillance systems, and air cover. Improvements in ground force equipment, however, would remain of limited value in engagements along

the borders unless more effective air cover and naval support were available. China's ability to project force thus depends on improvements in those areas in particular.

Possibly the most significant changes in Chinese military capability would accompany transfers of technologies that improved its strategic nuclear deterrent. For instance, technologies that improve China's missile targeting and real-time imaging from satellites could significantly affect China's military capability.

These judgments are based on a general assessment of China's military requirements. In practice, export administrators make decisions about the risks of transferring dual-use technologies on a case-by-case basis. In each case, it is necessary to ask how the transfer could affect China's military capabilities.

For example, anti-submarine warfare (ASW) is one of the key mission areas mentioned above. Until such time as a political decision is made that enhancing China's ASW capability will not compromise U.S. national security, technologies that would contribute to ASW must be controlled. However, many different technologies are involved in ASW, as described in tables 15 and 16, and a large fraction are also used for commercial purposes. Those technologies useful only for ASW are obviously candidates for strong control (essentially, red zone), whereas it would serve no purpose to control those that are not critical or are readily available commercially. The difficult decisions involve technologies that are critical but available to some extent (group b in table 16).

An additional complication arises because few technologies come in one form only. There is generally a range of sophistication available. In most cases, military systems incorporating the latest, most sophisticated versions of technology have the greatest capabilities. More limited versions of the same technology may be of little concern (e.g., ASW systems that can detect noisy submarines but not American subs, which are very quiet). This factor requires criteria to be set based on critical characteristics of the technology (e.g., speed of operation).

Below a certain level, a particular export license application for equipment or technology is considered to be in the green zone because it could not contribute to a military system that would be of concern. Applications involving equipment or technology above that level are reviewed on a case-by-case basis and referred to other agencies. A key policy decision is under what conditions should these applications be approved. Another is where to draw the cutoff line for technologies that will not be exported under any conditions.

These points are illustrated by the handling of spectrum analyzers, one of the critical, dual-use technologies for ASW, described in box B. Hewlett-Packard is a major manufacturer and exporter of spectrum analyzers. It offers three real-time models of the type appropriate for ASW use. Model 3561A requires about 170 milliseconds (ms) to calculate 512 lines, well within the green zone. However, recent export applications have been handled by the Department of Commerce (DOC) as above the green zone. Model 3562A is much faster at 2048 lines in 50 ms. Model 3565S is a multichannel system with a computational rate that varies depending on configuration. Its status is unclear. None of these models would be used as the prime technology in a U.S. ASW system, but 3562A is considered quite fast. Similar, though probably not quite as sophisticated, equipment is made in other countries, including Germany and Japan.

If the green zone were enlarged, applications which now have to be referred to the U.S. Department of Defense (DoD) and to the Coordinating Committee on Multilateral Export Controls (COCOM) might be eligible for expedited licensing. One approach would be to include models faster than the present speed of 512 lines in 50 ms. Models 3561 and 3565 (under most configurations) could be placed well in the green zone with little ambiguity. The National Council for U.S.-China Trade has proposed an alternative change for Commodity Control List 1529 that would make all spectrum analyzers green zone if they have a real-time rate of 10 kHz or less. This criterion would

Table 16.—AntiSubmarine Warfare Technology: Criticality and Availability

<p>a. Those technologies that are critical to ASW and are not commercially available are candidates to be controlled.</p> <ul style="list-style-type: none"> Propulsion Design Low-Noise Machinery Design Sonar Dome Transducer Design Classification Techniques/Algorithms Acoustic Correlation Algorithms Contact Motion Analysis Tracker Design Algorithms Passive Ranging Techniques Weapon Guidance High-Density, Power-Pack Design Small-Size, High-Power Train Design Exotic Fuel Design Power Engineering Multi path Processing Techniques 	<p>c. Those technologies that are critical to ASW but that are so available commercially that controls would be futile.</p> <ul style="list-style-type: none"> Corrosion Resistance Ceramic Design Elastomer Technology Machinery Isolation Spectral Analysis Algorithms Acoustic Performance Prediction Techniques Environmental Sampling Techniques High-Speed Math Processor Design Minicomputer Design High-Explosive Technology
<p>b. Those technologies that are critical to ASW and are not commercially available are candidates to be controlled. However, a lesser technology will provide either a significant ASW capability without these techniques or a more primitive version of the technique.</p> <ul style="list-style-type: none"> Low-Speed Turbines Bearing Design Baffle Design Beamformer Techniques Local Area Network Design Spectrum Analyzer Design Microelectronic Design Beamformer Design High-Speed Graphic Techniques Color/Bit Plane Graphics Shape Charge Techniques Fusing Design Magnetic Anomaly Detection 	<p>d. Those technologies that are not believed to be critical today but may be in the future.</p> <ul style="list-style-type: none"> Transient Processor Design Satellite Environmental Observation Low-Probability -of-Intercept Techniques Active Sonar Processing Adaptive Processing Quiet Weapon Launch Design Lightweight Structure Sensor Technology Quiet Weapon Propulsion Acoustic Miniaturization Adaptive Noise Cancellation Transient Analysis Automated Detection Algorithms Automated Trackers Algorithms Automated Classification Algorithms Hull Design Boundary-Layer Control Pipe-Flow Design Damping Material Design Man-Machine Techniques Large-Field Graphic Design Pulse-Forming Design Rapid Transient Design

SOURCE Adapted from "Assessment of ASW Technology Transfer to the People's Republic of China," contractor report prepared for OTA by Global Associates, Ltd., Alexandria VA, Dec 17, 1986

be easier to relate to specific equipment than are the present criteria.

While it is obvious that either change would ease the burden on DOC and exporters such as Hewlett-Packard, the degree to which it would increase sales is not easily determined. China is unlikely to start buying many more spectrum analyzers for commercial purposes just because it can get prompter delivery with less licensing uncertainty. In so far as the United States is more stringent in approving borderline applications than other countries, moving some models to the green zone would improve American competitiveness. However, it is not clear that this has been an important factor for spectrum analyzers. It is possible

that some sales are now lost when license applications are mistakenly treated as above the green zone. Raising the limit would make this less likely for those models. As of January 1987, applications were pending for more than 60 days for 170 spectrum analyzers of all types, but only a few were real-time analyzers. Typical prices for spectrum analyzers are in the range of \$10,000 to \$40,000. If the total sales to China of real-time spectrum analyzers were on the order of \$1 million per year, liberalizing the limits might add as much as several hundred thousand dollars.

The other half of the equation—the effect of liberalizing controls on China's military—is no easier to answer. Even quite sophisticated

Box B.—Spectrum Analyzers

Spectrum analyzers are electronic instruments used to display and measure the frequency and amplitude of electromagnetic waves. They are used by industry for vibration analysis of machinery or in the manufacture of electronic equipment such as disk drives, and other applications. There are two types of commercially available spectrum analyzers. The “swept tuned” analyzer has fewer restrictions for sale to China, and, not being applicable to ASW, will not be discussed here. The “FFT-based” spectrum analyzer can be used for ASW because it is faster in the required frequency range.

In their simplest form, spectrum analyzers convert an electromagnetic signal into a series of sine waves through a process known as Fast Fourier Transforms (FFT). If an ordinary power line is analyzed, the spectrum analyzer shows essentially a single sine wave at 60 Hz.¹ A more complex signal would be shown to be composed of several or many sine waves of different frequencies and energy levels. The pattern of these component sine waves reveals much information about the original generation of the incoming signal.

