
5. “COSTIND IS DEAD, LONG LIVE COSTIND! RESTRUCTURING CHINA’S DEFENSE SCIENTIFIC, TECHNICAL, AND INDUSTRIAL SECTOR”

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INTRODUCTION

Remember this: the most likely behavioral consequence of any new directive from Beijing is that which will be necessary to subvert the directive.

—Michael Oksenberg²

This is a work in progress about a work in progress. I attempt to describe the current status of restructuring in the Chinese government, military, and economy, with special reference to the Defense Scientific, Technical, and Industrial (DSTI) sector. I do not expect the PRC government to complete its restructuring for several years. There is a very real possibility that the restructuring will never be “completed” at all. Like countless other national campaigns since 1949, it may just fade away. At this writing, in August 1998, I can only hope to lay out some broad outlines, identify a few trends, and pose some of the many interesting questions.

Few official PRC sources offer much detail, and nobody knows what ultimately will happen. On the other hand, the most remarkable single fact about the current organizational upheaval is that Chinese officials are telling the truth—not lying, not stone-walling, not spouting official “boiler-plate.” Further, they seem to be unusually willing to share their personal views, speculations, and fears with foreign interlocutors. Perhaps this is partly an (officially directed?) effort to reassure current and potential foreign investors. This paper is based largely on

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²Michael Oksenberg, electronic mail message to the author, July 23, 1998.

hearsay, rumors, and speculation gleaned from the press, private discussions, and e-mail exchanges. I am grateful to many colleagues and friends for sharing the information they have picked up from their Chinese travels and contacts.³

Currently, the most accurate way to judge the state of the reorganization seems to be to observe which Chinese officials are doing what kinds of business, what offices they occupy, and which organizations they claim to represent. It is still unclear whether slight changes in organizational names, or the translations thereof, mean anything. It is telling that Chinese interlocutors have told several of my informants that they themselves do not know what organizations they represent or will represent in the near future, nor what higher-level organizations they are currently answerable to. There is plenty of evidence of stress among Chinese officials and of widespread efforts to resist and/or short-circuit the restructuring. Indeed, discontent and resistance seem to be the best documented aspects of the restructuring effort.

THE 15TH PARTY CONGRESS AND PRE-NPC RUMORS

At the 15th Communist Party Congress in September 1997, President Jiang Zemin announced that the main agenda for the next five years was “reform” of state-owned enterprises (SOEs). There are some 305,000 SOEs, employing 70 percent of China’s urban work force (about 109 million workers) and generating 30 percent of total industrial output.⁴ Under the slogan “Grasp the Large, Release the Small,” SOEs were to be reorganized, rationalized, down-sized, and “marketized.” Reformed enterprises would have to sink or swim in the free market (and go bankrupt when they sank). Bloated staffs would have to be cut. It was recognized that this would be a painful process, which might well provoke social, and even political, unrest. To take charge of the reform, Vice Premier Zhu Rongji was (correctly) expected to be elected Premier at the National People’s Congress (NPC) in March 1998. Jiang made it clear that the reform was especially aimed at the large, inefficient, loss-making industrial SOEs. Shortly after the Party Congress, the Commission of Science Technology, and Industry for National Defense (COSTIND) reportedly hosted an important meeting at Qingdao (October 21–24, 1997). There also was an “Armed Forces Equipment Working Meeting” in Beijing on December 1, 1997.⁵

During January and February 1998, rumors about the reorganization abounded. The most startling rumor was that COSTIND would be abolished. Since its creation in 1982, COSTIND had occupied a unique position in the PRC government, with one organizational foot in the civilian DSTI complex directly under the State Council, and the other in the People’s Liberation Army (PLA)

³I am indebted to Dennis Blasko, Tai Ming Cheung, John Frankenstein, Bates Gill, Richard Latham, John Lewis, Ellis Melvin, and Xue Litai, as well as others who preferred not to be identified.

⁴Pamela Yatsko, “Owner Power,” *Far Eastern Economic Review*, May 21, 1998, p. 14.

⁵*China Defence Science and Technology Information* (published by the China Defence Science and Technology Information Center of COSTIND, Beijing), January-February 1998. I am grateful to Ellis Melvin for drawing this report to my attention.

directly under the Party Central Military Commission (CMC). COSTIND was charged with coordinating the often contradictory requirements of the PLA and the defense industry. It supervised the research, development, testing, and evaluation (RDT&E) of all new PLA weapon systems and equipment. In theory, COSTIND set priorities, allocated resources, and mediated the conflicting interests of the operational PLA and the DSTI system. By all accounts, it never fulfilled these responsibilities very successfully. COSTIND and its pre-1982 organizational predecessors (the Communist Party's National Defense Science and Technology Commission and the State Council's National Defense Industrial Office) were subject to constant criticism for their chronic failure to expeditiously complete RDT&E programs and to get modern systems into mass production for delivery to operational troop units.⁶

In recent years, expert observers have disagreed as to whether COSTIND was (or indeed, ever was) really strong or important. Notably, Jonathan Pollack of RAND has long held that COSTIND was a loose aggregation of organizational parts. While some parts were important, many were simply sinecures for semi-retired bureaucrats, or fronts used by well-connected individuals to do private business. If one accepts this argument, it could further be argued that COSTIND's abolition was not particularly important, depending upon what happened to its few really important components.⁷

The reorganization was intended to fix other problems in the DSTI system as well. These include the massive debts run up by defense SOEs, including the problem of "triangular debt." Many enterprises have huge debts but also have huge accounts payable that they can't collect from other enterprises, which have the same problem. Another problem was the long development times, and chronic failures to deliver, associated with weapons programs. Design of the FB-7 attack aircraft, for example, began in the 1970s. The FB-7 finally flew for the first time in 1987, but is still not in operational service. Another example is the seemingly endless variations of the F-8 fighter.⁸ Still another reason for reform was the evident failure of "defense conversion," which was supposed to create all kinds of technological and managerial "spin-ons," for the defense industry.

