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SECURING INFRASTRUCTURE INVESTMENT

SPECIAL REPORT: Issues in Exporting to China



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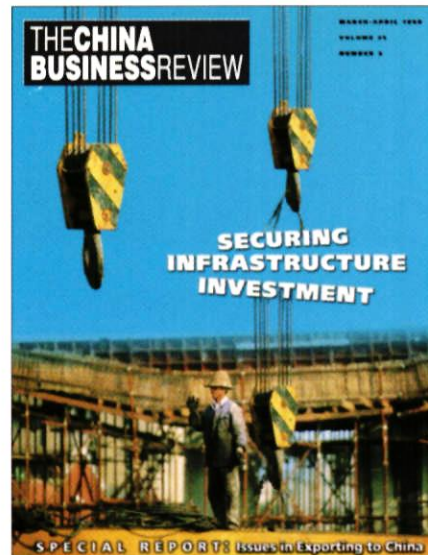
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BEIJING RETHINKS INVESTMENT POLICIES

In the face of declining foreign direct investment in 1997, PRC government authorities rang in the new year with a number of changes to the country's foreign investment regime aimed at directing overseas funds to key sectors.

Replacing the 1995 catalogue, Beijing released a new Guiding Catalogue for Foreign Investment in Industry, effective January 1, 1998. The new catalogue seeks not only to direct investment to sectors Beijing considers most in need, but also to counter the tendency of local governments to approve redundant or ill-conceived projects. The catalogue, which is slightly less restrictive than the 1995 version, classifies investments in certain industries as "encouraged," "restricted," or "prohibited." Investments labeled "encouraged" may take advantage of preferential policies and include those utilizing high technology, especially in agriculture, environmental protection, and raw materials processing. Though not stated in the catalogue, central-level officials have indicated that investment is also encouraged in pharmaceuticals, medical equipment, textiles, transportation, and electronics; and projects utilizing labor and resources in China's less-developed interior.

Investment projects in the "restricted" category, meanwhile, require government approval. Restricted industries fall into one of two sub-categories, labeled "A" and "B" depending on whether projects in such industries require provincial or national approval, respectively. In the third category of "prohibited" sectors are services and internal trade, including distribution.

In the prohibited category, certain continued restrictions came as little surprise. For example, Beijing has maintained the prohibition on foreign investment in provision of basic telecommunications services. Other changes were expected as well, notably the deletion of lower-technology auto parts from the "encouraged" list. This move reflects the saturation of the auto market and the government's recent removal of the auto sector from its list of industries in which it hopes to concentrate foreign investment.

Also on the investment policy front, the Ministry of Foreign Trade and Economic Cooperation (MOFTEC) confirmed a further easing of Beijing's controversial

late-1995 revocation of preferential policies for certain imported goods. In December 1997, Beijing announced that large projects approved on the national level before March 31, 1996, would receive an indefinite extension of the exemption from tariffs and value-added tax (VAT) on imported capital goods. Beijing also granted an automatic exemption to all projects approved between March 31, 1996, and January 1, 1998, but only for equipment that qualifies under this new policy. Previously, those projects only had until December 31, 1997, to complete their duty-free imports.

Under the new policy, equipment imported as part of projects approved after January 1, 1998, and in favored sectors will receive a duty and tax exemption for high-technology imports. The policy applies only to items or sectors listed in three government documents. The first, MOFTEC's list of duty-free, high-tech equipment for foreign-invested enterprises, has yet to be released. The second document details key high-tech projects for which State-owned companies may make duty-free imports. The third document is the Guiding Catalogue. Imports of capital goods for investments in the Guiding Catalogue's encouraged sectors or those on the restricted B list are exempt. The exemption thus appears to cover high-tech capital equipment that falls under Harmonized Tariff Schedule chapters 84-90. The chapters include machinery, mechanical appliances, electronic equipment, and measuring devices. Reportedly, the exemption will specifically exclude certain consumer electronics and office equipment.

A foreign investor with a project that is encouraged or on the Guiding Catalogue's restricted B list, and that has completed its feasibility study, may apply to the local planning commission for a special certificate that verifies the project is in a qualifying sector. The investor then presents this certificate to PRC Customs when applying for duty- and VAT-free import privileges. Companies in sectors that do not appear on the lists and thus are in sectors classified as "permitted" are not eligible for the exemption.

Though some foreign-invested projects will benefit from the favorable duty change, duty and VAT charges will still apply to much imported equipment, in-

cluding building materials, office equipment, conventional equipment, cars, and other non-exempt items. Moreover, it remains to be seen whether Beijing's efforts to clarify its investment policies will spur investment. No matter what China's policy moves, foreign investment is sure to decline further in the coming year, as investors from other Asian countries scale back their China plans because of troubles in their home economies.

—Iain K. McDaniels

Iain K. McDaniels is Business Advisory Services associate in the US-China Business Council's Washington, DC office.

Short T A K E S

CHINA'S PC MARKET HOT IN '97

While some industries saw slow or negative sales growth in 1997, China's personal computer (PC) market surged ahead. Up 40 percent in 1997, PC sales topped 3 million units, worth \$3.6 billion, according to China's Ministry of Electronics Industry (MEI). China's share of the global PC market rose to about 3.9 percent in 1997, a 1.1 percent increase over 1996. Government purchases of PCs reportedly were the driving force behind the growth. MEI predicts that PC sales will reach 4.5 million units in 1998, for a total value of \$7.2 billion.

WHO'S PLUGGED IN?

The number of Internet surfers in China is on the rise, having reached more than 600,000 in 1997 from 40,000 in mid-1995. And a recent survey of 1,802 computer users in China found that the majority of computer users are between the ages of 21-30. Monthly income ranged from ¥400-¥1,000 (\$48-\$121) for 58 percent of the respondents, and ¥1,000-¥2,000 (\$121-\$241) for 32 percent of the respondents. Accesses to the World Wide Web accounted for more than three-quarters of China's Internet data flow. The survey was jointly conducted by *ComputerWorld*, China Science and Technology Network, ChinaNet, China Education and Research Network, and Golden Bridge Network.

MORE WEBSITES SPRING UP

China watchers might want to take a moment to visit the following sites:

<http://www.uschina.org> This new, regularly updated site of *The US-China Business Council* expands Council services and communication with members. Non-members can browse information on the Council's services and activities, and find out how to join. Council members may read and search online the full text of *The China Business Review (The CBR)*, the Council newsletter *China Market Intelligence*, and Council memos, position papers, special reports, and congressional testimony. Council members may also use the website to e-mail information requests to the Council's Business Advisory Services department, register online for Council programs, and sign up for e-mail delivery of Council publications.

Recent updates include the full text of the PRC Guiding Catalogue for Foreign Investment in Industry, and the results of the Council's survey of foreign-invested enterprise distribution systems.

<http://www.uschina.org/cbr> The publication of *The US-China Business Council*, *The CBR* offers subscribers the full, searchable text of the magazine online. Visitors can sign up to receive *CBR*-related announcements via e-mail; subscribe, renew, and pay online; and e-mail orders for *CBR* back issues and special US-China Business Council reports.

<http://www.chinavista.com/home.html> This *Xindec* Business Information Company website is a must-see for avid China-watchers. Access current news briefs of business-related developments in various sectors of China's economy; check out stock market closings and currency exchange rates; peruse the website's directory of Chinese companies by category and city (Beijing, Guangzhou, and Shanghai); search the trade fair and exhibition database; and read about PRC investment laws and regulations. *Xindec* also offers ChinaVista Newswire services for \$120 for three months. The newswire service compiles news clips according to a customer's interests. The ChinaVista Online Business Services Center portion of the website, also fee-based, offers general economic data, market research, consumer behavior analyses, and commerce and trade assistance.

<http://www.hongkong.org> The website of the *Hong Kong Economic and Trade Office (HKETO)*, this Internet stop offers overviews of Hong Kong's economy, export competitiveness, and bank-

ing sector; up-to-date information on the Hang Seng Index; and weekly financial roundups. The website also features a guide to investing in Hong Kong, along with information on Hong Kong's post-handover laws and government anti-corruption activities.

<http://www.IDGChina.com> The *International Data Group (IDG)*'s website promotes the organization's information technology publications, including *China Computerworld*, *China Infoworld*, and *China Telecom World*. The website allows online subscription to these publications, and features IDG's investment information page and monthly news updates, and information on upcoming technology-related trade shows in the PRC. Access to this website is free.

<http://www.clearthinking.com> The website of consulting firm *Clear Thinking* provides summary briefs on *Economist Intelligence Unit* reports and access to periodicals and newsletter archives, which include back issues of such publications as *China Economic Quarterly* and *China Infrastructure Newsletter*. Visitors must first subscribe to Clear Thinking to view online the full text of current publications and periodicals, but back issues of newsletters can be viewed in full and without charge.

<http://global-protrade.com> Developed and operated by *Global Opportunities, Inc.*, this website offers subscribers access, for \$99 per year, to its searchable directory of firms and their products and services. For \$300 per year, subscribers can gain access to the site's searchable procurement databank, and read and post notices of business and trade opportunities on the website's Trader's Forum. Free to all visitors is the website's reference page, which includes general and country-specific guides on shipping, customs procedures, exchange rates, trade shows, and embassies.

<http://www.sezo.gov.cn> Hosted by the *Office for Special Economic Zones* of the State Council of the PRC, this website provides background information on China's Economic and Technological Development Zones (ETDZs), including the types of transnational corporations in these areas, and general information on preferential investment policies offered in the zones. The website provides links to the homepages of 45 ETDZs.

—Ann M. Weeks

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Robert A. Kapp
Robert A. Kapp

The Fundamental Things Remain...

*Dealing with
the Asian
financial
crisis calls
for reasoned
US commercial
policy and
stable US-China
relations*

The line, of course, is from Dooley Wilson's immortal performance in "Casablanca." The rest of the line—and the name of the song—is "As Time Goes By." The song comes to mind as we enter an uncertain springtime of complex and confusing trends.

Among those tangled threads:

■ **The Asian economic crisis** This is now International Economic Issue Number One. The fallout from regional currency collapses is spreading. A major US political battle is shaping up over proposed legislation to enhance US support for the International Monetary Fund (IMF). Indeed, the debate over IMF replenishment may push some more narrowly China-focused legislative issues into the shadows this spring.

In the context of very troubling Asian economic difficulties, China has performed as a responsible world economic power, pledging in the most vigorous terms—and in spite of certain economic pain—not to pitch the struggling economies of the region into another catastrophic round of reciprocal devaluations by lowering the exchange value of the *renminbi*.

The importance of China's position to regional and, indeed, global economic health has been brought home to Americans by the high-profile engagement of key Treasury Department officials with China's top economic leaders. Here at home, in her address to the US-China Business Council's "Forecast '98" conference in Washington, DC, in late January, US Trade Representative Charlene Barshefsky took note of China's "most constructive role with respect to the current crisis." She added, "We think [this refusal to de-

value] is very positive and constructive on the part of China."