Spectrum analyzers can operate at low frequencies (approaching zero Hertz (Hz), commonly referred to as direct current), up to microwave frequencies of 300 GHz. Current technology does not permit a single instrument to operate over this entire range so spectrum analyzers are designed to operate over specific ranges, such as 0 to 100 kHz or 6 to 50 kHz. In addition to operating over different frequency ranges (bandwidths), models differ in the accuracy and resolution with which they measure the amplitude and frequency of input signals, in their processing speeds and capabilities, in programmability, and in the number of signals they can analyze at any given time.

The major concern in determining whether a spectrum analyzer should be subject to export restrictions is whether it can make real-time measurements. That is, whether the instrument can continuously acquire and transform rapidly changing data (e.g., voice signals) fast enough that no data is lost or ignored. Many commercial spectrum analyzers can make real-time measurements on data that changes up to 10,000 times a second (i.e., 10 kHz). Some are capable of faster operation.

As noted in tables 15 and 16 on anti-submarine warfare, spectrum analysis is a key part of the sonar system that detects and jams the target. Each type of submarine produces acoustic emissions which are characteristic of its machinery and hull design. These emissions are received and displayed on a spectrum analyzer, where they can be compared with known emission patterns of various submarines to identify the type.

Real-time spectrum analyzers are included in Commodity Control List (CCL) category 1529, which has an advisory note “licenses are likely to be approved for export to satisfactory end-users in the People’s Republic of China of the following equipment: . . . , spectrum analyzers employing time compression of the input signal or Wet Fourier Transform techniques not capable of: 1) Analyzing signals with a frequency of greater than 100 kHz if the instrument uses time compression, or 2) Calculating 512 complex lines in less than 50 ms [milliseconds].” The latter requirement says in effect that a spectrum analyzer is green zone if it is not capable of real-time analysis above about 10 kHz, but putting this criterion into practice is not straightforward. There appears to be room for disagreement on whether specific models comply. The Department of Commerce reports that it has been able to get spectrum analyzers approved for export to China that have been as fast as 512 complex lines in 4 milliseconds. This represents a de facto red line, at least at present.

¹Hz stands for Hertz, or cycles per second. The human ear can detect sound waves in the spectrum of 20 to 20,000 Hz. Sound waves can be converted to electromagnetic waves by a microphone for display on a spectrum analyzer, but audio spectrum analyzers can also operate on a much broader range of frequencies: up to 300,000 Hz (300 kHz). Other types of spectrum analyzers operate in the range of millions of Hertz (MHz) or billions (GHz).



Photo credit: Hewlett Packard

The Hewlett Packard model 3562A dynamic signal analyzer is being used for spectrum analysis of electronic equipment. This model is too fast and sophisticated to qualify under the present green zone criteria.

spectrum analyzers have already been sold to China, though only after the license application has been approved by DoD and COCOM (taking into account the end user, intended application, and the capabilities of the particular model in question.) One such model was sold to a People's Liberation Army hospital. However, design and manufacturing information is unlikely to be transferred, and spectrum analyzers would be extremely difficult for China to reverse-engineer and manufacture. The concern over the export of equipment is that China could divert these relatively sophisticated spectrum analyzers (along with other equipment) to develop a greatly enhanced ASW system. The present system provides some control over the numbers exported to China and information on their whereabouts, thus limiting the number that China could divert to military applications.

The question on the military implications comes down to whether the United States cares if China has access to a large number of spectrum analyzers with capabilities somewhat above those in the present green zone. Several viewpoints can be taken. A moderate relaxation of the 50 ms criteria (perhaps to 20 ms) or a change to the 10-kHz real-time bandwidth criterion would not contribute to ASW capabilities that would interfere with U.S. submarine operations. Similarly, new U.S.S.R. subs are much quieter than older ones and presumably would also not be vulnerable to such a system, but Soviet planning would be complicated if it had to replace older subs patrolling the China coast with new ones to evade the new ASW system. However, Taiwan has several older subs that could be jeopardized in the event of an attempt by the mainland to forcibly reunite the country. Thus a decision on revision of export controls is a function of technology, political questions, and military strategy.

Given the obvious weaknesses of China's military, there are many dual-use technologies (particularly those that improve defensive capabilities) now restricted that could be transferred without significant effects on China's position vis-a-vis other Asian countries. Some types of dual-use technologies however, have not been transferred, but could have widespread and significant effects on China's military capability if successfully adapted and assimilated.

Consider a hypothetical Chinese request for a supercomputer. Powerful computers such as the Cray-2 are used in processing large amounts of data (satellite imaging and acoustical intelligence).²⁷ But the Chinese would not necessarily be able to use a supercomputer effectively for those purposes if they were to obtain one in the near future. Chinese scientists and technicians would need complicated software and highly specialized algorithms to use a su-

²⁷The Chinese-made supercomputer called the Galaxy does not compare with the Cray-2 in speed and power as discussed in app. 2, vol. II of this report.

percomputer for such purposes. Chinese computer scientists might be able to produce useful software for specialized purposes such as nuclear weapons design, but for many years it would not be as sophisticated and powerful as that used in the United States. A variety of safeguards (presence of U.S. technicians around the clock, repairs and maintenance by U.S. personnel, no dial-up capability from other machines) could be used to limit unauthorized access to a supercomputer.

On the other hand, no safeguard provides a perfect guarantee. China's military capabilities could be improved by use of a supercomputer, but the degree would depend on the applications to which the supercomputer would be put. Judgments about whether improved Chinese intelligence gathering (for example) would pose a risk to the United States or to other Asian countries depend fundamentally on assessments of China's political and strategic goals and policies.

Export control decisions are also complicated by Japanese production of supercomputers comparable in many ways to those made in the United States. New approaches such as parallel processing, moreover, will eventually make it possible to combine smaller machines so that they can perform the functions of a supercomputer.

More common than the example of the supercomputer (where the applications are widespread) are other decisions about items that in isolation are likely to have much more limited effects. Laser gyroscopes, to take one example, are used for inertial navigation by both civilian and military aircraft and for strategic missile guidance. Improving the accuracy of China's missiles requires gyroscopes, but the acquisition of a handful of these items would probably not produce dramatic changes. Improvements in mapping, for example, would also be essential. While gyroscopes could theoretically be reverse-engineered, their construction requires a special type of glass produced only in the United States and Japan. The risks associated with transferring a small number of such items are thus mitigated (but not eliminated) by such factors.

In the near term, U.S. export administrators may find themselves pulled in two directions. In light of the many weak points in China's military, the transfer of small numbers of items alone may not appear to pose a significant threat to the United States. Moreover, a friendly China more able to deter Soviet aggression may be seen by the United States and other Asian countries as more an asset than a liability. Cooperating with China in civilian and military technology transfer may also permit expanded knowledge of China's system and strategic thinking.

On the other hand, periodic assessments must be made about whether a step-level improvement has taken place in a military mission area because of incremental changes. Numerous "routine" transfers by the United States and other suppliers may result in a significant improvement in a particular military operation without an overall U.S. policy assessment that assisting China in this way is desirable. Even if such improvements have no effect on China's capability vis-à-vis the United States or the Soviet Union, which seems likely, they could affect China's military balance with other Asian countries.

As China modernizes its military and economy, neighboring countries may expand military expenditures in response to, or demand equal treatment in arms sales from, the United States. China will become an increasingly important regional power. Globally, China may be in a key position as a larger arms seller and potential transferor of military technologies. Therefore, the nature and scope of China's own export policies will be important to Western interests.