The implications of the restructuring seemed to reach endlessly in all directions. Clearly, if the industrial sector were to be truly reformed, the financial and banking sectors would have to be reformed in parallel. One reason the SOEs were drowning in red ink was that for decades state banks advanced loans to loss-

⁶Richard Latham, "China's Defense Industrial System: Order or Disorder?" paper presented at the Asian Studies on the Pacific Coast Conference, University of Hawaii, June 1975; Harlan W. Jencks, *From Muskets to Missiles*, chapter 6; and Benjamin C. Ostrov, *Conquering Resources: The Growth and Decline of the PLA's Science and Technology Commission for National Defense*, Armonk, NY: M. E. Sharpe, 1991. Also see the voluminous more recent work of Tai Ming Cheung, Bates Gill, Richard Bitzinger, and John Frankenstein.

⁷A similar argument was advanced by David Bachman, "Defense Industrialization and State Making in Mao's China," paper presented at the Center for Chinese Studies (CCS), China Symposium, University of California, Berkeley, March 3-4, 1995.

⁸Kenneth W. Allen, Glenn Krumel, and Jonathan D. Pollack, *China's Air Force Enters the 21st Century*, RAND, MR-580-AF, 1995.

making enterprises. That was closely related to the problem of “triangular debt.” President Jiang’s 15th Party Congress speech clearly implied that the process would be painful and disruptive.

As comprehensive as it appears, the reorganization will not address some chronic problems. One is poor coordination among China’s various DSTI organizations. Another is the bureaucratic, risk-averse corporate culture throughout the military-industrial complex.

Besides COSTIND, foremost among the DSTI organizations to be affected were the “Big Five” military-industrial SOEs under the State Council: China National Nuclear Corporation (CNNC), Aviation Industries Of China (AVIC), China Ordnance Industry Corporation (OIC, better known as the Northern Industrial Corporation [Group], or NORINCO[G]), China State Shipbuilding Corporation (CSSC), and China Aerospace Industry Corporation (CASC) (see Table 1). The reorganization would also presumably involve the defense electronics industry, largely housed within the Ministries of Electronics Industry (MEI) and of Posts and Telecommunications (MPT). All the research academies and institutes under all of the above seemed likely to be implicated, as well as such important civilian institutions as the Chinese Academy of Sciences (CAS) and the State Science and Technology Commission (SSTC). If the latter were implicated, then it seemed reasonable to expect the research institutes of China’s universities (and therefore the Education Ministry) also would be involved.

Table 1
Major Former Defense Scientific, Technical, and Industrial Organizations Involved in the Reorganization

Chinese Name (Alternate)	Usual translation (Alternate)	Abbreviation (Alternate)
<i>Zhongguo he gongye zonggongsi</i>	China National Nuclear Corporation	CNNC ^a
<i>Zhongguo hangkong gongye zonggongsi</i>	Aviation Industries of China (Chinese General Company of Aeronautics Industry)	AVIC ^a
<i>Zhongguo Beifang gongye zonggongsi (Zhongguo bingqi gongye zonggongsi)</i>	China North Industries Group (Ordnance Industry of China) (China Ordnance Corporation)	NORINCO[G] ^a (OIC) ^a
<i>Zhongguo chuanbo gongye zonggongsi</i>	China State Shipbuilding Corporation	CSSC ^a
<i>Zhongguo hangtian gongye zonggongsi</i>	China Aerospace Industry Corporation (Chinese General Company of Astronautics Industry)	CASC ^a
<i>Dianzi gongyebu</i>	Ministry of Electronics Industry	MEI
<i>Youdianbu</i>	Ministry of Posts and Telecommunications	MPT
<i>Guofang kexue jishu gongye weiyuanhui (Ke Gong Wei)</i>	Commission of Science, Technology, and Industry for National Defense (National Defense Science, Technology and Industry Commission)	COSTIND (NDSTIC)
<i>Guojia kexue jishu weiyuanhui</i>	State Science and Technology Commission	SSTC
<i>Zhongguo gongcheng wuli yanjiuyuan</i>	Chinese Academy of Engineering Physics	CAEP

Source: *China Directory, 1998*. (Kawasaki, Kanagawa, Japan: Radiopress, November 1997) and *China’s Defense-Industrial Trading Organizations*, Defense Intelligence Reference Document PC-1921-57-95, U.S. Defense Intelligence Agency, 1995.

^a“The Big Five” Defense Industrial Corporations.

If COSTIND was to be abolished, all the RDT&E facilities and institutions under its direct control would be swept up in the restructuring. Foremost among these would be the Chinese Academy of Engineering Physics (CAEP), responsible for China's nuclear weapons program. Other COSTIND facilities include the space-launch complex at Xichang, Sichuan, and the nuclear test site at Lop Nur, as well as lesser test ranges and facilities for everything from strategic missiles to small arms.

In early 1998, the Beijing rumor mill was remarkably consistent on many details.⁹ By the time the NPC actually convened at the beginning of March 1998, the rumor mill said that President Jiang and soon-to-be Premier Zhu were about to embark on a traumatic top-to-bottom makeover of China. They would (1) accelerate SOE reform, potentially laying off tens of millions of workers; (2) accelerate banking reform, cutting off loans to marginal or unprofitable enterprises; (3) cut the PLA by hundreds of thousands; (4) eliminate COSTIND, create a fourth PLA General Department, and create a new ministry/commission for defense industries; (5) reform PLA enterprises; and (6) dramatically expand infrastructure expenditures to absorb excess labor.