While such matters as US commitments to the IMF do not normally fall within the scope of this Council's focus, it is worth wondering aloud: isn't there something inconsistent about calling on China to refrain from lowering the exchange value of its currency in the interests of broader Asian economic stability, while the United States itself hesitates to commit itself to support of the IMF instrument at the forefront of the battle against the Asian meltdown? If that inconsistency prevails, what implications does it hold for our persuasive power in the crucial trade dialogue with China?

■ **The uncertain future of China's trade surplus with the United States** Yet another respectable study, this time by economists at the University of California at Davis, has found that the PRC's real 1996 merchandise trade surplus was roughly \$20 billion—neither as large as the US government claims (\$39 billion) nor as small as the Chinese government claims (\$10 billion). Still, the surplus remains politically volatile in the United States. The questions for 1998 are, will it rise or decline year-on-year and, as other struggling Asian economies increase their exports to the United States, will the China-US trade imbalance be as politically conspicuous as it has been in recent years? There is at least a

possibility that China's annual surplus with the United States will turn downward, according to some specialists, and it seems inevitable that it will stand out less achingly as exports from nations with devalued currencies rise.

■ **US-China relations in 1998** While the opening of the new congressional session augurs for renewed fiery exchanges over US China policy (and over broader US foreign policy issues in which China looms large), the file folder of positive news and favorable developments is actually much fuller this year than it was 12 months ago.

The end of February 1997 saw the extraordinary outburst over China from both ends of the US political spectrum. There is every likelihood that something will come wafting out of the mists again this spring. But in fact, the two governments are moving ahead on a number of fronts. A US presidential visit to China is expected before the end of the year and, already, some issues that might have turned nasty have been deftly deflected without major impact. Even the intricate ballet of PRC-Taiwan relations, so difficult for third parties to fathom and interpret on a day-to-day, communique-by-communique basis, appears to be on "simmer," not "boil." It will require some new brouhaha of extraordinary proportions for American pundits, policy pontificators, and political pros to fall back into the "Coming Conflict With China" frenzy of last spring.

■ **China's extraordinary domestic challenges** Those who still bravely argue that the PRC remains unchanged (some critics hold that it has remained essentially unchanged since the 1950s, and many seem to believe it has not changed since the days of the Cultural Revolution) will have a very difficult time defending their positions this year. The millions of layoffs already effected, and the many millions to come, are irrefutable evidence of the PRC's fateful decision to try to come to grips with the economic catastrophe of the money-losing State-owned sector and the concomitant looming crisis of the banking system.

The outcome of this massive economic gear-grinding exercise cannot be foreseen in detail. Estimates of overall PRC economic growth for 1998 have been revised downward, even as most Western observers assert that something on the order of 9 percent is needed simply to sop up the excess labor resources in the economy. Continuing pluralization of industrial ownership forms, likely

to be further advanced by the upcoming National People's Congress, runs up against the ancient and endemic problem of the central government's struggle to command regional and local adherence to national laws and policies. Just one day before Deputy Secretary of the Treasury Lawrence Summers arrived in Beijing to secure the central government's commitment to economic caution in the midst of the Asian crisis, the presumptive premier and top economic policy figure, Zhu Rongji, was in Guangzhou, berating South China's provincial and local officials for their failure to adhere to Beijing's instructions.

In other words, China is in particular institutional and economic flux in 1998, as a combination of domestic and external forces impinge on the making of coherent policy commitments.

■ **The saga of China's World Trade Organization (WTO) accession** The subject is always with us. Many American businesses are intensely impatient over the nearly endless negotiations. Others are determined to ensure that China's accession terms meet their concerns, and that their business sector not be sacrificed at the final negotiating table. Over the heads of US negotiators floats the specter of the Congress, and the stern requirement that any US-China WTO agreement be able to withstand ruthless scrutiny in a Congress that ultimately must make the crucial decision to grant China permanent MFN. Whether Congress's late-1997 rejection of so-called "fast-track" negotiating authority for the White House turns out to be the declaration of all-out cultural revolution that some fast-track opponents have gleefully dubbed it remains to be seen. But that vote certainly emphasized the reality that Congress will only implement controversial trade policy when the White House and pro-trade advocates have an overwhelming case.

In fact, there has been significant cumulative progress in US-China WTO negotiations. Our Chinese friends have a point when they urge us to recognize more fully the major commitments that they have already made. Now, the emphasis increasingly is on what remains to be done, rather than on where to begin. Moreover, the intensity of both countries' WTO efforts is clearly up.

But time does go by. The staple public lines ("commercially viable," "not if the price is too high," etc.) have long since lost their novelty. Periodically, someone from a third country comes out with a bright assertion that China's WTO

In the context of very troubling Asian economic difficulties, China has performed as a responsible world economic power.

negotiations have "entered the final phase"; ears quiver, eyebrows rise, and then the stillness settles in again. There is much left to do; it cannot be swept away by force of personality or wishful thinking. If anyone, in either camp, knows for sure where the two sides will be by any future date certain, the secret is exceptionally well kept.

■ **Optimism among US businesses** Meanwhile, we recently took an utterly unscientific and haphazard poll of our members' expectations, and the news is very good. Every year, at the Council's Forecast conference, I ask for a show of hands among several hundred businesspeople on the question, "Was your China business last year better than/roughly the same as/worse than the preceding year?" I also ask for hands on the question, "Do you expect the coming year to be better than/roughly the same as/worse than last year?" This crude survey was interesting this year: most people indicated 1997 was better than 1996, but a significant minority of hands (maybe 20 percent) said that 1997 was either no better than or worse than 1996. But on the question of how our audience viewed 1998 as against 1997, nearly every hand rose to signify "1998 will be better," and virtually none said "1998 will be so-so or worse than 1997."

The fundamental things remain, as time goes by. Patient, firm pursuit of stronger US-China economic and commercial engagement, rooted in stable policies and enforceable international commitments, is the vital prerequisite to broad advancement of US interests with China in a global context. The predictable assertions, sure to be heard in the next few months, that crippling US-China trade will bring about a new socio-political order in China are no more valid today than they were a year ago, no matter who makes them. We should hear such claims respectfully. But the fundamental things remain. 完

On the Open Road

Private funds are China's best hope to achieve its ambitious highway expansion goals

Paul Woodward

Like other infrastructure sectors in China, highways are integral to the country's overall economic development, and have attracted significant foreign investment in recent years. Much attention has focused on the innovative routes PRC authorities have followed to fund the expansion of the nation's highway system. A growing number of mainland expressway companies have floated shares on foreign and PRC stock exchanges. Several high-profile Sino-foreign highway projects have undertaken large bond issues. And the PRC government has announced grand plans that mirror, in some respects, the US Interstate Highway program of the 1950s and 1960s. Many of these moves represent significant opportunities for foreign investors. At the same time, however, a range of problems are hindering both investment in and the coordination of overall highway development.

THE LAY OF THE LAND

The scale of the challenge facing China's highway planners is clear. In 1996, China had 855 kilometers (km) of highways per million people, while the United States had 25,300 km; Japan, 8,860 km; and India, 2,103 km (see Table 1). The contrasts are only slightly less striking at the urban level, where China has made significant progress in recent years: in 1996, Beijing had 570 km of highways per million people and Shanghai had 350 km, compared to 3,200 km and 1,200 km in London and New York, respectively. Recent developments have focused much attention on inter-city expressways and, in this context, China compares somewhat favorably to a number of other countries: the number of express highways in 1996 in France, for example, was 7,500; in Japan, 6,000; and in China, 3,500.

But PRC State Statistical Bureau figures show that highway expansion continues to

lag significantly behind the country's rapid traffic growth (see Table 2). In 1995, for example, kilometers of highway grew 3.5 percent, passenger traffic increased 9.1 percent, and freight traffic—measured in ton/km to reflect both the weight of goods carried and the distance traveled—expanded 4.6 percent. With railways running at close to capacity, freight traffic growth rates in the second half of 1996, and 1997, likely approached 8-9 percent.

FUNDS FOR THE TRUNK

In an attempt to address these shortfalls, the Ministry of Communications (MOC), in the late 1980s, announced plans for the construction, over the next 30 years, of some 35,000 km of national trunk roads linking 600 million people in key cities to each other and to Beijing. This national trunk system is to include 12 high-capacity toll roads, 5 north-south highways, and 7 east-west highways.

Paul Woodward is managing director at Asian Strategies Ltd., a Hong Kong-based consulting firm.

The Ninth Five-Year Plan (1996-2000), in turn, puts the country's total road requirements at 90,000 km, at an estimated total cost of at least \$60 billion, which may well prove to be conservative. One recent press report noted that 16 expressways are in various stages of planning and construction in Guangdong, as part of an acceleration of linkages to the Hong Kong Special Administrative Region. The price tag for these roads alone could reach \$20 billion.

The PRC government estimates that, of the more than \$60 billion required for new highway investment in the 1996-2000 period, government funding at national, provincial, and local levels falls as much as 25 percent short. Multilateral and bilateral funding, from institutions such as the World Bank, Asian Development Bank, and Japanese government (the three largest lenders to China), is expected to contribute a little under \$2 billion per year, or about 15 percent of the total funding requirement. Between 1985-1997, the World Bank alone channeled more than \$3 billion into 18 highway projects in China, consisting of 2,500 km of expressways or high-grade roads, and 13,000 km of national, provincial, and rural roads.

The remaining 10 percent of the necessary funding is expected to come from the private sector. Indeed, the new PRC Highway Law, released on July 3, 1997, and effective January 1, 1998, indicates that foreign investment in China's highway sector will be encouraged. Li Juchang, MOC vice minister, has said that "China welcomes more foreign investment in the construction and business operation" of highways. According to Li, 22 percent of China's 19,000 km of expressways and "special highways" were constructed with some type of foreign investment. In total, highway construction through 1997 had absorbed \$4 billion in foreign investment.

Foreign investors have preferred highway projects over other infrastructure sectors because they can be broken into shorter or longer lengths according to particular funding limits, or investors' needs for certain levels of risk and return. Sometimes called the "bite-sized chunk" effect, this approach is partly responsible for Beijing's success in attracting investment into the highway sector. But carving up highway investments into pieces can interfere with both the overall planning process and the performance of individual investments. PRC

transportation planners occasionally must cede control to investors of the phasing in of new highway projects. For example, investors tend to be reluctant to finance less-attractive sections that may be crucial to the completion of a given road. Investors must await completion of these connecting sections of roads to achieve traffic levels and returns anticipated in the planning stage.