An important caveat is, however, appropriate. Firms from many Western countries can supply military and dual-use technologies to China. There is room for national discretion on export policy within the bounds of the Coordinating Committee for Multilateral Export Controls system. In addition, and potentially more important, China is not restricted to COCOM countries for the purchase of advanced technologies. Other developing countries may re-export equipment which they have

purchased from COCOM countries or which they have produced themselves. The ability of the United States to restrict China's military modernization unilaterally is therefore quite limited.

Conclusion

China cannot become a military superpower by year 2000, but it will be increasingly able to play a more influential role in Asia if current policies achieve their goals. The United States and China thus today share mutual interests in ensuring peace and stability in Asia during the next 15 years. From the Chinese perspective, a policy designed to support such a climate is the most promising avenue to eventual military modernization (given the wide range of China's military shortcomings). Yet, even if current policies are maintained, China's interests are by no means identical to those of United States or other friendly countries in Asia. How China will choose to exercise its power will remain an important question for U.S. policy makers that lends an element of caution to U.S. debates over technology transfers.

The level of technology transfers (dual-use and military) in the best U.S. national interests will not be constant. China will ask for more sophisticated computers, telecommuni-

cations, and manufacturing technologies, and other Western suppliers will probably be eager to sell. Military cooperation will cover a range of activities including visits by defense delegations, exchange of intelligence information, port calls, and other more symbolic interactions, as well as fuller involvement via coproduction and assistance in modernizing entire weapons systems. The latter clearly holds a much stronger potential for improving China's military capability. Without a clear policy framework during this intermediate period, expectations may be raised and then dashed, with adverse political repercussions. U.S. exporters and license examiners need clear guidance from policy makers.

U.S. technology transfer policies will continue to involve a delicate balance: promoting trade and technology transfer in many areas while maintaining controls on exports of the most militarily sensitive equipment and technologies. Decisions about transferring technology routinely hinge on a variety of technical judgments, but policies must be based on a reading of broader political and economic developments. Uncertainty about the future shape of China's policies and military strategy will undoubtedly introduce an element of restraint in a technology transfer policy that is generally designed to promote fuller interaction between the United States and China.

THE ASIAN SECURITY ENVIRONMENT

The significance of the issues surrounding Chinese military modernization must be seen in the context of the Asian security environment. Since the U.S. withdrawal from Vietnam in 1974, the East and Southeast Asian region has enjoyed an era of stability and relative peace. The war in Kampuchea, involving Vietnamese troops and the Khmer resistance forces opposing the rule of the Vietnamese-backed Heng Samrin regime, has been the main conflict in the region in recent years, a conflict that also led to the Chinese punitive attack on Vietnam in 1979. For most of the countries of East and Southeast Asia, however, the recent past

has been a time of peace and stability, which has been welcomed by the countries of the region as a necessary condition for the remarkable economic growth that many of them have experienced.

Nevertheless, there are continuing tensions in the region, and serious security problems that remain unresolved. The United States and other countries in the region view the growth of Soviet military power in the Pacific as the chief threat to regional security. The most active destabilizing situation is the Kampuchean problem, with its implications for the security



of Thailand and the other Association of Southeast Asian Nations (ASEAN) states and for Sin-Soviet rivalry in the region. The situation on the Korean peninsula and the Taiwan problem also indicate unresolved tensions that could lead to armed conflict. Some of the potential conflicts—most notably those in Korea and along the Sino-Soviet border—are of global significance.

Perceptions of security threats differ in important ways from country to country. Four great powers—the United States, the Soviet Union, Japan, and China—have active interests in the region. The perceptions of these nations differ, sometimes significantly. Add to

these the varying perspectives of the smaller states such as Korea and Singapore and those of an aspiring power such as Indonesia and it becomes clear that interests in Asian security are quite complicated.

The powers in the region have concerns about unpredictable trends. The United States, China, and Japan, for instance, are unsure of Soviet intentions under Gorbachev. The Soviets are concerned about the direction of Japanese security thinking and future behavior. The course of U.S.-China relations, and whether the latter will have a military dimension that would be threatening to the Soviet Union, is of particular concern to Moscow. The

United States and Japan, as well as the Soviet Union, have active interests in China's future course.

The powers in the region are also concerned that the strategic rivalry between the United States and the Soviet Union may intensify the arms race in Asia and the Pacific, involving allied nations as well as the superpowers. Moreover, U.S.-Soviet conflicts in other regions could spill over into Asia. In this sense, Asian regional security is very much related to the global U.S.-Soviet competition, both affecting and being affected by it.²⁵

Of greatest concern to the United States has been the growth of Soviet power in the region. Since the end of the Vietnam war, Soviet military assets have increased substantially as Moscow strengthens its eastern defenses and becomes an Asian/Pacific power. The Soviet naval buildup in the Pacific, including 90 surface warships, 135 submarines (65 of which are nuclear powered), and two of its three aircraft carriers, threatens the naval dominance long enjoyed by the U.S. 7th Fleet.²⁶ The Soviet Union benefitted from the U.S. withdrawal from Vietnam by acquiring permanent air and naval facilities at Danang and Cam Ranh Bay. A squadron of MiG-23s based in Vietnam can provide air cover for the 8 TU-95 *Bear D* reconnaissance planes and 16 TU-95 *Badger* bombers also based there. Ten of the *Badgers* have cruise missile capabilities, and the United States believes that the Soviets may increase their number to 30. The *Badgers* have a combat radius sufficient to extend to all ASEAN states.²⁷

Today, between 25 and 30 Soviet warships are likely to call at Cam Ranh Bay at any one time. This contrasts with 1979, when the So-

viet Pacific Fleet cruised into the waters of the South China Sea only occasionally.²⁸ The overall buildup of Soviet forces in the Pacific, in combination with the basing opportunities in Vietnam, gives the Soviet Union power projection capabilities into the Indian Ocean from the Pacific (as well as from its bases in Yemen and Ethiopia).

The Soviets deploy an estimated 40 divisions (370,000 troops) along the Sine-Soviet border. Other Soviet assets in the region include some 2,200 combat aircraft, an estimated 135 SS-20 intermediaterange ballistic missiles (as well as SS-18s and air-launched strategic missiles), and subma.rim+launched ballistic missiles from submarines on station in the Sea of Okhotsk.²⁹ More recently, Soviet influence has been extended to the South Pacific with the signing of a fishing agreement with Kiribati that provides for annual payments by the Soviet Union to fish in the economic exclusion zone claimed by Kiribati. Negotiations for a similar agreement are under way with Fiji. The nation of Vanuatu has established relations with the Soviet Union and Libya (and receives foreign assistance from Vietnam and Cuba).³⁰

From the Soviet point of view, of course, its military build-up is in response to what it perceives to be a U.S. strategy of "total military control" of Asia and the Pacific. The Soviets see the United States stationing more than 2,000 nuclear warheads in the region, expanding and diversifying the delivery systems for them, working with allies to modernize conventional forces, and extending political influence with other friendly states.³¹ All this is occurring in the context of improved U. S.-China relations and talk of Sine-American military cooperation.