The general expectation on the eve of the NPC was that COSTIND would be replaced by two new institutions. A new "General Equipment Department" of the PLA would be formed, taking over the Bureau of Military Equipment and Technology Cooperation (BOMETEC) and the Equipment Bureau, both from the General Staff Department (GSD); plus some functions of the General Logistics Department. A new "Ministry of National Defense Industry" (MNDI) was expected to take control of the "purely military" parts of the defense industrial SOEs, plus the RDT&E-related functions of COSTIND. It was generally expected that "Big Five" factories that were mostly producing civilian goods would be cut loose to become local collectives or private enterprises. But how could factories and enterprises be divided up if they were producing both civilian and military goods? There was lots of speculation about "painting stripes across factory floors" to separate civilian and military production lines. Then there was the even bigger problem of trying to divide up traditional SOE work-units (*danwei*), which include workers and retirees, spouses and children, day-care centers and schools, hospitals and housing.

ANNOUNCEMENTS AT THE NINTH NATIONAL PEOPLE'S CONGRESS

Opening the NPC on March 2, outgoing Premier Li Peng announced that 22 ministries and commissions would be left intact, while 15 would be eliminated. In a declaration issued by Li Peng just before the NPC convened, COSTIND was first listed under the 15 *bumen* to disappear, but a few pages later a new COSTIND, listed under its old name, appeared. The new COSTIND would assume the former

⁹The following is based largely on articles in *The South China Morning Post* in February 1998 by Willy Wo-Lap Lam. Also see *Kuang chiao ching (Wide Angle)*, February 16, 1998. Personal contacts from U.S. National Laboratories reported rumors among their colleagues in the nuclear sector.

COSTIND's functions of defense industrial management and take over the State Planning Commission's defense department (*guofangsi*). It also would take direct control of the ("Big Five") military industry corporations (*jungong zonggongsi*). Premier Li left the really bad news to State Council Secretary General Luo Gan. On March 6, Luo told deputies that, "The streamlining reforms amount to a revolution. . . . Reform is bound to face resistance and risk, but we must press ahead. There is no other way out."¹⁰ Luo roughly outlined a plan to reduce the central government's 40 ministries and commissions to 29. Four ministries and commissions were to be substantially reorganized or newly established, and three would be renamed (see Tables 2–4). Fifty percent of government cadres (about 4 million people) would supposedly lose their jobs, along with 3.5 million industrial workers.

Table 2

Ministry-Level Bodies Abolished by the 9th NPC

1. Ministry of Power Industry
2. Ministry of Coal Industry
3. Ministry of Metallurgical Industry
4. Ministry of Machine Building Industry
5. Ministry of Electronics Industry
6. Ministry of Chemical Industry
7. Ministry of Internal Trade
8. Ministry of Posts and Telecommunications
9. Ministry of Labor
10. Ministry of Radio Film and Television
11. Ministry of Geology and Mineral Resources
12. Ministry of Forestry
13. State Physical Culture and Sports Commission
14. Commission of Science, Technology and Industry for National Defense
15. State Commission for Restructuring Economy

SOURCE: REUTERS, 100541Z MAR 98.

Table 3

Ministries That Changed Their Names

1. State Planning Commission (renamed State Development and Planning Commission)
2. State Science and Technology Commission (renamed Ministry of Science and Technology).
3. State Education Commission (renamed Ministry of Education)

SOURCE: REUTERS, 100541Z MAR 98.

¹⁰Quoted by Daniel Kwan, "Cutback tackles red-tape malaise," *South China Morning Post*, March 7, 1998. Luo's speech is authoritatively translated and summarized in *China Daily*, March 12, 1998.

Table 4
New Ministry-Level Bodies

1. Ministry of Information Industry
2. Ministry of Labor and Social Security
3. Ministry of Land Resources
4. State Commission of Science, Technology and Industry for National Defense

SOURCE: REUTERS, 100541Z MAR 98.

Announced measures were neither as consistent nor as radical as what had been rumored before the NPC, which probably indicated last-minute compromise and horse-trading. SOEs would be restructured, but the defense industry, at least, would not be “privatized.” In mid-March a former CNNC official said that just before the NPC, a “last-minute” meeting, involving powerful COSTIND supporters, reached a compromise which resulted in the announced reorganization.¹¹

COSTIND IS DEAD. LONG LIVE COSTIND!

On March 6, 1998, Luo Gan said that: (1) the major military industry corporations (the “Big Five”) will eventually be organized into enterprise groups (*qiye jituan*); (2) the State Aerospace [Industry] Bureau (*guojia hangtian ju*) and the China Atomic Energy Authority (*guojia yuanzineng jigou*) will remain as constituted. These are both governmental regulatory agencies which have been, in reality, subordinate to China Aerospace Corporation and China National Nuclear Corporation, respectively. According to Luo, they will continue to represent the country abroad but “be under [New] COSTIND for internal activities”; (3) new COSTIND “will coordinate with relevant units related to the Central Military Commission” (i.e., the PLA) for production and supply, research, and long-term planning; (4) new COSTIND will be in charge of development plans, regulations, and management for all military industry enterprises; and (5) new COSTIND will coordinate with the State Economic and Trade Commission (SETC) for military-to-civilian conversion plans. *China Daily* reported that the SETC will assume responsibilities for the now-dismantled ministries of Machine Building, Chemical Industry, and Metallurgical Industry.

The new State Commission of Science, Technology, and Industry for National Defense has come to be referred to as “The New COSTIND,” though I personally prefer “SCOSTIND” (State COSTIND). There is also confusion over the re-use of the name inside China. Some people reportedly refer to SCOSTIND as the “*Kegong Bu*” to distinguish it from old COSTIND, which remains “*Kegong Wei*.” In light of the pre-NPC rumors, it is ironic that, to avoid confusion, common usage is making SCOSTIND a ministry (*bumen*), even if the NPC did make it a commission (*weiyuanhui*).

¹¹Bates Gill, electronic mail message to the author, March 18, 1998.