Such drawbacks have not deterred foreign and private-sector investors so far, however. Generally, investors fall into three clearly identifiable groups of companies:

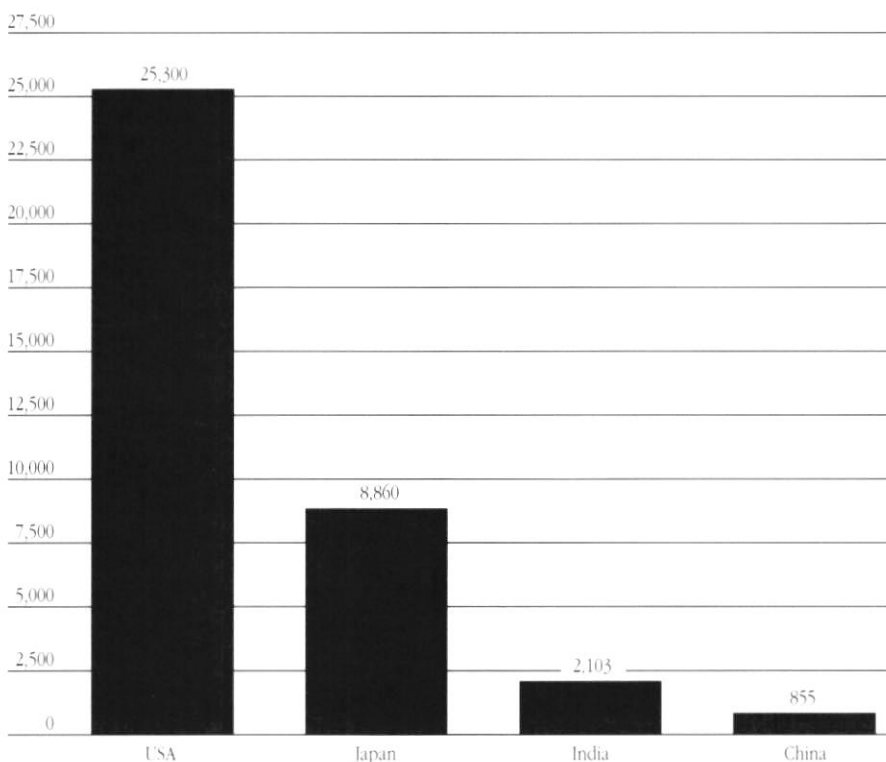
■ **Mainland provincial investment companies**

While technically not private-sector companies, many of the highway companies established by provincial governments operate as purely commercial organizations. These companies form the single most important group attracting capital into PRC highway investments, often by raising funds in the PRC and Hong Kong capital markets. Recent listings in Hong Kong have included Anhui Expressway Co., Shenzhen Expressway Co., and Zhejiang Expressway Co. Many of these companies are working closely with Hong Kong associates. In some cases, the Hong Kong companies have been formed specifically to channel funds toward PRC highway investment, while others are more widely known PRC investment companies based and listed in Hong Kong, such as China Overseas Land & Investment Ltd. Some of these PRC companies, or "red chips," are not well known for their infrastructure investments, most notably China Travel Service (Holdings) Hong Kong Ltd., but nonetheless are now market players.

■ **Hong Kong investors** As the largest source of foreign investment in China, Hong Kong investors' prominent role in highways comes as no surprise. New World Infrastructure Ltd., in particular, is building up a significant portfolio of PRC highway assets. Gordon Wu's Hopewell Holdings Ltd., after comparing its unfortunate experiences building an elevated highway in Thailand with the relative success of the Guangzhou-Shenzhen ("Guangshen") Expressway, reportedly is considering more projects in the mainland.

In addition to its role as a primary source of direct investment, Hong Kong offers the professional and financial services to structure the complex arrangements required for these types of infrastructure deals. The continued willingness of PRC organizations to use

TABLE 1
HIGHWAYS (KM) PER MILLION PEOPLE, 1996



SOURCE: Asian Strategies Ltd.

these services supports the view of many that "packaging" projects—bringing together a range of services to produce well-integrated deals—will be one of Hong Kong's key roles in China business in the future.

■ **Other Asian investors** Companies based elsewhere in Asia, particularly in Singapore, have taken an interest in China's highway sector. In November 1997, Singapore company Changi Specialist Centre Pte. Ltd., a wholly owned unit of Pinetree Resorts Pte. Ltd., announced the completion of the \$360 million, 215 km Qinglian Highway, linking Qingyuan in Guangdong with Hunan Province. But a number of these Asian companies have found their PRC highway investments to be a source of considerable disappointment. And though Hong Kong investors and international financial institutions together make up the bulk of non-mainland investment in China's highway sector, the recent economic and financial downturn in Asia could dampen enthusiasm for new PRC highway projects, among both Asian and Western investors.

EMERGING INVESTMENT PATTERNS

An examination of recent projects reveals a number of trends in foreign participation in China's highway sector (see Table 3). Perhaps the most striking characteristic of recent Sino-foreign highway ventures is that the stake of the foreign or non-governmental partner (including Hong Kong-based companies) in the project company established specifically for a certain road investment tends to be 60 percent or more. Though management control of the project company is obviously important to foreign investors, relatively few have followed up on the opportunities that technically exist for them to assume greater levels of control. Indeed, the PRC's 1995 "build, operate, transfer" (BOT) rules require the foreign party to have 100 percent ownership (see p.20). But foreign investors in most highway projects have opted to work with a PRC government partner to obtain assistance with such matters as routing and land acquisition.

Though foreign investors in PRC highway projects are gaining majority shares, an effective and strong local government partner remains extremely important to the success of Sino-foreign highway projects. Foreign partners apparently have deemed a roughly 40 percent stake for local Chinese partners the best way to ensure a project's success—though the

experiences of foreign companies participating in the government's pilot BOT experiments could alter this assumption.

Another trend in highway investment is a concession period of 25-30 years for new projects. Only a few years ago, PRC officials were insisting on 15-year periods. As for project size, the average total investment in a given highway project in China is roughly \$200 million, though construction costs for the types of roads in which foreign investors are involved vary widely. Even for the relatively small group of projects sampled in Table 3, the investments range from \$500,000/km-\$6.5 million/km, as the roads attracting foreign participation include relatively simple, two-lane highways with light traffic projections, as well as full-scale expressways built to international standards.

PLAYING THE MARKETS

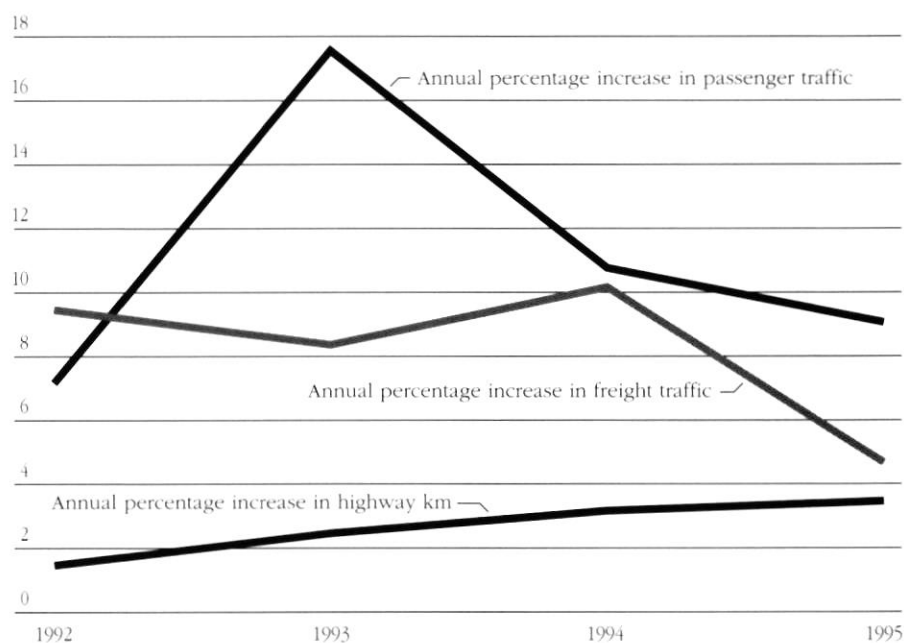
PRC domestic entities have had mixed success in structuring themselves for foreign capital markets. While initial public offerings of a number of PRC highway operators that have listed on the Hong Kong stock exchange have succeeded in raising significant funds for the companies, their share prices have plummeted in recent months along with the stock market as a whole. Domestic capital markets, meanwhile, are still relatively small and their capacity to handle more than a modest num-

ber of issues in any one year is debatable.

The capacity of the PRC domestic commercial banking sector to support investment on the scale required is, of course, limited, as the banks struggle to free themselves from the burden of non-performing loans to the State-owned enterprises. That said, some State-owned commercial banks have provided final "bridge" financing that has allowed developers to finish projects. For example, the Guangdong Branch of China Construction Bank provided five-year, fixed-asset loans worth ¥200 million (\$24.1 million) to finish the Shenzhen-Shantou and Foshan-Kaiping expressway projects (construction on both started in 1993 and is nearly complete). Though loans from PRC banks are unlikely to become a reliable form of financing in this sector in the near term, bridge financing by these banks may become more common.

Issuing bonds to finance highways is in its infancy in China compared to developed countries, but some Chinese cities, such as Shenzhen and Zhuhai in Guangdong Province, have found this option attractive. Bond issues are particularly appropriate for refinancing projects that are complete, or nearly complete, and for which revenue streams are beginning to become clear. Local authorities in China see bond issues, which incur annual interest costs

TABLE 2
CHINA'S TRANSPORTATION GROWTH, 1992-95



SOURCE: Asian Strategies Ltd.

of roughly 10-11 percent, as a less-expensive form of financing than issuing equity (see *The CBR*, January-February 1998, p.30). Equity-funded infrastructure developments currently demand 18 percent net profits. PRC highway bonds have been treated respectably in the market. For example, rating agency Standard & Poor's Corp. recently rated Greater Beijing First Expressway's notes at BB.

COMPANY SCORECARD

Despite China's success in attracting domestic "private" and foreign companies to highway investment, its uneven investment environment and opaque regulatory and legal systems have resulted in a mixed track record for companies involved in the sector. Road King Infrastructure Ltd. is probably the most prominent of the specialist highway conglomerates to have emerged in China's highway sector in recent years. Road King is a joint venture between and AIG Asian Infrastructure Fund L.P. and Wai Kee Holdings, a Hong Kong-listed company engaged in civil engineering, construction, and quarry operations that made its first joint-venture toll road investment in China in 1993. Road King, registered in Bermuda, was listed in Hong Kong on July 4, 1996. The company recently announced that profits soared 151 percent in 1997. On January 21, 1998, Road King's project listing included 29 highways in China.

Guangdong Expressway Co., on the other hand, announced in 1997 that its 1996 earnings, totaling ¥40 million (\$4.8 million), fell far short of the forecasted ¥208 million (\$25.1 million). Traffic was lower than expected, and taxes were higher, explained company officials. Though the company's 1997 interim results look better, this is likely due, in part, to more efficient toll collection and some financial restructuring, and not necessarily to fundamental improvements in the business.