Soviet political influence has thus far failed to match the buildup of its military assets. Yet, Moscow has attempted to put a new face on its diplomacy in the area. Efforts to improve relations with Japan, and perhaps ease it some-

²⁵David Holloway, "U.S.-Soviet Strategic Competition and the Security of Northeast Asia," *Prospects for Peace and Cooperation in the Asia-Pacific Region*, A Special Report of the Center for International Security and Arms Control (Stanford, CA: Stanford University, March 1986), pp. 18-19.

²⁶Masashi Nishihara *East Asian Security* (New York: New York University Press, 1985), p. 30; See also, William Branigin, "Soviet Military Operations Seen Increasing in the Pacific," *The Washington Post*, Aug. 1, 1986, p. A17.

²⁷Donald S. Zagoria, "The USSR in Asia in 1985," *Asian Survey*, vol. XXVI, No. 1, January 1986, p.22.

²⁸Ibid.

²⁹Ibid.

³⁰Asian Studies Center, *Backgrounders, No. 48* (Washington, DC: The Heritage Foundation, July 24, 1986), pp. 8-9.

³¹See Zagoria. op. cit.

what away from its pro-U. S. orientation, are evident in the visit to Tokyo of Foreign Minister Shevardnadze in January 1986, the first such visit in 10 years. Efforts to win influence among the ASEAN states are also being made with promises of markets for ASEAN products and claims of support for the ASEAN objective of creating a Zone of Peace, Freedom, and Neutrality (ZOPRAN). These initiatives have not had strikingly positive results for the Soviets to date.

Soviet leader Gorbachev's July 28, 1986 speech in Vladivostok is a sign of the increasing importance the Soviet Union is attaching to the extension of its political influence to Asia and the Pacific. In his speech, Gorbachev proposed the withdrawal of Soviet troops from Mongolia and withdrawal of 6,000 of the more than 115,000 troops in Afghanistan. He also offered to negotiate with the Chinese for the reduction of forces along the Sino-Soviet border. The speech was silent however on Soviet support for Vietnamese actions in Kampuchea, a subject of primary concern to the Chinese, although it implied a willingness to consider the future role of Soviet forces at Cam Ranh Bay if the United States was willing to withdraw from the bases in the Philippines. Finally, Gorbachev indicated a desire for improved relations with Japan, including further high-level meetings.³²

The two areas where the growth of Soviet influence has been most evident are Vietnam and Korea. The aid given to Vietnam, without which the latter could not prosecute the war in Kampuchea, is believed to give the Soviet Union considerable leverage with the Vietnamese. Military aid, including a squadron of MiG-23s, has also been used to increase Soviet influence in North Korea during the last few years. While Chinese influence in Pyongyang throughout the 1970s surpassed that of Moscow's, North Korean disaffection with the reform program in China and China's opening to the capitalist world (including unofficial trade with South Korea) presented the Soviet

Union with an opportunity to compete (successfully, as it is turning out) for influence with the North Koreans.³³ Improved Moscow-Pyongyang relations, for instance, have reportedly led to North Korea granting overflight and landing rights to the Soviets for reconnaissance flights along the Chinese coast.³⁴

In addition to the tensions in Indochina and the balance of power on the Korean peninsula, other factors are germane to the security of the region. These include tensions along the Sino-Soviet border and the uncertain future of Taiwan. While the former have eased in the last few years, and both China and the Soviet Union seem to want a further reduction in tension, large numbers of Soviet troops are still deployed along the border, and China still regards the Soviet Union as the chief threat to its security. Although China has shown a willingness to temper its statements about the future of Taiwan, the Taiwan issue (discussed further, below) remains volatile-subject to unpredictable domestic political forces in the United States, China, and Taiwan-and is thus a potential threat to U.S.-China relations.

There are also unresolved territorial disputes between some of the countries in the region of the East and South China Seas. The unresolved dispute over the Kuril Islands to the north of Japan occupied by the Soviets since the end of World War II, for instance, continues to be a major stumbling block to the improvement of Soviet-Japanese relations.

Economic factors are very important for the stability of the region. Many of the countries are experiencing structural transitions in their economies, hoping to move to higher value-added production. These transitions, however, are occurring at a time when the assured export markets, which played such an important role in past growth, can no longer be taken for granted, and when increased intraregional economic competition seems likely.

³³Robert G. Sutter, "Beijing's Relations With Vietnam and Korea-Implications for Future Change in PRC Foreign Policy," paper presented at the Fifteenth SinO-American Conference on Mainland China, Taipei, June 8-14, 1986.

³⁴Paul H. Kreisberg, "The United States and Asia in 1985," *Asian Survey*, vol. XXVI, No. 1, January 1986, p. 8.

³²Don Oberdorfer, "U.S. Analyzes Gorbachev's Bid to China," *The Washington Post*, July 30, 1986, p. 15.

China's Security Interests and Foreign Policy

For many of the nations of the region, China's future role in regional security remains a major question mark. A more modernized China will be a stronger China, and U.S. technology transfer policy is contributing to this modernization. Assessing China's likely role in Asian security is complicated by the unpredictability of the security issues in the area.

The increasing inseparability of economic issues from more traditional security concerns must also be considered in analyzing China's likely international behavior. This confluence of the economic and the military/strategic is occurring at a time when the established free-trade regime is under great pressure, a pressure unlikely to be diminished by China's increasing, international, economic role. Nevertheless, an important factor underlying the new orientation in Chinese foreign policy is the benefit Chinese leaders expect from participation in the international economy. The uncertain future of the free-trade regime complicates our ability to understand and predict China's likely impact on the region. The maintenance of a free-trade regime, and open markets in the industrialized world for Chinese products, for instance, may have much more to do with the kind of security role China plays in the region than the course of Chinese military modernization.

Despite the many differences between current Chinese foreign policy and that of the late Maoist era, when China's prime international commitments seemed to be to support wars of national liberation and to oppose the United States and the Soviet Union, there are certain constants in past and present approaches, and the roots of the latter are clearly found in the former.

Chinese foreign policy shows the combined influences of domestic and international factors. Among the former are such issues as the relative influence of politics in policy, the role of ideology, and the influence of the Chinese past. Among the latter are the basic distributions of power in the international system, the

regional context, and the relationships between China's foreign policy aspirations and its capability to project influence abroad.³⁵

During the Maoist era, foreign policy showed the influence of Mao's preoccupation with "politics in command," a tendency to see foreign policy through ideological lenses, and a view of the past that explained China's relative weakness in terms of the exploitation it suffered at the hands of the imperialists. Politics and ideology have certainly not been fully expunged from current policy, but clearly economic considerations have also emerged as central factors. Old ideological formulations have been questioned, and a spirit of open pragmatism is much more in evidence today. While the Chinese have not forgotten the legacy of Western imperialism (it is unlikely they ever will), there is also in evidence a self-criticism about China's own responsibilities for its failure to modernize, and thus for its relative weakness.

In the Maoist period, the international strategic environment was seen as one of clear bipolarity, with both superpowers deserving of critical appraisal and condemnation for attempted hegemony. The Asian region was seen as an underdeveloped area ripe for revolution. By allying itself with revolutionary forces abroad, China could serve its ideological beliefs, make common cause with others in opposing superpower hegemony, and extend its influence within the constraints of its resources and power potential.