Soon after the NPC, it became apparent that, in crucial ways, SCOSTIND will be less potent than its predecessor. It is completely separate from the CMC and PLA, answerable only to the State Council, and is expected to be in place by the end of 1998. Initially, at least, SCOSTIND will control defense industry, including the research academies and institutes (RAs and RIs, respectively) of the “Big Five.” Whether it will actually conduct RDT&E (as opposed to administrative housekeeping for the RAs and RIs) remains unclear. SCOSTIND’s concerns appear to overlap those of the new Ministry of Science and Technology and the Chinese Academy of Sciences.

Liu Jibin, the newly appointed director of SCOSTIND, has considerable experience in defense industry and in financial management. A 1962 graduate of the Beijing Aeronautical Institute’s Department of Engineering Economy, he worked his way up in the Songling Machinery Plant to become corporation deputy manager in 1982. He then became a deputy chief of engineering at the former Ministry of Aeronautics Industry in 1985, and a vice minister from 1985–1988, when he was concurrently Director of the State Administration of State-Owned Property. For the past decade (1988–1998), he has served as Vice Minister of Finance. No military service is mentioned in his official biography.¹² The PLA-SCOSTIND disconnect was starkly demonstrated in April 1998, with the publication of at least three different versions of an interview with Minister Liu.¹³ In explaining SCOSTIND’s role and his plans for it, he spoke in general terms of “the needs of national defense,” but never once mentioned meeting PLA needs or requirements. Indeed, he never so much as mentioned the PLA!

According to Liu, “the newly formed Commission for National Defense Science, Technology, and Industry has three functions. The first function is administration over national defense industry formerly under the administration of the old commission. The second is administration over national defense construction formerly under the administration of the National Defense Department of the State Planning Commission. The third is taking up all the functions of the former five big corporations, namely, the Nuclear Industry Corporation [CNNC], the Aeronautics Industry Corporation [CASC], the Astronautics Industry Corporation [AVIC], the Ordnance Corporation [NORINCO], and the Shipbuilding Corporation [CSSC].” Although he mentioned “scientific research” in passing, Liu’s description of SCOSTIND’s functions heavily emphasized “organizing, conducting, and coordinating” industry, rather than RDT&E.

Liu said, “This commission is composed of seven people from seven departments including the five big corporations for the military industry, the State Planning Commission, and the Ministry of Finance.”¹⁴ On April 17, Xinhua News Agency

¹²*South China Morning Post*, March 19, 1998.

¹³The longest version was “Interview With Minister of National Defense Science,” Beijing Central Television Program One Network in Mandarin, April 21, 1998, in FBIS-CHI-98-114, April 24, 1998. Also see Gao Jiquan, “Shoulder Heavy Responsibilities, Accept New Challenges—Interviewing Liu Jibin, Newly Appointed State Commission of Science, Technology, and Industry for National Defense Minister,” *Jiefangjun bao*, April 9, 1998, p. 5, in FBIS-CHI-98-119, April 29, 1998.

¹⁴“Interview With Minister of National Defense Science.”

identified six people named vice ministers of COSTIND,¹⁵ whose former affiliations with the Big Five and the State Planning Commission were all known. There will be a small bureaucracy (totaling less than 100 people) under Minister Liu and his six vice ministers, but at least we now know who the top seven are, and can guess pretty confidently at their responsibilities (See Table 5).

Table 5
COSTIND Minister and Vice-Ministers

Name	New Position	Former Position(s)
Liu Jibin	Minister	Vice-Minister of Finance
Zhang Junjiu	Vice-Minister	President, COIC & NORINCO
Xu Penghang	Vice-Minister	President, CSSC
Luan Enjie	Vice-Minister and Director, State Astronautics Bureau	Vice-President, CASC
Zhang Huazhu	Vice-Minister and Chair, China Atomic Energy Authority	Vice-President, CNNC
Zhang Hongbiao	Vice-Minister	Vice-President, AVIC
Yu Zonglin	Vice-Minister	Director, National Defense Department of the State Planning Commission

After an embarrassing delay, SCOSTIND finally occupied offices in the Xuanwu District of Beijing in mid-May.¹⁶ It appears that SCOSTIND is meant to regulate, rather than manage or control. There have been rumors in Beijing that the Commission actually has a limited life-span—three years, or possibly five years until the next NPC in 2003—during which it will oversee the reorganization of the “Big Five” and then disappear. SCOSTIND is a strictly civilian organization, which must “coordinate” with the PLA—presumably with the new General Armaments Department (GAD, see below). An important indication of SCOSTIND’s limited authority is that many of old COSTIND’s most important people and organizations have gone to the GAD. All of old COSTIND’s military personnel will be, or have been, transferred to the GAD as well. SCOSTIND appears to have no authority over the electronics industry at all. SCOSTIND-subordinate defense industries will continue to use old COSTIND’s former RDT&E ranges, including Lop Nur and the missile and space-launch bases, but these facilities too will be controlled by the GAD.¹⁷

A well-informed U.S. government official takes the apparently contradictory view that SCOSTIND will, in effect, re-centralize control over military industries which have become decentralized and out of control. Possibly, however, both views are correct: Perhaps SCOSTIND is supposed to reassert central control and reorganize the “Big Five” into Industrial Enterprise Groups (IEGs, see the next section), then release the IEGs into the market and revert to being a small regulatory agency and/or disappear altogether. The new Ministry of Information Industry (MII) is supposed to execute just such a “centralize-reorganize-release-regulate” sequence

¹⁵“State Council Appoints, Removes Personnel,” *Xinhua Domestic Service*, April 17, 1998, in FBIS-CHI-98-108, April 18, 1998.

¹⁶SCOSTIND’s Office is at Huaneng Dajie, Guang’anmennei Nan Jie, Xuanwu Qu, Beijing 100053.