The greatest determinants of a highway's profitability appear to be toll strategies and realization of the potential for property development. The issue of toll strategies is a clear example of where direct government involvement in projects can be extremely beneficial—or detrimental. Local government-approved toll increases of 20-25 percent in 1997 have translated directly into profit growth for Hopewell's Guangshen Expressway and Road King's toll roads. Highway companies in other parts of China, however, have reported that local

pricing bureaus' opposition to toll increases has limited their profits.

The linkage of property development to infrastructure projects is, in principle, well understood by Hong Kong developers. The enormous property developments around Hong Kong's MTR subway system and Kowloon-Canton Railway continue to play a fundamental role in the financing mix for those projects. But some Hong Kong developers lack an understanding of the differences between the Hong Kong and PRC prop-

erty markets. In particular, Hong Kong's land supply falls under more rigid government control (and is much more scarce) than the PRC's. The overcapacity and recent downturns of the property markets in China's major urban areas are likely to limit profitability of many infrastructure projects that rely on income from real estate development.

On the upside, road usage trends are likely to favor highway developers in China. Worldwide, traffic tends to increase to fill all available space. Two ex-



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amples of this phenomenon are London's M25 outer ring-road motorway, and the cross-harbor tunnels in Hong Kong. Even where initial usage estimates fall short of expectations—which appears to be a common problem in the first 2-3 years of many Chinese road projects—the numbers eventually rise. The Hopewell Guangshen Expressway, for example, has reported usage up from 59,000 vehicles per day in 1996 to 71,000 vehicles per day in 1997.

Another short-term issue, but one which has affected some of the PRC projects now on line, is that of other expansion and modernization activities in the vicinity of new roads. For example, developers do not always have full control over the pace and quality of development of adjoining sections of highway. This is a particular concern for those highways built piecemeal. Once a foreign-invested highway has been completed, it is not uncommon that important link roads included in a government master plan have not yet been completed or have not been built to a standard that supports traffic flows at levels anticipated in feasibility studies. At a recent conference in Beijing, Kevin R. Thieneman, Caterpillar Inc.'s Asia Pacific

counsel, proposed that one safeguard against this issue is to focus on roads that are part of MOC's designated national trunk network. Canny players in the China market, such as New World Infrastructure, have followed just that approach.

THE ROUTES TO FAILURE

Relatively few China-based highway projects among those tracked by Asian Strategies Ltd. have failed completely, but some examples exist. Reportedly, a Singapore-backed bridge and highway project in Sichuan Province was recently abandoned after a protracted disagreements over project engineering and failure to obtain detailed route plans. Indeed, the most common problems that tend to derail highway projects include land-use and engineering disputes, relocation issues, and local taxation concerns. All of these difficulties arise from the poor legal framework and regulatory structure characteristic of China's business environment.

Delays in obtaining clearance for route plans have been common features of seriously disrupted or cancelled projects. This is partly because township- and county-level governments appar-

ently believe that granting clearance for routes is the only stage of a highway project over which they have control and are, therefore, determined to seize the opportunity to drive a hard bargain in negotiations. Relocation issues, of people and structures, also play a role at this point, as discussions over relocation compensation and rebuilding can be long and drawn out.

Engineering disputes, too, are tricky for highway investors. Most PRC parties in negotiations tend to maintain that PRC civil engineers are sufficient and that international engineers need not be included in projects. Though PRC engineers generally may have appropriate skills, they tend to lack extensive experience. Thus, foreign investors have found that the most effective relationship consists of a PRC-foreign partnership in which the Chinese engineers take the lead, while an international firm contributes its knowledge from experiences with equivalent projects elsewhere in the world.

A LONG AND WINDING ROAD

Despite high hopes, the promulgation in July 1997 of a national highway

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TABLE 3
SELECTED PRC HIGHWAY DEALS WITH FOREIGN AND RED-CHIP PARTICIPATION, 1997

COMPANY	TOTAL COMPANY INVESTMENT (US\$)	INVESTMENT SHARE	LOCATION	TERM OF CONTRACT (YEARS)	PROJECT DETAILS
China Merchants Group	\$368.7 million	60%	Shandong Province	24	Purchased stake in Jinan-Qingdao highway (318 km)
China Overseas Land & Investment Ltd.	\$120 million in several projects	67%	Shandong Province	23	Will operate and manage the Yellow River Bridge; four sections of the Jinan-Dezhou 104 National Highway; and two sections of the Jinan-Dezhou road. Expected rate of return, 15%
China Travel Service (Holdings) Hong Kong Ltd.	\$41.2 million	49%	Jiangxi Province	NA	Acquired 7 km toll road and bridge linked to Nanchang-Gannan highway
J&K Holdings	\$31.3 million	60%	Shandong Province	25	Purchased operating rights for Jinan-Tai'an highway
New World Infrastructure Ltd.	\$238 million	60%	Tianjin	30	Invested in ongoing construction of 60.4 km toll road linking Tianjin and Tangshan, Hebei Province, in exchange for share of toll revenues
Road King Infrastructure Ltd.	\$33.7 million	70%	Hebei Province	NA	Will operate 79 km, four-lane Hanguan toll highway
Road King Infrastructure Ltd.	\$72.1 million	43%	Hunan Province	NA	Invested in construction of 76 km highway linking Changsha and Yiyang

SOURCE: Asian Strategies Ltd., Dow Jones News Service

law added few details to the sparse legal framework guiding highway projects. The new law offers only general guidelines for the planning, construction, maintenance, and administration of China's highway network. Though foreign investment is specifically encouraged in highway construction and operation, the guidelines that the law offers for financing and structuring such projects are limited. For example, the law calls only for general government approval of foreign financing, issuance of stocks and bonds, and toll collection. Thus, the law fails to address the problem faced by many foreign-invested infrastructure projects: the fact that a locality's pricing bureau has final say over an increase in user fees, such as tolls or tariffs. Though the highway law could form the basis for the kind of framework investors will need to expand their participation in the sector, its implementation reportedly is being held up by disputes between the localities and Beijing over a number of issues.

Closely related to the disputes between the center and the provinces over the new highway law are local taxation concerns. Currently, localities raise their own highway taxes in the form of vehicle taxes. These are valuable sources of income, which are rarely if ever reinvested in highways. An MOC proposal to do away with these vehicle taxes and replace them with a national fuel tax thus was not popular. From the point of view of highway investors, however, the local taxes are a problem that can seriously

affect road usage. They are highly variable, ranging between ¥300-¥30,000 (\$36-\$3,614) a year per vehicle. The higher the tax levels are, the more expensive road use becomes. Undermining the effectiveness of the tax, substantial tax breaks to certain entities in some areas exempt as much as 40 percent of vehicles on the road. Such exemptions distort revenue collection and limit the amount of cash available to local governments as seed money for important development projects.

Demands for an expanded highway system are likely to run well ahead of

the government's capacity to invest for some time. There will be a need for at least \$1 billion in annual private investment in new highway projects for the next 5-10 years. While the highway law could eventually provide a more secure framework for investors, in the short term the model in which PRC and foreign entities jointly invest in a highway development company will probably hold up best. Moreover, although more refinancing through bond issues is likely, other financing schemes, particularly BOT structures, are sure to become more popular. 完

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Opening the Floodgates

*Foreign—
mostly
European—
companies
have carved
a niche in
China's water
supply and
treatment
sectors*

Dylan Tanner

Throughout its history, China has had difficulty supplying water to its people. China has the second-lowest per capita water supply in the world, ahead of only India, according to the World Bank. Though water resources are unevenly distributed in many countries, China's case is extreme. Northern China, with 65 percent of the country's arable land and about 50 percent of its industry, is home to only 20 percent of the country's water resources. And southern China's rivers—the source of most of the country's water—are prone to flooding. Floods in 1994 and 1995 resulted in thousands of deaths and crop devastation.

Derived mostly from surface sources, China's water supply varies widely by season, and is vulnerable to pollution. At the same time, China's industrialization and economic development have placed unprecedented demands on the country's water resources. National water demand in China is growing roughly 5 percent annually, but in rural areas the growth rate is closer to 10 percent. The PRC Ministry of Water Resources predicts that China will face a shortfall of 30 billion cubic meters (cu m) by 2000, and of up to 50 billion cu m by 2020. At present, more than half of all Chinese cities suffer from water shortages, and 1 in 10 faces a severe water supply crisis.

To meet the demand for plentiful, clean water, China's water authorities have undertaken a number of projects, many with multilateral assistance, to improve supplies. Most assistance has gone into treatment of wastewater, in part because treated water costs half that of new sources, according to the World Bank, and in part because of government restrictions on foreign participation in water system supply and management. Over the past decade, the World Bank has dedicated \$775 million to water supply and sani-

tation projects in China (see Table). Foreign, especially European, firms also have become involved in water treatment projects. The World Bank, Asian Development Bank, and other multilateral institutions account for roughly 10 percent of the total investment required to improve China's water supply system. About 20 percent of such funds go to foreign firms performing high value-added work, including design and engineering. The remaining funding for water projects is sourced within China.

DIVIDED AUTHORITY

The management of China's water industry is split among the Ministry of Water Resources, the Ministry of Construction, the Ministry of Machine-Building Industry (MMBI), and municipal and provincial government water-resource bureaus. The responsibilities of the three ministries match their names: the water resources ministry plans reservoirs and river projects, and allocates water to industry and cities; the construction ministry administers large public works projects, including sewage treatment projects; and MMBI is charged with partial oversight of the water engineering equipment sector.

Dylan Tanner is a managing editor of China Environmental Review, a bi-monthly newsletter published by Asia Environmental Trading (AET) Ltd., based in London (<http://www.asianenviro.com>).

At the provincial level, management is further divided. For example, according to the World Bank, water resource management responsibilities in Liaoning Province are split among five agencies: the Water Conservancy, the Construction Commission, the Environmental Protection Bureau, the Public Health Bureau, and the local geology and mining administrations. The Liaoning Water Resource Management Committee coordinates the activities of these agencies. The Liaoning Environmental Protection Bureau and local-level environmental protection bureaus (EPBs) are charged with monitoring and maintaining environmental and water quality. They set environmental and discharge standards, impose and collect pollution charges, and enforce pollution laws. Each city in Liaoning also has a wastewater unit under its local construction commission. These units run wastewater treatment facilities. Municipal sanitation bureaus handle solid waste disposal.

Local-level government water bureaus have the most say in water-sector decisionmaking, and lack of cooperation among these local groups often stalls investment plans. The fragmented division of authority also has resulted in poor management of the water sector, and has slowed the development of an adequate regulatory framework to oversee the industry's transition to a market-driven system.

Currently, the Chinese government directly funds roughly 70 percent of water supply and treatment costs, with the remainder paid for by effluent fees from

industry and the public. Municipal water companies distribute water to consumers, with prices set according to Beijing's guidelines.