In the post-Mao era, China seems unsure of the extent to which bipolarity has eroded, but recognizes a new interdependence in the international environment. This new environment makes possible a strategy of pursuing security by balancing one superpower against another. Similarly, the Asian region can no longer be seen as an undeveloped area ripe for revolution. It is instead a dynamic instance of modernization, serving as a counter example to Chinese experience of what successful

³⁵Thomas W. Robinson, "China's Foreign Policy, Beijing's Military Modernization and American Policy Alternatives," app. 8 in vol. II of this report, December 1986.

economic development and modernization can be. China thus not only studies the experiences of some of its capitalist Asian neighbors, but also wishes to cooperate with them and, in some ways, emulate them. In the process, it has discovered that the projection of influence in support of national interest can be accomplished by means other than military might and the export of revolution.

A central issue in assessing China's perceptions of its security interests and its role in Asian security is how it sees its relations with the United States and the Soviet Union. China in the 1960s saw threats to its security from both the United States in Southeast Asia and from the Soviet Union on its northern border. The Soviet invasion of Czechoslovakia in 1968, followed by the Sino-Soviet border clashes of 1969, convinced the Chinese that the greatest threat came from the Soviets. This led to the Chinese desire to explore the improvement of relations with the United States. Throughout the 1970s, the Chinese continued to hold to the view that the Soviets posed the greater danger.

The Chinese today see the United States and the Soviet Union locked in a grand strategic competition in the region. They see the Soviets as trying to strengthen their eastern forces and to insure sea passages to link their eastern and western fronts in an effort to thwart United States attempts to encircle, isolate, and restrict the exercise of Soviet influence in Asia. To achieve this end, the Chinese see the Soviets as striving to undermine U.S. influence with the nations in the region and to threaten the security of U.S. sea lanes of communication.³⁶

In the Chinese view, the United States seeks to complicate Soviet planning by creating the possibility of a two front war in Europe and in Asia. Both superpowers are seen pursuing strategies that employ military buildups, competition for the control of the sea lanes, and closer military and political cooperation with their respective allies in the region.³⁷

³⁶Xie Wenqing, "Soviet and U.S. Military Strategies in the Asian-Pacific Region," *Prospects for Peace and Cooperation in the Asian-Pacific Region*, Conference 1985, p. 25.

³⁷*Ibid.*

China continues to be most concerned about Soviet power in Asia and uses its relationship with the United States, Japan, and other states to counteract those potential uses of Soviet power and influence that would be harmful to Chinese interests. Thus, there is a strong confluence of interest between the United States and China, for instance, on the general build-up of Soviet Asian/Pacific forces and on the particular expansion of Soviet influence in Indochina and Afghanistan. China is also concerned that instability on the Korean peninsula will lead to the growth of Soviet influence there, as well.

In recent years, China has moderated its stand on the danger of Soviet expansionism. This became especially evident in 1981-82, when the issue of continued U.S. arms sales to Taiwan threatened U.S.-China relations. China is thus concerned that it not become too close to the United States. To do so would create domestic problems (in light of the sensitivity of the Taiwan issue), would be viewed by the Soviets as threatening, and would compromise China's position as an erstwhile spokesman for the interests of the Third World.³⁸

China since 1982 has therefore attempted to make clear that it pursues an "independent" foreign policy of "equidistance" between the two superpowers. Sino-Soviet relations have improved with the signing of economic, trade, and science and technology agreements during the 1984 visit to Beijing of First Deputy Premier Arkhipov, and the signing of additional agreements for economic cooperation during the Yao Yilin visit to Moscow in 1985. The latter included an agreement providing for \$14 billion of trade during the next 5 years. A second agreement involves Soviet help in building 7 new plants in China, and in renovating 17 others built under the terms of Sino-Soviet cooperation in the 1950s.³⁹

³⁸ It is also possible that China viewed its interests in a manner analogous to classical Western balance-of-power thinking. As the Reagan Administration increased both the will and the ability of the United States to confront the Soviet Union, China maintained the balance by shifting from a pro-U. S. to a more neutral posture.

³⁹Zagoria, *op. cit.*, pp. 15-16.

The Chinese also indicated a willingness to relax their insistence that any further improvement in relations would require Moscow to withdraw from Afghanistan, reduce its troops along the Sino-Soviet border, and discontinue support for the Vietnamese actions in Kampuchea." The July 28, 1986 Gorbachev speech would indicate that the Soviets are prepared to meet the Chinese at least part way on these terms, and Deng Xiaoping's offer in September 1986 to meet with Gorbachev would indicate there is considerably more fluidity in Sino-Soviet relations than in the past.⁴¹

It is generally assumed that the softening of the Chinese position on the Soviet Union has been due to dissatisfaction with U.S. policy on arms sales to Taiwan, as well as a reflection of the influence of some in the Chinese leadership, such as Chen Yun, who are skeptical of moving too close to Washington. It is likely that the Chinese wish to relieve tensions with Moscow to reduce dependence on the United States, and they may see the dawn of the Gorbachev era as a prime opportunity.⁴²

Despite improvements in Sino-Soviet relations, there are reasons to assume that China still sees its interests as being closer to those of the United States. China recognizes that the United States does not pose any direct threat, as does the Soviet Union with its military deployments along the Sino-Soviet border, and that the United States offers the Chinese access to modern science and advanced technology unavailable from the Soviet Union.

With regard to China's perceptions of its own interests in the region, Chinese policy statements have emphasized the importance of

⁴¹Ibid.

⁴²Deng's offer, however, contains the precondition that the Soviets demonstrate their willingness to use their influence in support of the removal of Vietnamese troops from Kampuchea, a step which the Soviets may be unwilling and unable to take. See Daniel Sutherland, "Chinese Leader Offers To Meet Gorbachev," *The Washington Post*, Sept. 7, 1986, p. A21.

⁴³For an exploration of China's shifting positions *vis à vis* the superpowers, see Robert S. Ross, "International Bargaining and Domestic Politics: U.S.-China Relations Since 1972," *World Politics*, vol. 38, January 1986, pp. 255-287; and Harold C. Hinton, "Teng Hsiao-p'ing's Management of the Superpowers," paper presented at the Fifteenth Sino-American Conference on Mainland China, Taipei, June 8-14, 1986.



Photo credit Xinhua News Agency

Installing a Chinese-made manipulator, which will be used in handling radioactive isotopes.

peace and stability as conditions necessary for the economic development and modernization not only of China, but of other countries as well. China has accordingly tried to develop good relations with the countries of Southeast Asia (except Vietnam), and to this end has reversed its long-standing support for Communist movements in the area. It places great value on its relations with Japan, its largest trading partner and source of foreign assistance, and has softened its stance on South Korea. The themes of Chinese policy seem to be to foster the conditions for mutually productive economic interchange and to check the expansion of Soviet and Vietnamese power and influence in the area.

Two other changes mark the new direction of foreign policy in the post-Mao era. The first

is the growth of Chinese participation in international organizations. China's membership in the United Nations, the World Bank, the Asian Development Bank, the International Atomic Energy Agency and other organizations, as well as its interest in joining the General Agreement on Tariffs and Trade, has increased its stake in the stability of the international system and is a formal indication of increasing interdependence.