¹⁷Dennis Blasko, electronic mail message to the author, April 22, 1998.

in the telecommunications industry.¹⁸ If that is the intent, we may be forgiven some skepticism about the likelihood of MII or SCOSTIND overcoming the universal tendency of bureaucracies to perpetuate themselves and expand their powers and purview.

CONSOLIDATED MILITARY-INDUSTRIAL ENTERPRISE GROUPS

Luo Gan's statements that SCOSTIND would be "in charge of development plans, regulations and management for all military industry enterprises" was a surprise, as was the provision that SCOSTIND would "coordinate with the State Economic and Trade Commission for military-to-civilian conversion plans." In other words, SOEs producing both military and civilian products would not, after all, be split up immediately. Perhaps that was the intent right up to the eve of the NPC, but the actual dividing up of the *guofang gongye* enterprises apparently was postponed. That suggested, as did other reports, that the current shakeup is just the first of several that Zhu Rongji has in mind. Others will take place over the next decade to accomplish the "final" restructuring. It is worth recalling that the last major shakeup of the DSTI sector, by the 5th NPC in May 1982, was followed by sixteen years of still more reorganization.

Reportedly, Premier Zhu has been enamored with the South Korean *chaebol* as a model for industrial organization and has not abandoned the model entirely, despite the *chaebol's* prominent role in Korea's 1997–98 economic melt-down. According to the *Far Eastern Economic Review*, "The [Chinese] government is nurturing 1,000 of the larger enterprises—of which 120 will be turned into big business groups. . . . The remaining 304,000 small and medium-sized state enterprises are being 'released' from state ownership and left to sink or swim."¹⁹ According to government economic advisor Lu Yansun, "China will push ahead with its plan to build South Korean-style conglomerates while carefully avoiding the pitfalls highlighted by the Asian economic crisis." He explained that, "Some South Korean firms fell because of heavy debts and improper deals with the government." He did not say how China, with its rampant corruption and massive SOE debt, could or would be any different, though he added that Beijing was also learning from the success of "Taiwan's smaller-scale companies, many of which tended to be technology-based with low liability."²⁰ John Frankenstein observes that while the *chaebol* does sound more like an SOE than a small, specialized Taiwan Chinese family firm, "there is one crucial difference: the *chaebol*, like the smaller Taiwanese firms, are very good at handling market information. With a few exceptions, the SOEs are still in the dark ages here."²¹

Chinese views of the South Korean model are evolving, however. Most PRC leaders now emphasize that mergers should be voluntary, not forced from above.

¹⁸John Lewis, discussions at Stanford University, August 7, 1998.

¹⁹Pamela Yatsko, "Owner Power," *Far Eastern Economic Review*, May 21, 1998, p. 14.

²⁰Justin Jin, Reuters (Beijing), March 12, 1998.

²¹John Frankenstein, electronic mail message to the author, March 13, 1998.

Also, unlike the *chaebol*, even conglomerates should have a core competence, not trying to manage everything from ski resorts to ship-building. Perhaps most important, Zhu Rongji, although a proponent of conglomeration, is adamant that state-owned firms, even those earmarked for mergers, must operate on a profitable basis.²²

While it is not at all clear what these consolidated Industrial Enterprise Groups (IEGs, *Gongye qiye jituan*) will look like, they clearly will not be “privatized.” They will continue to be state-owned, though supposedly with considerably more economic and operational autonomy. The IEGs will supposedly integrate research and development, marketing, and production. If that is so, the research institutes (RIs) of the old Big Five corporations will remain under SCOSTIND and the Enterprise Groups.²³ What will be the difference between the five bureaus of SCOSTIND and the former Big Five corporations? The Big Five seem to meet all the announced criteria for the new IEGs, so why are they being reorganized at all? A reasonable guess is the political factor: Perhaps Beijing simply wants to regain control of industrial enterprises which have become far too independent. But reining in the Big Five and regulating the new IEGs will require that SCOSTIND exercise considerable authority, which, as observed above, is questionable. For example, at some point, the IEGs probably will be required to rid themselves of nondefense enterprises, but it remains to be seen whether they will give up profitable noncore production. If an enterprise in the aviation industry is making money exporting cosmetics, it is difficult to imagine an aviation IEG giving that enterprise up without a fight.

If the reform goes through, there will be a significant number of layoffs and plant closures. Supposedly, the aviation industry will be laying off around 200,000 people, the ship-building industry 90,000, the ordnance industry 90,000 or more, and the nuclear industry some 30,000. So far, some of these layoffs have been “phony.” Some workers are being paid to stay home and do nothing, but they are going into the statistics as layoffs. If a factory is transferred to another enterprise, for example, its jobs are counted as layoffs by the losing enterprise, even though the workers are still working at the same jobs, in the same place, for a different organization. There has been a lot of talk about retraining and re-educating workers and cadres prior to laying them off, but very little has been done.

All Chinese, especially managers, are extremely averse to closing factories and laying people off. There have been few cases of allowing a factory to go bankrupt and close down, and those few cases have all been small enterprises. Even after the announced reforms, there is likely to be massive overstaffing. Right now the DSTI complex has perhaps triple the work force it actually needs to be productive, so the planned one-third cut would still leave twice what is needed.

²²James Kynge and James Harding, “Beijing firm in the belief that bigger is better,” *Financial Times*, March 11, 1998.

²³This paragraph and the following discussion on IEGs owe much to discussions with a U.S. government official who preferred anonymity.

Below, I suggest four scenarios for SCOSTIND's future. Case I represents the most drastic reform; Case IV would be a worse situation than before the restructuring was announced.

Case I: SCOSTIND would form "administrative councils" to preside over the division of assets and dissolution of existing Big Five enterprises, and reorganize them into IEGs. The councils, and possibly SCOSTIND itself, would then disappear, leaving the IEGs to operate in the market.