The main national industry association responsible for interfacing between the government and water treatment companies is the Beijing-based China Association of Environmental Protection Industry (CAEPI). Under the umbrella of MMBI, CAEPI promotes the interests of the roughly 4,000 PRC environmental machinery companies, both domestically and abroad. Like most industry associations, it collects information and provides an international voice for the industry.

WEAK REGULATIONS

The development of a market-driven system to treat and recycle municipal and industrial wastewater in China has been hindered by a number of regulatory deficiencies. The most debilitating regulatory problem is the lack of a legal framework governing water rights. There is no institution with sole responsibility for the water supply and management system, including enforcement of water pollution laws. Thus, violation of wastewater treatment regulations by PRC industries is widespread.

Private wastewater treatment facilities in China, for example, operate amidst numerous regulatory inadequacies. Industries must pay local EPBs fees based on their effluent discharge levels. The EPBs use these fees to fund pollution control programs and their own administration. Private-sector wastewater ser-

The most debilitating regulatory problem is the lack of a legal framework governing water rights.

vice providers then find it difficult to collect additional funds from these industries for treatment services. Meanwhile, the wastewater treatment plant operators, like industrial polluters, are themselves subject to effluent discharge fees. In contrast, national laws in both the United States and the United Kingdom require industries to pay all treatment costs for their wastewater, which creates incentives to minimize the amount of wastewater they generate.

CLEANING UP WASTEWATER

China, nevertheless, has been forging ahead with development of its wastewater treatment sector, with help from large amounts of aid funding, particularly from the World Bank.

Contamination of drinking water is among the more serious of China's water pollution problems. Environmental authorities in heavily industrialized Guangzhou, for example, warn that the city may soon run out of clean drinking water. China has a five-grade system of

TABLE
MAJOR WORLD BANK AND ASIAN DEVELOPMENT BANK (ADB) WATER SECTOR-RELATED PROJECTS IN CHINA

PROJECT	FUNDING AGENCY/EXECUTOR(S)	DURATION	COST
Changchun Water Supply and Environment Project	World Bank/Changchun Water Supply and Sewerage Co.	1993-98	\$120 million
Chongqing Industrial Pollution Control and Reform Project	World Bank/Chongqing Project Office*	1996-2000	\$170 million
Forest Resource Development and Protection	World Bank/Ministry of Forestry	1994-2001	\$200 million
Huaihe Basin Pollution Project	World Bank/Huaihe Pollution Control Group	NA	\$50 million for phase 1, \$250 million for phase 2
Hubei Urban Environment Project	World Bank/Hubei Bureau of Finance	1995-2000	\$150 million
Liaoning Environment Project	World Bank/Liaoning Project Office*	1995-2001	\$110 million
Second Shanghai Sewerage Project	World Bank/Shanghai Sewerage Co.	1996-2000	\$200 million
Shanghai Environmental Project	World Bank/Shanghai Environmental Protection Office	1994-2000	\$160 million
Tangshan and Chengde Environmental Improvement Program	ADB/ADB Project Office, Chengde Steel Factory	1993-98	\$140 million
Tianjin Urban Development and Environment Project	World Bank/Tianjin Construction Bureau	1993-98	\$100 million
Yunnan Environment Project	World Bank/Yunnan Project Office*	1996-2002	\$150 million

SOURCE: AET Ltd.

* These provincial offices administer World Bank loans.

Foreign participants in the market face competition from a rapidly developing Chinese industry.

measuring water quality. Water that is classified as grades 1-3 is potable, while Grade 4 can be used only by industry, and Grade 5 only for irrigation. Of Guangzhou's nine drinking water treatment plants, only two can supply potable (Grade 2) water.

According to the World Bank, of 600 cities in China, only 70 had set up wastewater treatment plants by 1994 (a total of 110 facilities). This number is growing rapidly, however, as a result of the 1996 amendment to the Water Pollution Control Law, which requires all Chinese cities with populations of more than 500,000 to have a centralized wastewater treatment system. In addition, the Ministry of Water Resources designated 1997 the "year of water talents," indicating that improving China's skills base is a top priority.

Beijing has tailored its approach to the country's wastewater needs based on the regional variations in levels of water contamination. Cities with seriously contaminated water, such as Qingdao, Shandong Province; and Dalian, Liaoning Province, are the focus of government efforts to develop wastewater control and recycling systems. The "Three Lakes and Three Rivers" program, which is receiving World Bank assistance, focuses on the cleanup of China's most polluted waterways—the Huai, Hai, and Liao rivers, and the Tai, Dian, and Chao lakes. The program is China's largest environmental improvement project. For the highly polluted Huai River alone, 283 wastewater projects are in the planning stages, and 64 of these projects are expected to use some foreign funding. For the water-rich southern cities, Beijing is focusing on water conservation efforts, especially in Guangdong, Jiangsu, and Zhejiang provinces.

DOMESTIC FIRMS MAKE GAINS

Demand for wastewater treatment products and services in China comes from municipal authorities that operate

large- and medium-sized wastewater systems, and private users such as industrial companies, hospitals, and hotels. Because the government retains control over the retail sale and distribution of water, foreign firms have most often obtained concessions for wastewater and drinking water treatment projects. Under such concessions, a project company (typically a joint venture between a government entity and a private foreign company) builds and operates an infrastructure facility for a concession period, at the end of which the facility is transferred to government operators.

But foreign participants in the market face competition from a rapidly developing Chinese industry, particularly firms in southern Jiangsu Province's new Yixing Environmental Technology Park. Yixing is situated in the affluent industrial zone between Shanghai and Nanjing, Jiangsu Province. Since the government designated a 38 sq km section of the city as a special industrial park in 1993, Yixing has developed into a center of wastewater treatment and environmental technology. To date, the city has attracted ¥1.5 billion (\$180.7 million) in infrastructure investment, and more than 800 foreign and domestic environmental enterprises, including 50 joint ventures, have set up operations there. By 1996, the city's output in the wastewater sector accounted for 20 percent of China's domestic output of wastewater treatment equipment, or about ¥2.5 billion (\$301.2 billion).

One leading PRC supplier specializing in wastewater treatment is the Penyao Group. Founded in 1984 by a group of engineers who identified an emerging market for wastewater treatment facilities, Penyao is now targeting the industrial sector in the wake of recent plant closures on the Huai River by the Chinese authorities. Penyao Chairman Wang Chunlin believes that the market will grow rapidly as regulators crack down on other sectors, including electronics, food processing, and leather-related industries. Penyao is actively introducing foreign water treatment products and technology into China. The company recently formed a joint venture with a US firm that will employ reverse osmosis water-treatment technology. Penyao has also purchased advanced foreign technology and products, and recently acquired filtering membranes from a Japanese firm. Penyao is currently in the market for technology to reduce organic pollutants

in the effluent from pulp/paper manufacturing facilities.

FOREIGN FIRMS CHART A COURSE

Despite the rise of domestic wastewater-related companies, a number of foreign firms are looking to become long-term market players in China. Foreign investment in the water treatment sector is officially encouraged, supposedly through "fast-tracking" of new projects through the PRC bureaucracy. Evidence of such facilitation is spotty, however, and no financial incentives specific to water treatment seem to be available.

The high risk of investing in China and other emerging markets means that only large multinational players tend to be able to obtain the financial backing to undertake major water sector-related projects. Observers note that reform of China's water industry to allow foreign investors to take on more risk, and potentially more return, will be necessary to drive efficiency changes and introduce new technology. The fact that a number of foreign concession projects are taking place in the PRC water sector under China's "build, operate, transfer" (BOT) rules, which require that concession projects be 100 percent foreign-owned (see p.20), could serve as a limited source of encouragement.

European companies, in particular, have seized such concession project opportunities in China's water sector. One such company is France's Suez Lyonnaise des Eaux (SLE). Formed through the merger of French water company Lyonnaise des Eaux and financial group Indosuez in 1997, SLE has sales of over \$40 billion worldwide and is one of the world's largest water treatment and service companies. Prior to its merger with Indosuez, Lyonnaise had 16,000 employees in Asia. SLE is one of the few global firms able to offer turnkey bids to Asia's emerging water supply and treatment privatization programs. SLE operates in the PRC water sector through Sino-French Holdings, a 50-50 joint venture with Hong Kong-based New World Infrastructure Ltd., a company long involved in China infrastructure projects. In addition to building and operating water-supply infrastructure, SLE owns one of the world's largest wastewater treatment companies, Degremont, which has supplied more than 300 plants throughout Asia in the last few decades. Since 1975, when it first supplied the PRC ministries of energy and chemicals industry with

wastewater engineering services. Degremont has supplied more than 50 Chinese municipalities with wastewater systems. Degremont has a representative office in Beijing and a full-service subsidiary, Guangdong Degremont Water Engineering Co.

In 1985, the Lyonnaise group was awarded a 25-year public drinking water supply and sales concession in Macao, in which it will eventually invest \$100 million. The mainland, by contrast, has been reluctant to award such full "supply and sell" concessions of the type that most international water groups would find profitable. But SLE has taken on five concessions, albeit with PRC government partners, in the PRC water treatment sector to date. The five projects have a total investment of about \$120 million, and each spans 30 years. SLE's partners in the five ventures are local municipal water authorities, to which the ventures will supply water at a predetermined price. SLE's role is limited to design, construction, and assistance with operation of the water treatment plants. The number of people served by SLE in China is about 2 million, or less than 0.2 percent of China's population, leaving plenty of room for growth.

Another SLE China project began in 1996, when SLE (then Lyonnaise des Eaux) formed Lyonnaise Asia Water (LAW), an investment and management company, based in Paris and Singapore, to invest in water treatment and supply projects throughout Asia. A total of \$230 million in capital has been raised so far from investors in the United States, Australia, and Malaysia—including Employees Provident Fund Board, Malaysia's largest pension fund. LAW is targeting projects in Australia, China, Indonesia, Malaysia, and Thailand for parent firm SLE to carry out. LAW Chief Executive and Lyonnaise veteran Jean Pierre Djian notes that the two main risk factors for foreign players in Asia's emerging water markets are government support and exchange rates. LAW is developing and using project rating methods similar to those used by credit agencies to judge risk. Djian states that Lyonnaise and its co-investors look for projects that can deliver an annual return of 20 percent over 20 years. He also notes governments' increased focus on environmental and efficiency factors in all water projects in Asia.

The OTV and Kruger groups, part of the CGE group of France—a keen rival of Degremont—have together built 50

wastewater treatment plants in China to date. OTV and Kruger together also manage a plant in Huizhou, Guangdong Province, that serves a population of 300,000, and operate facilities in Xi'an and the Shanghai region. In 1995, Kruger generated \$8 million in sales of water treatment equipment in China. OTV now has a \$5 million contract to build a wastewater plant in Qiqihar, Heilongjiang Province. In May 1997, CGE won a 20-year concession to operate the water supply system in the city of Tianjin, China's fourth-largest city (with a population of 9.4 million in 1996). CGE will take a 55 percent stake in a joint venture with the local government-owned Tianjin Waterworks, to supply 500,000 cu m of water per day.