The second change is the significant modification of the operation of China's foreign policy machinery. The latter has clearly become more institutionalized and professionalized in recent years. While it certainly has not removed domestic politics from the process of foreign policy making, the system is markedly more regularized and deliberative than the "politics in command" style of the Maoist era.⁴³

There is considerable agreement among foreign observers that through a combination of deft diplomacy and a commitment to the development of strategic weapons for deterrence, China is satisfying its security needs. Although China's own conventional armed forces have yet to be modernized, and Soviet forces in the Asia/Pacific region are a potential threat, the probability of hostile actions being directed against China has been reduced. Indeed, as one observer put it, China's relations with the superpowers are much better than the superpowers' relations are with each other.⁴⁴

China's response to superpower competition is also influenced by its own resource base and level of modernization. Given the numbers and sophistication of weapons possessed by the superpowers, China, to compete, would require investments in military modernization that would almost certainly doom programs for the modernization of industry, agriculture, and science and technology. Even with such military investments, it is likely that China would still be in a relatively weaker position vis-k-vis the

superpowers, whose own weaponry would continue to develop. Thus, China's current course of "managing" the superpowers diplomatically, while still maintaining a nuclear deterrent (however modest), can be seen as a rational response to the cardinal power relations in the international system.

The questions many foreign observers ask of Chinese foreign policy are how stable this current course is, and what could lead the Chinese in less friendly and constructive directions? Chinese foreign policy has not been entirely consistent, especially with regard to the important issue of relations with the superpowers. Inconsistency is worrisome in light of the consequences of a successful modernization program. A modernized China will be richer, stronger, and more capable—a nation better able to insist on its way in both world and regional military/economic affairs. Such a China would be able to upset the balance of power in Asia and could be a threat to U.S. interests. This question is next considered in the context of the major "arenas" of Chinese foreign policy.

Asian National Interest in China's Modernization

There are wide differences in the particular security interests of East Asian nations, although generally shared interests can also be identified. These interests are summarized below. To identify common security interests about China's modernization, countries will be discussed by geographical subregion: Northeast Asia, Southeast Asia, and South Asia. Taiwan will be discussed separately. The main focus will be on factors most likely to threaten the security of each of these geographic areas. The reasons why some of these threats might be ameliorated by the interaction of Chinese and other varied national interests and capabilities in the region will also be discussed.

Northeast Asia

China's relations with its neighbors to the Northeast (Japan, South Korea, and North Korea) have ranged from cordial to bloody, though

⁴³A. Doak Barnett, *The Making of Foreign Policy in China* (Boulder, CO and London: Westview Press, 1985).

⁴⁴Donald Zagoria, "Recent Trends in Sino-Soviet Relations and the Strategic Triangle," paper presented to the Fifteenth Sino-American Conference on Mainland China, Taipei, June 8-14, 1986.

neither the Korean War nor World War II was instigated by China. In recent years, regional stability has been threatened more by the growing presence of the Soviet Union and by concerns over North Korea's intentions, but not by Chinese aggressiveness.⁴⁵

Japan has been increasingly willing to play a greater role in its own defense, but its priority has been to expand its trade and political relations in the region. Therefore, Japan's security goals seem to be consistent with the apparent goals and modernization requirements of China. The greatest Japanese security concern is the Soviet military presence in the region. The Soviet Union has continued to refuse to discuss the status of the four Soviet-occupied northern islands that Japan claims. It continues to assert its military presence from its naval and air bases on its coast above Japan, and it is increasing its military support of North Korea.⁴⁶

Japan exhibits some cautiousness toward, but does not appear to feel threatened by, China. Thus, for example, it has been willing to sell nuclear powerplant equipment and technology to China while requiring China to agree to restrict the application of these technologies to peaceful uses. Japan does not appear to feel any significant new threat to its security in the region, but it has recently taken steps to increase its role in defending itself. In 1985, Japanese decisionmakers announced that they would increase military spending by 5.4 percent per year for 5 years, beginning in 1986. This would exceed the decade-old policy of holding military spending to one percent of GNP.⁴⁷

Chinese-South Korean relations have been slowly improving, though many differences remain. Indirect trade between the two countries has been increasing. China has also shown a willingness to send athletic teams to South Korea, as seen in the Asia Games and in China's

plans to attend the Olympics. In addition, South Korea has shown increasing willingness to cooperate with China on defecting airplanes and naval vessels. Chinese and South Korean willingness to improve ties in these areas have been against the wishes of North Korea and, to a lesser degree, Taiwan. However, the greatest barrier to significantly improved relations is over issues of North and South Korean relations. China continues military ties with North Korea and generally supports its position on reunification talks, a posture unacceptable to the United States and South Korea.⁴⁸

Chinese and North Korean relations have become less close in recent years, whereas North Korean and Soviet relations have improved. In 1985, after North Korea's first official visit to the Soviet Union since 1973, the Soviet Union began increasing its military aid to North Korea, including a squadron of MiG-23s. Reportedly, North Korea granted the Soviet Union overflight and landing rights for reconnaissance missions along China's coast. Gradual improvements in Chinese and Soviet relations and the prospect of force reductions on the Sino-Soviet border, however, have tended to lower the ability of North Korea to manipulate China and the Soviet Union by threatening to improve ties with either country.⁴⁹

The main areas of North Korean concern about China have been: China's continued closer relations with Japan and the United States, both of which North Korea portrays as active threats to itself; China's slow cultivation of better relations with South Korea, especially in indirect trade and cultural contacts such as sports events; and the ideological threat from China's successful modernization, reform, and opening to the capitalist world. North Korea is also threatened by po-

⁴⁵Robinson, op. cit., pp. 20, 28, 31, and 58.

⁴⁶*Asian Yearbook 1986* (Hong Kong: The Far Eastern Economic Review, 1986), pp. 165-166; Donald S. Zagoria, "The USSR and Asia in 1985," *Asian Survey*, vol. XXVI, No. 1, January 1986, pp. 15-19.

⁴⁷Ibid.

⁴⁸Robinson, op. cit., pp. 30 and 35; and *Asian Yearbook 1986* (Hong Kong: The Far Eastern Economic Review, 1986), pp. 171, 174, and 175.

⁴⁹Robinson, "China's Foreign Policy," op. cit., p. 35; *Asian Yearbook 1986*, p. 171; Also, in early 1987 Moscow announced a withdrawal of about 10,000 to 12,000 of its 70,000 troops in Mongolia, a symbolic, but potentially important development towards reducing Sino-Soviet border tensions. Celestine Bohlen, "Moscow Announces Troop Pullout," *Washington Post*, Jan. 16, 1987, p. A25.

tential internal political struggles, since its paramount leader is now growing old.⁵⁰

For the reasons listed above, China's interests in Northeast Asian security seem to promote stability. While it continues to support North Korea, it opposes North Korean aggression against the South. It has good ties with Japan and is improving its ties with South Korea. It is improving its ties with the Soviet Union, but continues to oppose Soviet military gains in the region. If SinoSoviet relations improve in a way that risks destabilizing the above noted balance or correlation of interests in Northeast Asia (an unlikely occurrence), the United States and East Asian countries would probably have adequate time and means to counter this threat.

Southeast Asia

On balance, China also appears to be playing a stabilizing role in Southeast Asian security. China's Southeast Asian security role centers mainly on the conflict in Indochina. Vietnam's military presence in Kampuchea and its relationship with the Soviet Union are the greatest security concerns in the region. Soviet bases in Vietnam have naval and air projection capabilities that extend to all ASEAN states. As in Northeast Asia, China would be threatened by Soviet expansionistic goals in Southeast Asia. China is thus providing important military assistance to the Kampuchean resistance forces in coordination with aid from the United States and Thailand. However, some Southeast Asian nations view China's involvement as leading to an increased Chinese influence in the region and feel that China's interests may not always oppose Soviet goals.