Case II: After organizing the IEGs, as in Case I, SCOSTIND would continue to exist, and its bureaus would function as regulatory agencies, somewhat analogous to those of a Western government. For example, the Atomic Energy Bureau/CAEA of SCOSTIND would have regulatory functions which, in the United States, are fulfilled by the Department of Energy and the Nuclear Regulatory Commission. The Aviation Bureau of SCOSTIND would function something like the American FAA. The Space Bureau of SCOSTIND would function somewhat like NASA; and so forth. They would regulate the Enterprise Groups. The latter, each under its own headquarters, would compete in the market.

Case III: The bureaus of SCOSTIND would be essentially the same as the "Big Five" corporation headquarters were before, with nothing really changed but the names. For example, the Atomic Bureau of SCOSTIND would be essentially the same as CNNC was before, the Aviation Bureau essentially would be the same as AVIC, etc. "Enterprise Groups" would be the same subordinate enterprises that were formerly subordinate to the Big Five, and they would have the same relationships with their respective bureaus that they formerly had with the Big Five corporate headquarters. "Enterprise Groups" would just be a collective designation for the enterprises, plants, and research institutes subordinate to a given bureau.

Case IV: The SCOSTIND bureaus would exert control, as in Cases I and II, but there also would be five or more new IEG headquarters as in Case II. This would be the worst possible outcome because it would add a new layer of bureaucratic control but not allow for any more market behavior on the part of the IEGs or the individual enterprises, plants, and research institutes.

Organization of the Enterprise Groups

The subsidiary corporations, factories, and research institutes of the Big Five could be reconfigured in a variety of ways. Four representative configurations, across the spectrum of possibilities follow:

1. Enterprise Groups could be set up as comprehensive, *chaebol*-style conglomerates. These would combine industrial research, development, production, and marketing, like large conglomerates in the West (e.g., Lockheed-Martin or UTI). They might have integral financial organizations, like Mitsubishi or Hyundai. Minister Liu seemed to indicate this sort of model in the *Jiefangjun Bao* version of his interview: "To separate government

functions from enterprise functions [we must] reorganize some former national defense industrial corporations into a number of large-scale enterprise groups transcending regions, departments, professions, or trades and capable of integrating production with scientific research and intensive operation and combining military industrial production with civilian industrial production.”²⁴ This configuration would require either Case I or Case II regarding the role of SCOSTIND and its bureaus.

2. The Enterprise Groups could simply be set up geographically. For example, all of the former AVIC assets north of the Yellow River under one IEG, those between the Yellow River and the Yangzi in another, those south of the Yangzi in a third, and those in the Sichuan basin in a fourth. This is approximately what is, in fact, happening in the petrochemical industry.²⁵
3. The present Big Five subsidiary corporations, factories, and research institutes could be subdivided into IEGs that were specialized in terms of their end products. In the nuclear industry, for example, one IEG might specialize in mining, smelting, and uranium conversion; another in enrichment and fuel fabrication; another in reactor construction; and so forth. Aviation industry IEGs might specialize in engines, airframes, avionics, and so forth.
4. All the subsidiary corporations, factories, and research institutes formerly under the Big Five could be assembled under five IEGs (i.e., Cases III or IV, above).

An important determinant of the future of technical innovation in China will be what happens to the research academies and institutes (RAs and RIs) which, under the old system, were under the Big Five. These could be placed directly under the jurisdiction of the bureaus of SCOSTIND in Cases II, III, or IV. They could be placed under the Enterprise Groups in Cases I, II, III, or IV; or they could be placed under some other organization entirely, possibly the Chinese Academy of Sciences, the PLA General Armaments Department, or the new Ministry of Science and Technology. Or research academies and institutes could be divided up among some or all of these. In any of these cases, individual research organizations might be abolished, consolidated, or reorganized.

THE PLA AND THE REFORMS

The General Armaments Department

Unquestionably, the biggest organizational “winners” so far are the PLA and its new general department. Although the latter’s Chinese name, *Zong zhuangbei bu*, best translates as “General Equipment Department,” Xinhua News Agency calls it the “General Armaments Department,” and that name seems to be gaining general acceptance. Being internal to the PLA, creation of the GAD was not announced at

²⁴Gao Jiquan, “Interviewing Liu Jibin.”

²⁵Jean-Francois Tremblay, “Chinese Restructuring Outline Emerges,” *Chemical Engineering News*, April 27, 1998, p. 21. Also see Bruce Gilley, “Slick Maneuvers,” *Far Eastern Economic Review*, July 2, 1998, pp. 60–61.

the NPC, but by the CMC on April 5.²⁶ On April 13, at the National University of Defense Technology in Changsha, General Cao Gangchuan was identified as GAD Director, and Lieutenant General Li Jinai as its Political Commissar.²⁷ Formerly, Cao had been First Deputy Chief of the General Staff prior to taking over as the last Director of old COSTIND in December 1996. He probably presided over the demise of old COSTIND with a good deal of satisfaction, for he was one of those PLA leaders who was frustrated and angered by COSTIND's chronic failures. Cao is well-connected, having served successfully under Zhang Wannian, Chi Haotian, and Fu Quanyou during his time in the GSD. The prevailing organizational turbulence was demonstrated at the official ceremony on March 27, when Cao and nine others were promoted to the rank of General; he was identified as Director of the officially nonexistent COSTIND.²⁸

As expected, the GAD took over the Bureau of Military Equipment and Technology Cooperation (BOMETEC, which oversees foreign military aid and sales from PLA stocks) and the Equipment Bureau from the General Staff Department, plus some functions of the General Logistics Department (see Table 6). It appears increasingly likely that the GAD will have important RDT&E responsibilities, but it remains to be seen which laboratories, RAs, and RIs will be directly subordinate to the GAD. It will be interesting to see whether the GAD takes over the various PLA service branch research institutes. Officials of the Chinese Academy of Engineering Physics (CAEP), which runs the nuclear weapons program, are

Table 6

**Organizations and Responsibilities Taken Over by
the PLA General Armaments Department (GAD)**

From the General Logistics Department (GLD)
Xinxing Corporation
Motor Vehicle & Boat Transport Units
From the General Staff Department (GSD)
Equipment Bureau
BOMETEC
"703 Group" (Chinese Arms Control Leading Group)
From (old) COSTIND
Former Office Building
All military personnel
All test sites and ranges (including Xichang Space Launch Facility)
China Defense S&T Information Center (CDSTIC)
Science and Technology Committee
Export vetting responsibilities
"Purely military" R&D (probably including CAEP)
Some production (?)