Companies based in other foreign countries, including Japan, South Korea, the United Kingdom, and the United States, also have a strong presence in China's water industry. European firms, however, benefit from the willingness of European governments to offer concessionary loans that are tied to purchases of water-related equipment. The United States government does not offer tied aid, but the Export-Import Bank of the United States has established a policy to match offers made by other countries to

maintain US commercial competitiveness in foreign markets.

Among the UK firms in China is Hyder, formerly Welsh Water. Hyder has a 20 percent (\$11 million) stake in China Water Co. Ltd., set up with partners in Hong Kong and Singapore to target opportunities in China's wastewater and water supply markets. China Water Co. has initiated two projects, in Shenyang and Yantai, for wholesale water supply to the municipalities. Anglian Water International, another UK company, is bidding for an 18-year water concession project in Chengdu, Sichuan Province. Anglian's water treatment plant subsidiary, Sweden-based Purac, is involved in projects funded by the Swedish government, and has 20 staff in China. Last year Purac achieved a turnover of £10 million (\$16.2 million). Thames Water, also of the United Kingdom, is set to begin a \$68 million joint-venture project this year with the Shanghai Municipal Waterworks Co. And UK construction firm Bovis won the contract for a 20-year, BOT-type concession project that will supply 200 million cu m of drinking water to Shanghai.

ACTEW of Australia established a joint venture with the Shanghai Academy of Environmental Science and



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Shanghai Scientific Instrument Factory to supply a range of wastewater products and services to the Chinese market. And WABAG, a German wastewater engineering company, is pushing strongly into China. German chemical firm Hoechst Pigments awarded German environmental firm Lurgi AG a contract in July 1997 to construct a high-tech wastewater treatment plant and refurbish three existing plants at its complex in Tianjin (Lurgi is represented in China by joint-venture Beijing Lurgi Zimmer Engineering).

American firm US Filter acquired Wheelabrator in the past year and, through its acquisitions, has grown to be one of the world's largest water treatment companies. US Filter records more than \$20 million in annual sales to China, primarily to multinationals and the PRC oil and power sectors. In a first for a US company, St. Paul, Minnesota-based Lemna International signed a joint-venture agreement in June 1997 to design, construct, and operate a municipal wastewater facility in China. Lemna and its partner, Guangzhou Tunnel Development Co., will operate the \$120 million Guangzhou plant, which will have a treatment capacity of 200,000 cu m per day.

A FLOOD OF OPPORTUNITY

As the success to date of foreign firms' efforts to market their products and services in China indicates, future projects inaugurated by provinces and municipalities promise continued opportunities for foreign investment. Such opportunities will lie principally in providing packaged wastewater treatment and water supply services (planning, design, project management, sourcing, and operation), rather than supplying wastewater equipment.

The Shanghai Second Sewerage Project, for example, is a \$600 million sewer project that will receive \$250 million in World Bank assistance. A design review was conducted in 1995 by UK firm Mott MacDonald, and bidding for the project took place in March 1997. Work will commence this spring on the construction of the piping system that will dispose of 1.7 million cu m per day of water that has undergone primary treatment—the physical separation of pollutants—into the Yangtze River. The second phase of the project, directed at sewage treatment in the south of the city, will connect the systems of many factories that currently discharge

sewage and wastewater directly into the Yangtze. Discharge will also be channeled to two sewage-treatment plants in the southern suburbs of Shanghai.

Guangdong Province also hopes to bring its drinking water supply system up to acceptable levels and reduce wastewater emissions. The Xinhua News Agency reported in August 1997 that Guangdong plans to invest ¥20 billion (\$2.4 billion) over the next 15 years toward such goals. Though the explosive growth around the Pearl River delta has made Guangdong one of China's wealthier provinces, it is also one of the most polluted. The province has initiated a Green Water Program to construct sewage plants and install a monitoring network. The program aims to make 98 percent of the province's drinking water meet health standards, and 90 percent of industrial wastewater undergo at least secondary treatment, in which chemical methods are used to treat the water (tertiary treatment, most common in the United States, is treatment of wastewater by biological methods). Guangdong's plans also include 52 municipal sewerage and 31 industrial wastewater treatment plants. Much of the funding for water projects is expected to be borne by the private sec-

tor. Shenzhen, for example, recently became the first city in China to introduce a market-driven, solid waste treatment project.

TURNING THE TIDE

Persistent water shortages in China will lead to rising water supply costs. As the government becomes unable to bear such costs, a more market-driven water supply and management system will take its place. As part of this transition, water conservation efforts are sure to multiply. Water supply and treatment, currently paid for largely by the government, will also become a resource increasingly financed by industry and, eventually, by consumers as well. Though such alternative sources may ease the funding crisis somewhat, they may not be enough to generate adequate water supplies as demand rises. China's accelerating State-sector reforms, however, could alter this scenario. If China can reform the State-run sector without excessive social unrest, and avoid the economic collapse affecting the rest of Asia, the country's water supply and treatment problems may not become as severe as current use and growth patterns suggest. 完



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The Pressures of Project Finance

Melissa Thomas

Beijing tightens its regulatory grip on foreign project finance deals

China's massive infrastructure needs, together with the tight rein on domestic investment and the desire of foreign developers and their bankers to enter the PRC market, would seem to make project finance an inevitable part of China's infrastructure development program. But Beijing so far has been wary about encouraging foreign currency debt on a large scale, even on a limited-recourse basis to build much-needed infrastructure. For many senior PRC officials, the currency crisis now affecting other Asian countries has justified and further reinforced this cautious approach, which seems unlikely to change in the near future.

There has been some progress in the development of "project finance with Chinese characteristics," though not without some frustration for would-be project sponsors. Several significant deals have been completed, including the 2x700 megawatt (MW) coal-fired Guangdong Zhuhai power station; the 2x50 MW coal-fired Tangshan cogeneration project in Hebei Province; the Dachang water project in Shanghai; and the 2x360 MW Laibin B power plant in the Guangxi Zhuang Autonomous Region. But the total number of PRC projects financed on a truly limited-recourse basis remains small. In limited-recourse projects, lenders have recourse only to sponsors for limited support for specific risks, and to project assets and revenues. A quick review of basic lender concerns indicates why (*see box*). Ad hoc solutions have so far been found for individual projects, particularly within the "build, operate, transfer" (BOT) program, but Beijing seems unwilling to settle such concerns conclusively by regulation.

Perhaps the two most significant project finance-related developments of 1997 were the

continuing success of the BOT program (particularly the financial closing of the Laibin B project), and the issuance of the Provisional Measures on the Administration of International Project Finance (the Project Finance Measures). Interestingly, both developments enhance the power of the State Planning Commission (SPC) over infrastructure investment at a time when the central planning authority's role in approving conventional investment projects is being re-examined.

Under close supervision of the SPC, China's infant BOT program has shown skeptics within the PRC government that the BOT model can deliver infrastructure financing quickly and at an acceptable cost. Moreover, the program can meet the essential requirements of the international lending community without the erosion of national sovereignty that PRC officials feared.

BOT MODEL PROGRESSES

When introducing sensitive or risky investment innovations, the PRC government tends to start with a small-scale experiment that can be centrally monitored and controlled.

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The BOT program began as one such experiment in 1995 under the Notice on Questions Concerning the Administration of Examination and Approvals for Foreign-Invested Concession Projects Established on a Trial Basis (BOT Circular), issued jointly by the SPC, the Ministry of Electric Power, and the Ministry of Communications (see *The CBR*, September-October 1996, p.22). Under this initiative, the SPC selects "pilot projects" in various sectors and regions and supervises their implementation.

The experimental program includes a number of features designed to attract foreign bidders and lenders, such as the following: a fair and transparent bidding process, supervised by the SPC; a requirement of 100 percent foreign ownership, which eliminates pressure from local utilities to retain control; credit support for offtake payments as well as generous government compensation for early termination of the concession; a "fast-track" contract negotiation and approval process that supposedly coordinates input from various departments and levels of government; and a "guarantee" of the convertibility and transferability of foreign currency for both debt service and equity returns.

Such concession-based financing offers the great advantage that the host government can assume appropriate risks contractually. For cases in which the SPC perceives such actions as necessary to conclude a deal, the concession-granting local governments have been encouraged to accept such risks. Also, because the SPC has been actively involved in structuring, developing, and negotiating each transaction, the likelihood that a deal would not receive final approval has been small.

In 1997, the first BOT project, Laibin B, achieved financial closure. This signaled that the program's model project documentation was fundamentally acceptable to international lenders, including a syndicate of commercial banks and COFACE, the French export credit agency. Electricité de France and GEC Alstom, Laibin B's winning consortium, had already shown that they could meet the Chinese government's primary objective of low tariffs. While the closing was four months beyond the SPC's aggressive timetable of six months from the bid award date, it was still remarkably quick for an Asian project finance deal.

Two other projects were added to the BOT program in 1997—a second thermal power plant in Changsha, Hunan Province, and a water treatment

plant in Chengdu, Sichuan Province. Bids for the Changsha project have been submitted and negotiations with the preferred bidder are under way; bids for the Chengdu water project were due in February. In these later deals, the SPC appears to be moving toward nearly standard-form documentation, in hopes of further reducing the time and costs involved in negotiations. In Changsha, the concession-granting authority was far more reluctant than the Guangxi government had been in the Laibin project to accept any changes proposed by bidders to the draft project documents, or to entertain requests from lenders for additional support letters from government authorities.

The Laibin experience, however, revealed some problems. The requirement that bids incorporate final input from lenders on the project documents raised the already high cost of bid preparation. Further, the timetable for submitting tender documents, with only a few months from bid award to financial closure, was strictly enforced. Such a timetable puts tremendous pressure on the winning bidder, particularly since neither the SPC nor the concession-granting authority controls many of the approvals that must be obtained during this period. For the Laibin project, the tender documents also stipulated that the parties not sign the concession agreement until all financing conditions were met—a case of putting the cart before the horse. Nonetheless, future projects should encounter fewer of these difficulties, since each side will likely begin with a better understanding of the process.

Despite Laibin's successful financial closing and the apparently smooth bidding of the Changsha and Chengdu projects, no new projects have been announced since April 1997. A potential fourth project, a bridge near Wuhan, Hubei Province, reportedly has been under consideration for some time. Further, the release of the long-anticipated Provisional Regulations on Foreign-Invested Concession Projects, originally expected last summer to replace the brief BOT Circular, has been delayed. This apparent lull in the program suggests that PRC authorities may need more time to incorporate the lessons learned in the first set of BOT projects. Beijing also may be reconsidering the implications of requiring 100 percent foreign-currency financing of major infrastructure projects in light of the ongoing Asian currency crisis. It seems likely, however, that after

It is obvious that the new project finance measures' main purpose is not to create more favorable conditions for foreign sponsors or lenders.

these deliberations, Beijing will not only continue but also expand the program.