Two other important factors should be noted. First, Vietnam is likely to feel threatened by improvements in Sino-Soviet ties. Troop reductions on the Sino-Soviet border would allow China to take stronger action in

its periodic fighting with Vietnam. Such a move might even force Vietnam to be more accommodating with the West, with Southeast Asian countries, or possibly with China.⁵²

Second, China has improved its relations with many Southeast Asian states. It has ended its support of the Thai Communist Party and has terminated aid to insurgents such as those in the Philippines. Relations with, and aid to, most other Communist parties in Southeast Asia have also been dramatically reduced. Although China insists on continuing "fraternal" relations with Indonesian, Malaysian, and Burmese Communist parties, it has largely discontinued material assistance to these three groups's

Other security concerns have been raised by the influence of China over the ethnic Chinese populations in Southeast Asian states, especially in Indonesia, Singapore, and Malaysia, where the Chinese population is very large. Malaysia and Singapore, however, seem confident in their ability to defend themselves.⁵⁴ In addition, while Southeast Asian countries have also expressed fears about economic competition from China, these countries are increasingly investing in, trading with, and sending high-level delegations to China, showing that they feel they can manage and gain from improving relations with China.

Thus China is generally viewed as a stabilizing force in Southeast Asia. While it is viewed as desiring an increased role in Southeast Asian affairs, it offers a useful counterweight to an increased Soviet presence and Vietnamese aggression in Indochina. With the exception of Kampuchea, it has moved away from its past policies of support for groups that desire to overthrow Southeast Asian governments. Additionally, it has become a valuable trading partner for most of these countries.

⁵⁰Robinson, "China's Foreign Policy," p. 30; and Aidan Foster-Carter, "NorthSouth Talks Offer Hope for the Future," *Far Eastern Economic Review*, June 26, 1986, pp. 4445.

⁵¹See Zagoria, op. cit., p. 22.

⁵²Robinson, op. cit., p. 37.

⁵³*Asian Yearbook 1986*, pp. 119-122.

⁵⁴1 bid.; and David Barber, "Phasing Out the Force," *The Far Eastern Economic Review*, Jan. 8, 1987, pp. 15-16.

South Asia

China's role in South Asian security is similar to that in the two East Asian sub-regions. In presenting both a potential source of opposition to some countries and opportunity for other countries involved in South Asia, China's role appears to have been stabilizing. The primary arena of South Asian security concerns have focused around Afghanistan. The Soviet invasion of Afghanistan in 1979 resulted in a hostile troop presence on Pakistan's west border. China has actively supported resistance forces against Soviet troops and the Soviet-supported regime in Afghanistan.⁵⁵

China also counters Indian influence in the region while offering economic and trade opportunities for South Asian Countries. These factors have been important in the development of closer ties between China and Pakistan, Bangladesh, and Nepal.⁵⁶ China has assisted Pakistan with military hardware since 1960 and has given an informal guarantee of assistance in case of Indian attack.⁵⁷ An additional concern is that China has been accused of supplying technological assistance to Pakistan for producing a nuclear weapon. Although border disputes remain unresolved between China and India, and between Pakistan and India in a region bordering China, China supports negotiations, rather than use of force, for resolving these differences.⁵⁸

The prospect of improved Sino-Soviet ties has not been ignored by India. Improved Sino-Soviet ties would tend to reduce the likelihood of China or the Soviet Union risking conflict with each other over Pakistani or Indian differences. As seen in the cases of North Korea and Vietnam, China and the Soviet Union might eventually cooperate to create disincentives for Pakistani and Indian use of force to solve differences. Thus, Indian decision makers have

⁵⁵Robinson, op. cit., pp. 34-35.

⁵⁶On Bangladesh see *Asian Yearbook 1986*, Far East Economic Review, p. 110; and on Nepal see, Lok Raj Baral, "Nepal's Security Policy and South Asian Regionalism," *Asian Survey*, vol. XXVI, No. 11, November 1986, pp. 1218-1219.

⁵⁷Robinson, op. cit., pp. 34-38, 50; and *Asian Yearbook 1986*, p. 99.

⁵⁸Robinson, op. cit., pp. 50-57; and *Asian Yearbook 1986*, pp. 212-213.

openly stated that they have "outgrown" the Soviet Union in economic and, to a somewhat lesser degree, security issues. India has also continued to diversify its sources of arms and advanced technology, as seen in its recent purchases of fighter jet engines from the United States. As relations stand at present, there is some chance that Western militarily useful technology could be diverted to the Soviet Union through India. This would exacerbate U.S.-Indian relations, and because of Chinese fears of India, it might also create problems in Sino-Indian and U.S.-Chinese relations.⁵⁹

A view of South Asian security reveals a similar role for China, as seen in Northeast and Southeast Asia. China wants to counter Soviet gains in South Asia. It also wants to resolve disputes in the region by peaceful means. As in East Asia, trade has played a part in increasing relations between China and South Asian countries. Moreover, the prospect of improved Sino-Soviet ties has introduced a healthy awareness among South Asian countries of the security value of diversifying ties with other nations.

Taiwan

Taiwan is extremely concerned about the modernization of Mainland China's economy, technology, and military forces and expanding foreign ties. In contrast to China's other neighbors, Taiwan does not view the potential for expanded economic relations to be worth the perceived security risk. Statements by China about its stationing troops in Hong Kong in 1997, when it becomes a Special Administrative Region, have been used to challenge China's intentions in regaining Taiwan and other claimed territories. GO Sino-Soviet rapprochement is also seen by the Taiwanese Government as evidence of China's unreliability.

However there are many reasons why China does not appear likely to attempt to take control of Taiwan by force. There is no sign of

⁵⁹Robinson, op. cit., pp. 38-39; and Stuart Auerbach, "India Signs Agreement for U.S. Jet Engines," *The Washington Post*, Jan. 7, 1987, p. A16.

⁶⁰*Asian Yearbook 1986*, p. 144.

an anti-Taiwan military buildup, and if one were to occur, there would likely be time to take various counteractive measures. The United States' Taiwan Relations Act mandated continued U.S. readiness to defend Taiwan.⁶¹ In addition, the August 1982 Sino-American Communique on Taiwan allowed for continued U.S. arms sales to Taiwan, although at reduced levels, with a consideration for changes in the value of the dollar.⁶³

Costs to China in taking military action against Taiwan would also be very high. One result would be a likely loss of important economic and technological benefits from trade with the United States, Western Europe, Japan, and other countries. Another result would be a significant loss in military forces, estimated at 40 percent of its front-line air force, a large number of ships, and casualties in the hundreds of thousands. Resistance on Taiwan would likely be great even if China "won." And, since the United States is committed to a stable security in the Taiwan straits, U.S. military involvement would also be risked.⁶⁴

The more likely role a modernizing China will play in the security of Taiwan is less extreme. China is likely to continue to exert pressure on Taiwan to consider various arrangements for reunification.⁶⁵ As in the sale of Dutch submarines to Taiwan, China will probably continue to attempt to influence other nations to reduce military assistance to Taiwan.⁶⁶ In multilateral fora it seems likely that China will continue to attempt to lower the status of Taiwan.

Yet China will probably not want to jeopardize its foreign markets or tacit security understandings by being too hostile to Taiwan. For example, it will not necessarily attempt to exclude Taiwan from relations and interna-

tional fora in a way that would be seen as threatening to isolate Taiwan. This would likely be the case where Taiwan's involvement is economically important, such as in the admission of China into the Asian Development Bank.⁶⁷ It would also seem to be the case in militarily important issues, as has been seen in China's recognition of the United States' desire for continued, though reduced, sales of weapons to Taiwan.