²⁶ *South China Morning Post*, April 6, 1998.

²⁷ *Xinhua*, April 13, 1998.

²⁸ The promotion order had been signed on March 4, just before the NPC convened. See "CMC Holds Ceremony for Promotion to Army and Police General Rank," *Xiandai junshi (CONMILIT)*, No. 256, May 1998, p. 2.

confident that CAEP will come under GAD control, though the decision officially still is pending at this writing. The GAD seems certain to retain or take over control of all the test ranges formerly controlled by old COSTIND, including the Lop Nur Nuclear Test Site, the Xichang Space Launch Center, and various missile and ordnance test sites and ranges. It may take over some of the RAs and RIs of the Big Five corporations, but will probably not take over nearly all of them.²⁹

At a minimum, the GAD is supposed to generate ideas and initiatives for new weapons and equipment, but it remains to be seen whether those ideas get turned into actual innovations by in-house GAD research and development, or whether that will be the sole responsibility of SCOSTIND. Given the poor track record of old COSTIND, and the completely civilian personnel and outlook of SCOSTIND, it is difficult to imagine that the PLA will give up the R&D capabilities it had under the old system—they existed, after all, as a hedge against the failures and delays of COSTIND. Put another way, if all the PLA's current R&D organizations are formally transferred to SCOSTIND, we can expect to see PLA service branches reconstituting in-house RDT&E capabilities, whether formally authorized to do so or not.

It remains to be seen how much leeway the GAD will have to purchase foreign technologies or end-items to satisfy PLA requirements. There will still be limits—both economic and political—on foreign acquisitions. Historically, however, the PLA has been more interested in quick results and much less concerned with “self-sufficiency” than either old COSTIND or the industrial establishment.

PLA Enterprises

Altogether, PLA organizations operate some 10,000 business enterprises. Some of the best known are Polytechnologies Corp. (run by the General Staff Dept.), Carrie Corp. (General Political Dept.), Xinxing Corp. and 999 Corp. (General Logistics Dept.), and Lantian Corp. (Air Force). Over the past decade, the CMC has repeatedly tried to get the PLA out of nonmilitary businesses, and to get most of the PLA out of business altogether.³⁰ An obstacle to PLA divestiture has been that business profits support a significant, but extremely ill-defined, portion of its operating expenses. Larger state defense budget allocations will be necessary if the PLA is to forgo all its business activities, although the magnitudes of such budget increases are unknown, and are subject to exaggeration (in pursuit of many differing agendas) by Chinese and foreign observers. An important first step was accomplished by shifting the GSD's former R&D, acquisition, and export vetting responsibilities to the GAD. That freed the GSD (whether all GSD officers liked it or not) to concentrate on plans, operations, and training.

²⁹Dennis Blasko, John Lewis, Xue Litai, et al.

³⁰See, especially, the call for the PLA to get out of business by Generals Liu Huaqing and Zhang Zhen in *Jiefangjun bao*, August 1, 1993.

It has long been recognized that PLA entrepreneurial activity promotes corruption and is corrosive to discipline and professionalism.³¹ Getting the Army out of the marketplace is even more vital during the current SOE reforms. Left to compete unchecked with newly “freed” former SOEs, heavily subsidized and legally privileged PLA businesses are bound to drive many of the former into bankruptcy.

Accordingly, at a July 22, 1998 meeting of PLA and People’s Armed Police commanders, nominally convened to crack down on smuggling and corruption, President Jiang Zemin initiated the most serious attempt yet to get the uniformed services out of the marketplace. Xinhua quoted Jiang as saying, “The Army and armed police forces must earnestly carry out checks on all kinds of commercial companies set up by subsidiary units, and without exception from today must not engage in their operation.”³² The next day, Chief of the General Staff General Fu Quanyou ordered “every unit and every cadre” to implement Jiang’s decree “without conditions.” As Associated Press observed, “The way that the order to shut military businesses was linked to the crackdown seemed to confirm suspicions that the PLA is mixed up in smuggling—a huge illegal business involving everything from oil to luxury cars that is estimated to cost the government and firms as much as \$12 billion a year in lost revenues.”³³

The wording of Jiang’s decree was sufficiently ambiguous that the precise extent to which the PLA is to “get out of business” remains unclear. For example, demobilized soldiers may be allowed to continue operating businesses; active PLA units may be able to retain ownership, provided they do not actually operate enterprises. Another possibility is that officers involved in army companies will be transferred to reserve status but will continue in their jobs. Meanwhile, speculation is rife regarding the “buyout” prices and budgetary compensation PLA units will demand.³⁴

Jiang Zemin’s effort to get the PLA out of business is clearly related to the SOE reform, but there are many other reasons, some no doubt more important. Among these are improved tax collection, the fight against corruption and smuggling, the effort to professionalize and modernize the PLA, and Jiang’s need to establish his personal authority over the armed forces.³⁵

³¹Allow me modestly to cite my prediction of all this in “Organization and Administration in the PLA in the Year 2000,” in Richard Yang (ed.), *SCPS PLA Yearbook, 1988/89*, Kaohsiung, Taiwan: Sun Yat-sen Center for Policy Studies, National Sun Yat-sen University (published in the United States by Lynne Rienner Publishers), 1989, pp. 52–54.