PROJECT FINANCE RULES ADD UNCERTAINTY

The second major step toward the development of a project finance framework in China was the issuance by the SPC and the State Administration of Foreign Exchange (SAFE), in April 1997, of the Project Finance Measures ("the Measures"). These regulations are the first attempt by central authorities to regulate specifically limited-recourse financing in foreign currency of Chinese infrastructure projects. For better or worse, the Measures are actually more significant than the BOT rules, since even an expanded BOT program could only accommodate a small portion of the PRC infrastructure needs that require private sector financing. In particular, the BOT framework, as currently structured, requires public bidding and does not cover projects directly negotiated by sponsors with local partners.

Though many aspects of the new project finance measures remain unclear, it is obvious that their main purpose is not to create more favorable conditions for foreign sponsors or lenders. Rather, they seem intended primarily to ensure central review and approval, for planning and foreign exchange control purposes, over the structure and financing of projects that use the project finance method.

One challenge posed by the Measures is discerning their scope of application. Experience to date with PRC officials at different levels suggests that there is not yet a clear and consistent view of what constitutes "project finance." Strictly speaking, the Project Finance Measures explicitly cover non-recourse financing, and limited-recourse financing by implication. The Measures seem to cover projects for which sponsors provide only limited support for specific risks, but seem to exclude projects involving full

recourse to substantial entities, even with provisions for security over project assets and revenues.

At the same time, the regulation states that the "project finance method" is to be used mainly for certain types of infrastructure projects and other projects involving "large-scale" investment and steady and predictable long-term revenue streams. This has led to the perception that limited-recourse financing for smaller or industrial projects is not considered project finance for the purposes of the Measures. The SPC may not be interested in reviewing either smaller-scale projects or larger industrial projects

in which risk is not allocated to a domestic offtaker. But the guidelines are broadly worded, and neither the SPC nor SAFE is expected to issue official statements that outline limitations on the regulation's scope. Whether lenders to smaller or industrial projects will be satisfied with an approval letter from the local planning commission, rather than from Beijing, remains to be seen.

NEW APPROVAL REQUIREMENTS

The Project Finance Measures contain important changes to the approval requirements for projects to be financed

by the project finance method. To determine whether the Measures will apply, sponsors must decide on financing methods at an early stage of the development process. Lenders should be aware of these new requirements in determining if a proposed project has been properly approved.

Projects in China must pass through two stages of planning approval. First, the Chinese sponsor typically submits a project proposal for preliminary approval before seeking foreign investment. The PRC and foreign sponsors then jointly prepare and submit a detailed feasibility study report, on the ba-

AN UPDATE ON INFRASTRUCTURE FINANCING ISSUES

Despite China's urgent need for infrastructure improvements and some progress in creating a legal framework for project finance, the number of true limited-recourse deals in the PRC remains small. Several important features of China's investment environment continue to inspire caution on the part of foreign lenders.

■ **Creditworthiness of Chinese project parties** State-owned offtakers in infrastructure project finance deals often are new companies with no verifiable credit standing, while the government entities that control them are not permitted to guarantee their performance. "Build, operate, transfer" (BOT) projects have dealt with this issue by making the concession-granting local authority a "primary obligor" directly liable for the offtaker's payment obligations, rather than a "guarantor" (whose liability would be contingent on the offtaker's failure to pay). Successful non-BOT projects have found other creative solutions. The Dachang water project in Shanghai, for example, used a Shanghai government-owned company as guarantor, while the Tangshan power project received "political risk and frustration of contract" insurance from the People's Insurance Company of China, which effectively guaranteed termination payments.

■ **Long-term tariffs** Potential foreign infrastructure investors continue to be deterred by the fact that PRC entities remain unable to provide long-term, fixed-price contractual commitments for many inputs, especially those allocated by the State, such as rail transportation and coal. Also, foreign lenders remain concerned that contractually agreed-

upon tariff rates for limited-recourse financing projects appear to be subject to revision by PRC price control authorities. Under the BOT program in place since 1995, however, the concession-granting authority offers long-term tariff assurances that, if breached, give rise to termination payments.

■ **Conflicts of interest** It is not unusual, particularly in the context of joint-venture infrastructure projects, for a project sponsor to be a counterparty to a principal project contract. For example, in a typical joint-venture power project, the Chinese joint-venture partner (often the majority owner of the venture) is likely to be affiliated with the local power bureau, the sole off-taker. The Chinese partner may also have responsibility for constructing, operating, and maintaining the project and ensuring the project's fuel supply. In such instances, lenders may be concerned about the ability or willingness of the project company to exercise its contractual rights against its own controlling shareholder. Under the BOT program, such conflicts have been avoided by requiring 100 percent foreign equity ownership, which preempts local utility companies from demanding project control rights. The recently released Project Finance Measures, on the other hand, simply prohibit contracts that give rise to conflicts of interest. Unfortunately, this approach only adds the risk of non-compliance with the Project Finance Measures to lenders' other concerns about such projects.

■ **The legal framework** Lenders continue to be concerned about the lack of a neutral arbitration forum for con-

tract disputes between project companies and other Chinese entities. Arbitration by the China International Economic and Trade Arbitration Commission (CIETAC) is only available for contracts that involve a foreign party. Because project companies are incorporated in China, they cannot be considered foreign parties for CIETAC purposes.

Another persistent concern is the enforceability of security in local courts, which may be more responsive to local interests than to foreign lenders. Under the BOT program, the concession-granting authority offers some assurances, backed by termination payments, with respect to these and other issues relating to the legal framework. Outside the BOT program, these issues can be dealt with only by non-binding "support letters," which rely on implicating the signatory's prestige and reputation. However, as part of the process of standardizing procedures for project financing, Beijing plans to limit the use of such letters to special cases.

■ **Currency risk** The BOT program and Project Finance Measures both provide assurances of currency convertibility and transferability. And with current-account convertibility and a stable *renminbi* (RMB) exchange rate, the chance that foreign sponsors will be unable to make debt repayments has become less of a concern for both Chinese authorities and lenders. But this risk could increase if China devalues the RMB in response to the currency crisis now affecting other Asian countries.

—Melissa Thomas

sis of which final planning approval is granted. Traditionally, project sponsors have approached lenders only after final project approval was certain. Prior to promulgation of the Project Finance Measures, project sponsors would obtain these approvals from planning authorities at the appropriate level, which was dictated by the project size and industrial sector. Under the Measures, the preliminary proposal and feasibility study for all projects that use the project finance method, regardless of size or sector, must now be approved at the central level. Though it is questionable whether the SPC really will review small projects for which investors are considering limited-recourse financing, SPC approval is clearly required under the new measures. Sponsors of projects with less than \$30 million in total investment should be aware that even if local planning authorities do not consider it necessary to submit the project proposal to the SPC, potential lenders might insist on such submission for compliance purposes.

More significantly, the Measures require that feasibility studies for projects financed on a limited-recourse basis include the proposed tariff structure and adjustment formula; a statement of the "principles of risk allocation" and a "project financing plan"; commitment letters from foreign lenders; any support documents issued by Chinese entities; and the "final, unalterable drafts" of any principal project contracts that require government approval, such as power purchase contracts. Most feasibility study reports for conventional projects, on the other hand, barely mention financing issues, let alone include input from interested lenders.

SPC officials intend to review a fairly complete project package, which they can then use to assess such matters as the qualifications of prospective investors and project parties, the "appropriateness" of project risk allocation, the affordability of the tariff for local consumers, and the nature of support given by Chinese organizations. From a government point of view, this means a streamlined process from approval to financial closure. Under the Measures, this process must be completed within a year. For sponsors, however, these prerequisites may entail initial discussions of substantial issues with lenders, or even detailed contract negotiations involving lenders and their advisers, with no guarantee of final SPC approval. Project sponsors must therefore consult

with lenders during the preparation of the feasibility study. Also, sponsors should be aware that lenders must sign off on the offtake agreement, the tariff structure, and the required support documents, since subsequent changes to these aspects of the deal would require re-approval.

Also new is the requirement that after the SPC has approved the project, SAFE, China's central exchange-control authority, must also endorse the project's financing conditions. Under the Project Finance Measures, SAFE must review all financing documents to determine, among other things, whether the financing conditions are sufficiently "competitive." This approval is in addition to existing foreign debt registration requirements for foreign-invested enterprises.

How intrusively SAFE will interpret this mandate remains unclear. Experience has shown, however, that PRC officials responsible for vetting complex commercial arrangements tend to require changes, if only to demonstrate that they are doing their jobs. Foreign sponsors and lenders are understandably concerned that SAFE officials may have little experience in this area and will require amendments to negotiated loan documents simply to suit bureaucratic notions of competitiveness.

BEYOND APPROVALS

In addition to approval requirements, the Project Finance Measures cover other key issues such as currency convertibility, tariffs, and guarantees. Despite the inclusion of topics important to lenders, the regulations create new uncertainties on most of these issues—with the exception of currency convertibility—rather than clarify existing ones. The stipulations regarding various lender concerns are as follows:

■ **Currency convertibility** Lenders are assured that for properly authorized project financings, foreign currency required for debt repayment (but not for sponsor returns) can be converted and remitted outside China. The penalty for non-compliance with the Measures is non-convertibility. This is obviously a strong incentive for lenders to ensure sponsor compliance, though less of an incentive for borrowers (especially PRC sponsors).