Further Issues

In conclusion, large-scale or sustained tension in Asia is unlikely, and China will probably play a stabilizing role in Asian security. This role is largely facilitated by China's interest in ensuring its access to foreign markets and its desire to have a stable environment in which to emphasize economic development. While China seems willing to improve relations with the Soviet Union, it appears that both countries' respective interests and commitments to their friends will prevent them from cooperating to destabilize the region. It is also likely that as China continues to improve its ties with Asian countries, its interest and role in promoting a stable region will grow even further. The willingness of most Asian countries to expand their political and trade relations with China indicates that they share this view.

A final issue is the possibility of shifts in foreign policy because of the present conflicts between Chinese leaders. In recent years, China's foreign policy course has served its modernization goals. If modernization becomes a less paramount goal, China could move back toward a more clearly socialist road, including the orientation of its international economic relations toward the socialist countries.

Since China would then be less interested in interdependencies with the United States, Japan, and its other Asian neighbors, its commitment to a peaceful, stable Asia could be expected to be less. While this drift back toward a more Soviet style of development does not

⁶¹Robinson, op. cit., pp. 21 and 47.

⁶²Ibid., p. 66.

⁶³Ibid., pp. 26 and 69.

⁶⁴Ibid., pp. 64-69.

⁶⁵C.L. Chiou, "Dilemmas in China's Reunification Policy Toward Taiwan," *Asian Survey*, vol. XXVI, No. 4, April 1986, pp. 467-470.

⁶⁶"Dutch 'Close' to Solution on Taiwan Sub Sale," *Xinhua*, Oct. 8, 1986, in *Foreign Broadcast Information Service Daily ReportChina*, Oct. 8, 1986, p. G4.

⁶⁷Robinson, op. cit., p. 45.



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IBM computers and equipment in the Shenzang Air Blower Plant. This computer center is used for plant production management and technical information storage.

seem to be the most probable course for China in the short term, the reasons that might make it attractive are credible and deserve monitoring.

A final factor influencing assessments of China's future direction is the nature of the post-Deng leadership. It has been widely assumed that this leadership would be committed to a continuation of the Dengist policies. Again, however, it is appropriate to be cautious. First, it is by no means clear that there is the leadership unity that the Chinese have tried to project; divisions based upon personality, factional affiliation, policy preference (particularly on issues of reform), and understandings of the political "rules of the game" undoubtedly exist. It is impossible for the outside observer to know whether the forces that unite the leadership are stronger than those that divide it.

Second, many of the new leaders received training in the Soviet Union and may have re-

sidual sympathies for it and respect for Soviet (including technological) achievements. More importantly, their careers have been in a system modeled after that of the Soviets. Their most basic understandings of how economies and politics operate derive from this experience.

Many of the new leaders also have backgrounds in engineering disciplines, but received training under conditions where the engineering task is understood in the context of a socialist economy. It is likely that this "socialist engineering" orientation is particularly compatible with technocratic planner orientations rather than market orientations. While such leaders would have a studied appreciation for the sophistication of Western technology, they are unlikely to have an ingrained professional sense of the relationships between Western technological development and the operation of a capitalist market economy.

Furthermore, Chinese technological achievements in such areas as nuclear weapons and

space may be taken as indicators of indigenous capabilities that should be further nurtured and protected in the face of the challenge from foreign technology and equipment imports. This type of protectionist view is likely to be found throughout the politically important heavy-industry sector. It is notable that the greatest resistance to domestic economic reform has come from this sector.¹⁸

The future leaders are unlikely to lead China back toward the radical Maoist experiments of the past. However, by training and experience, many are likely to be more comfortable with a planned system. They are also more likely to prefer policies that protect Chinese industry from foreign competition and penetration rather than a more marketized "open" economy.

Conclusion

U.S. security interests in Asia are in a sense more complicated and less certain than in Europe. Lines of conflict and patterns of threats are less clear-cut, and there is much greater national and cultural diversity.⁶⁹

Nevertheless, certain features of the Asian security scene in the post-Vietnam war era have been consistent. These include the general stability in the region, which has both facilitated and been helped by the remarkable economic growth and development experienced by many of the countries. At the same time, tensions are by no means absent.

The region has seen a significant growth in Soviet power resulting from the increased deployment of military assets in Asia and the strategic advantages the Soviet Union enjoys

in Vietnam and North Korea in return for its assistance. In the face of a long-term Soviet commitment to enhance its power and influence in Asia and the Pacific, and U.S. intentions to limit this growth, superpower rivalry in the region will continue for some time and will be the main element structuring the security environment.

The divided-state phenomenon in China and Korea is a second major, persistent, and potentially destabilizing security problem. Korea is a potential flashpoint with global consequences. The Taiwan problem is the main long-term threat to good U.S.-China relations; its management requires restraint and skill from all the parties, but these characteristics are by no means assured. Finally, Vietnamese behavior in Indochina is perceived as a serious direct threat to Thailand, is a source of concern and annoyance to China, and is viewed by the other states of Asia as a possible cause of heightened and unwanted great power competition in the region.

The "China factor" in U.S. interests in Asian security is multifaceted. For some of the states in Asia with which the United States has close relations and strong interests, China is regarded as the chief long-term security problem. This view is heard most often from the states in Southeast Asia and, of course, from the government on Taiwan. From the U.S. point of view, however, China has the potential for serving as part of the solution to the main security problem: growing Soviet power and influence in the region. A China capable of power projection across the Pacific to threaten the United States directly is decades into the future. However, a strong China opposed to Soviet expansion and friendly to the United States, even if following a nominally independent foreign policy, is viewed by the United States as a security asset in that it complicates Soviet strategic planning.

By following its current course, China is less of a security threat to the United States and its friends and allies in the region than it was in the past, when it pursued policies of revolutionary transformation at home and supported revolutionary movements in the Asian region.

⁶⁸See Susan Shirk, "The Domestic Political Dimensions of China's Foreign Economic Relations," *China and the World: Chinese Foreign Policy in the Post-Mao Era*, Samuel S. Kim (ed.) (Boulder, CO and London: Westview Press, 1984), pp. 57-81; and Bruce Cumings, "The Political Economy of China's Turn Outward," *China and the World: Chinese Foreign Policy in the Post-Mao Era*, Samuel S. Kim (ed.) (Boulder, CO and London: Westview Press, 1984), pp. 235-266.

⁶⁹Richard H. Solomon, "American Defense Planning and Asian Security: Policy Choices for a Time of Transition," in Daniel J. Kaufman, et al., (eds.), *U.S. National Security* (Lexington, MA: Lexington Books, 1985).

Although China's Asian neighbors have anxieties about China as a security threat, they too appear to be more hopeful that China pursuing its current course will be less of a threat than the China of the past.

Of course, when modernized, China will also be more capable, and thus more of a potential security threat to the countries of the region and to U.S. interests. If China succeeds in its modernization, it will have the economic and military capabilities to be a major disruptive force in the region if it so desires. However, China's pursuit of modernization, through interactions with the world economy and by pro-

meting peace and stability in the region, is in the security interests of the United States and its friends in the region.

The policy choices faced by the United States and its friends and allies in the region are therefore challenging. Policies to retard Chinese modernization—for instance by denying access to technology, capital, and markets—out of fear of potential hostility are likely to be self-defeating. It appears that Chinese hopes for modernization have been one of the prime causes of China's becoming a more constructive member of the international community.