³²Quoted by Reuters, July 23, 1998.

³³Associated Press, July 24, 1998.

³⁴Tai Ming Cheung, “The Future of the Chinese Military Business Complex,” *South China Morning Post*, July 26, 1998; Susan V. Lawrence, “Out of Business,” *Far Eastern Economic Review*, August 6, 1998, pp. 68–69; and Willy Wo-Lap Lam, “PLA to get \$28b for businesses,” *South China Morning Post*, August 3, 1998.

³⁵For a superb analysis, see Ellis Joffe, “Getting China’s Military Out of Business Is a Tall Order,” *International Herald Tribune*, August 10, 1998.

HOW IS THE NEW SYSTEM SUPPOSED TO WORK?³⁶

Beginning about 1990, RAs and RIs no longer automatically received central (State Planning Commission and COSTIND) funding. They have become responsible for seeking out and contracting their own research project funding. By 1998, because the successful RIs had independent funding sources, neither the industrial corporations nor even the Research Academies controlled them, let alone supervised their work. The central authorities relied upon their ability to allocate research funding to control the RAs and RIs indirectly. Old COSTIND allocated funds to RIs to develop the various components of a given weapon system or piece of equipment, while COSTIND itself was primarily responsible for systems integration. Not surprisingly, systems integration has been chronically weak. By 1998, the system actually had become more decentralized than it is in the United States—even major projects lacked comprehensive oversight and management. Instead, COSTIND was constantly convening coordination meetings. This RDT&E system produced poor weapons systems and equipment, which the Equipment Bureau of the PLA refused to buy—withholding the large production contracts that COSTIND insisted were necessary to fund an effective RDT&E complex. This provoked constant feuding between COSTIND and the PLA.

Under the new (post-March 1998) system, the GAD has taken over essentially all of old COSTIND's RDT&E responsibilities, plus the former GSD Equipment Bureau's acquisition authority. GAD, SCOSTIND, MST, and/or CAS may "house," and loosely regulate, the research academies and institutes. The GAD will allocate research and development funds to RAs and RIs, coordinate R&D, and supervise (or directly conduct) systems integration, testing, and evaluation. Once it finally is satisfied with a prototype, the GAD will then call for production bids from the defense-industrial IEGs under SCOSTIND. The GAD thus will act as initiator, allocator of funds, coordinator, and finally as customer. The new system at last addresses the disconnect between the operational PLA and the RDT&E system.

It remains to be seen whether the new system can develop prototypes that the industrial enterprise groups are willing and able to produce. A magnificent prototype weapon might meet the PLA's operational needs, but not be producible. It might, for example, require so much in the way of expensive materials and exotic manufacturing processes that the industrial enterprises would refuse to bid for them.

OBSERVATIONS, IMPLICATIONS, AND QUESTIONS

All sources agree that the restructuring is to proceed from the top down. Five months after the NPC, however, we are barely beginning to discern the organization and responsibilities of SCOSTIND and the GAD, and their relationships to the CMC, State Council, and other S&T-related ministries and

³⁶The following is drawn mostly from discussions with Xue Litai at Stanford University, August 7, 1998. Its general outlines were anticipated by Jonathan Pollack at the CAPS-RAND San Diego Conference.

commissions. Nobody seems to know whether SCOSTIND will be permanent, or what the “administrative councils” are supposed to do.

Will there be more or less centralized control over defense research and industry? Will there be more or less military-civilian integration in science, technology, and industry? Although the former defense conversion program failed, Liu Jibin indicated in his interview that there will be no drastic break between military and civilian science and technology. The Chinese are still searching for ways to facilitate spinoff of military technologies into the civilian sector and vice versa. Will there be more or less assured funding for military-industrial programs?

Structural reforms do not address such fundamental problems as gaps in the technological base (e.g., some kinds of electronics, metallurgy, and material science). There is an almost total absence of quality-control consciousness in China’s industrial work force. (As John Frankenstein writes, “*Chabuduo Xiansheng* lives!”) Structural reforms alone do nothing about a corporate culture that is risk-averse, plodding, and not only non-innovative but actually anti-innovative. Corporate managers don’t like innovation because it causes change, which they find upsetting. Chinese management style, particularly in heavy industry, is rigid, authoritarian, and “feudal.”

During the current transition, old COSTIND still seems to be functioning, as do all of the “Big Five” and the MEI. Defense industrial enterprises are still involved in hundreds of domestic and foreign contracts, and somebody has to be watching the store. Thus, some transactions and organizations have an old supervisor plus one or more new supervisors, while other transactions and organizations may have no supervision at all. This confusing situation must be causing delays in some projects, including military ones. Consider the obvious problem of funding: If AVIC is still trying to supervise the aviation industry during the transition, does it still have the authority to disburse funds to, say, Xi’an Aircraft Corporation (XAC) for work on the FB-7? If not, does XAC have access to other funds, or does the project stall while managers search for funds from COSTIND or SCOSTIND or somewhere else?

Banking reform is critically interrelated with the industrial reforms. It probably will be necessary to write off billions of RMB in bad debts, and then crack down on loan criteria to make sure that new bad loans aren’t made.³⁷ Similarly, much depends on the continuing internal reform of the PLA, especially the latest effort to get rid of “PLA Inc.”

The social and political implications of the reform are staggering, in terms of economic cost, social disorder, bureaucratic resistance, and political instability. Perhaps the most fundamental question of all is how much unrest is going to be provoked, and what the authorities will have to do to maintain social order. If they are forced to choose between social chaos and abandoning the reforms, they are likely to choose the latter. In any case, it is certain to be a messy, prolonged

³⁷Bruce Gilley, “Breaking the Bank,” *Far Eastern Economic Review*, July 16, 1998, pp. 66–68.

exercise in “feeling the stones to cross the river.” The only certainty is that it will not work out entirely as planned.