■ **Tariffs** Tariffs may not be calculated in foreign currency and are subject to separate price control regulations. Tariffs should "reasonably reflect" price increases (presumably prices of inputs,

**SAFE must review
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financing conditions are
sufficiently "competitive."**

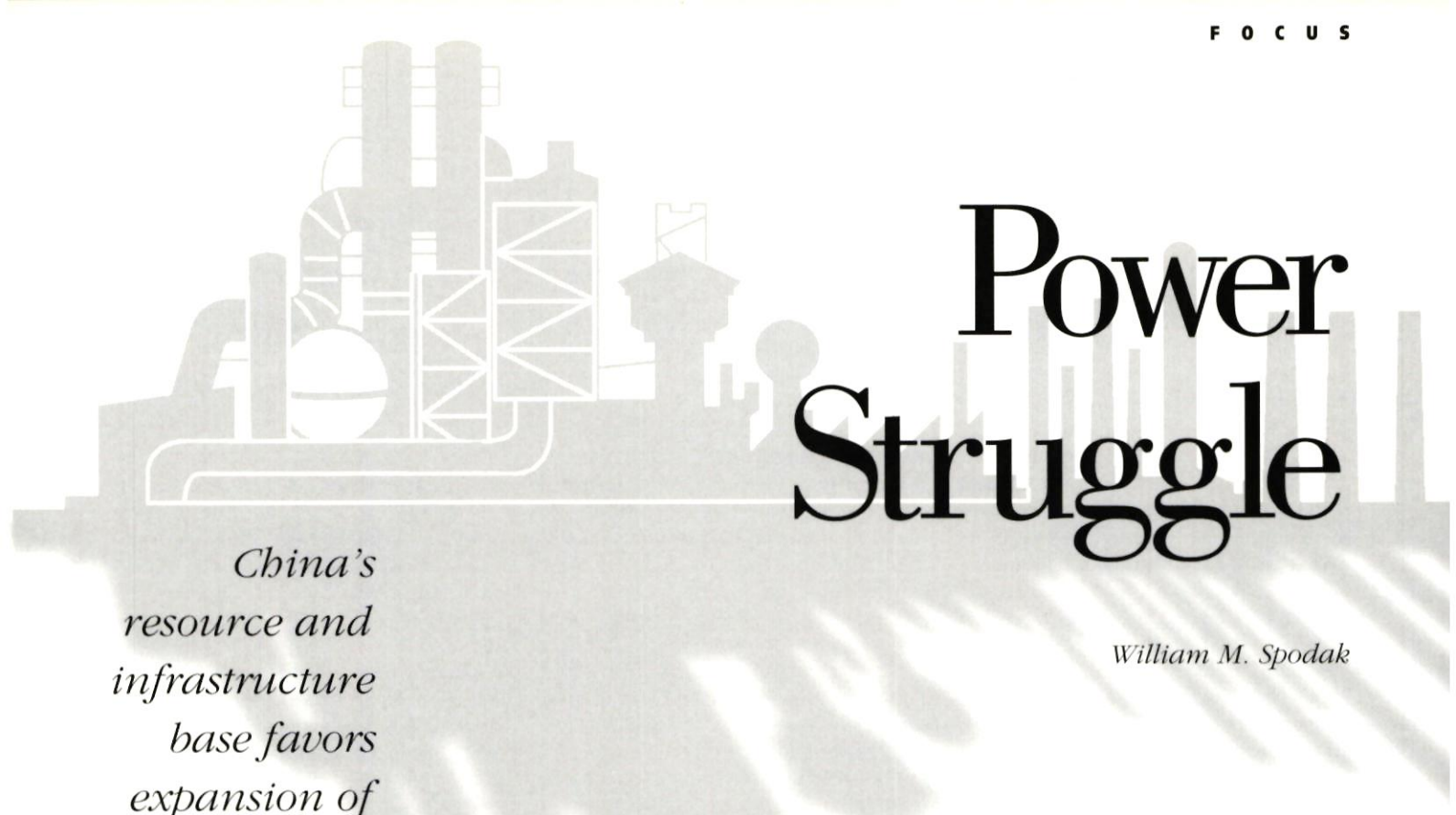
though the Measures are unclear on this point) and exchange rate fluctuations, and "fully take into account" whether local consumers can afford them. The crucial issue of long-term enforceability of tariffs, however, is not addressed.

■ **Guarantees** The Measures prohibit domestic entities from providing payment guarantees or security, and bar domestic financial institutions from giving performance guarantees. Performance guarantees by domestic entities (other than the government or banks) and non-binding "comfort letters" from government entities remain permissible if approved by the SPC.

PROGRESS TO DATE

The impact of the Project Finance Measures has so far been mixed. Officials acknowledge difficulties with the scope, interpretation, and application of the Measures and have yet to provide lenders with a transparent way of determining compliance. Most problems to date have concerned transitional projects—those that had obtained final planning approval, but not completed their financing, before the Project Finance Measures were introduced. It is not clear how the new measures' approval requirements were intended to apply to such projects, and sponsors who attempt to obtain re-approval under the Measures may have difficulty obtaining evidence of compliance from the SPC.

The problems raised by the Measures, however, are not likely to disappear as the new approval process is implemented. Given the current economic crisis in Asia, PRC authorities now have little reason to speed up the approval of foreign currency financing. Perhaps the outcome of that crisis will determine whether PRC authorities are ultimately prepared to develop a regulatory framework that will encourage and facilitate international investment in China's infrastructure. 完



Power Struggle

William M. Spodak

China's resource and infrastructure base favors expansion of its nuclear electric power capacity

China's combination of near double-digit economic growth since the beginning of this decade, and a large and growing population, requires a rapid increase in installed electric generating capacity. Nearly 100 million Chinese have no electricity at all, relying on biomass—animal waste, vegetation, and wood—as a principal source of fuel for heating and cooking. Per capita energy consumption in China in 1995 stood at a mere 29.7 million British thermal units (Btus), compared to 331.8 million Btus in the United States. China has various fuel options—fossil fuels, including coal, oil, and natural gas; hydroelectric power; renewables, such as wind and solar power, and biomass; and nuclear energy. But the costs to China of these options vary considerably, given the uneven geographic distribution of its energy resources and underdeveloped transportation infrastructure.

REVIEWING THE CHOICES

At the end of 1996, China's installed power generation capacity totaled 237,000 megawatts (MW). By 2000, China aims to have installed capacity of 300,000 MW, and by 2010, at least 500,000 MW. In comparison, as of 1996 the United States had slightly more than 706,000 MW of installed capacity, and added 5,700 MW in 1995.

A look at China's energy options illustrates the difficulties facing Chinese energy planners as they decide which development options to prioritize to meet the country's needs:

■ **Coal** provides nearly three-quarters of China's total energy needs, according to China's Xinhua News Agency. But 77 percent of the country's less-polluting, low-sul-

fur coal deposits lie in northern provinces far from the country's primary consumers, who are concentrated along the east and southeast coasts. High-sulfur coal comprised nearly 80 percent of all coal production in 1996. Located in the eastern and south-central provinces, high-sulfur coal produces considerably more air pollution and acid rain than the low-sulfur variety. Sulfur dioxide levels in many Chinese cities are 2-5 times World Health Organization (WHO) guidelines. Moreover, China's rail system—the primary means of transporting coal—is incapable of handling the quantities of coal required to meet current, let alone future, demand. The daily fueling of just one 1,000 MW coal-fired plant requires five trainloads of coal, each transporting 1,400 metric tons.

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Over 50 percent of China's railroad capacity is already dedicated to the transport of coal.

■ **Oil** Oil constituted almost 20 percent of China's total energy consumption in 1995. China's demand for oil is climbing rapidly, however, in tandem with the surge in the country's vehicle output. In 1996, China produced 13.2 million motor vehicles, most of which were motorcycles, up from roughly 560,000 in 1988 (see *The CBR*, November-December 1997, p.8). China was the world's fifth-largest oil producer and third-largest petroleum consumer in 1996. Nevertheless, China has been a net importer of oil since 1993, and imported roughly 160 million barrels of crude oil worth \$3.4 billion in 1996, a 37.5 percent increase over 1995. By 2010, PRC oil imports are expected to rise to roughly 2 million barrels a day, the equivalent of Kuwait's current total daily output.

■ **Hydropower** China's hydroelectric dams generated 55.6 gigawatts of electricity, about 17 percent of the country's total electric supply in 1996. The vast majority of hydropower resources are located in western China, far from energy demand, which is concentrated along the coastal regions. The Yangtze River basin alone provides roughly 50 percent of China's hydroelectric power, followed by the Tibet Autonomous Region and Yunnan Province. In Chongqing, formerly part of Sichuan Province but now a centrally administered municipality, the world's largest hydroelectric project, the Three Gorges Dam, is under construction. Scheduled for completion in 2009, the project will consist of twenty-six 700 MW generators and will produce 18,000 MW of electricity per day.

■ **Nuclear power** China currently operates three nuclear power plants: two plants at the Daya Bay facility in Guangdong Province, and the Qinshan Nuclear Power Plant in Zhejiang Province. Although expensive to build, nuclear energy electric plants are relatively inexpensive to fuel. One kilogram (kg) of uranium produces up to 50,000 kilowatt hours (kwh) of electricity, while one kg of coal produces only up to 3 kwh of electricity. Moreover, "[T]he cost to transport fuel for a nuclear power plant is one-hundred-thousandth of that for the volume of coal yielding the same energy," according to the chairman of China National Nuclear Corp. (CNNC) in 1994. A 1,000 MW nuclear plant requires 27 metric tons annually of slightly enriched uranium. One truck can transport

160 metric tons of uranium, or more than a 5-year supply.

China currently has roughly 1.7 billion tons of uranium in reserve deposits, according to a recent report in *Beijing Review*. Uranium processing plants are concentrated in China's southern provinces, including Anhui, Fujian, Guangdong, Guangxi, Jiangsu, and Zhejiang, and the country is expanding its fuel-fabrication and reactor-manufacturing capabilities.

■ **Natural gas** China's sources of natural gas, a relatively clean fossil fuel, so far appear to be limited. Natural gas accounted for roughly 2 percent of China's energy consumption in 1996. Even if major gas fields were to be discovered in China, pipeline systems would need to be built to deliver the supplies to primary users. As the terrain throughout southern and western China is rugged and mountainous, the cost of building pipeline systems—as well as railroads and electric transmission networks—will be very expensive. Thus, developing natural gas sources will require large capital investments.

■ **Solar and wind power** By the end of 1995, China's combined installed capacity of geothermal, solar, and wind power sources totaled a mere 77 MW, less than the amount of electricity generated by one small coal plant. China is unlikely to make solar-cell or windmill plants a significant energy source. The construction of a solar or windmill plant that generates the equivalent amount of energy as a 1,000 MW coal plant would require 50-60 sq km of land. Such large undeveloped land masses, however, are available only in sparsely populated areas, far from the bulk of China's energy consumers. Renewable energy sources require improvements in energy technology, transmission networks, and energy storage capability to become a significant part of China's electric energy mix.

In addition to inadequate transportation infrastructure, China's energy options are constrained by other factors. China's current electric transmission network is poor, with significant line losses of electricity. The Ninth Five-Year Plan (1996-2000), however, includes plans to strengthen existing transmission lines for increased bulk power transmission and significantly improve connections between networks. Much of the investment will go toward strengthening regional networks and power grids in China, especially the 500 kilovolt trunk lines that will

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serve planned hydroelectric and thermal power plants. Nonetheless, China continues to consume nearly twice the amount of energy, on average, utilized by other developing countries to yield a dollar increase in gross domestic product (GDP). Though the amount of energy required to generate a dollar increase in its GDP has dropped by 50 percent since 1980, China's rate of energy efficiency growth still falls short of the country's economic growth rate.

**WEIGHING THE
COSTS AND BENEFITS**

In addition to construction, fuel, and maintenance costs of electric power plants, energy strategies also must con-

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Nuclear power plants have fewer direct effects on the environment than coal-fired plants.

sider the impact of the various production means on the environment. Coal, China's major source of energy, contributes significantly to the country's high levels of air and water pollution. According to Dr. Hans Blix, director general of the International Atomic Energy Agency, even if China were to use the most advanced clean-coal technologies in all of its coal-fired plants, each 1,000 MW plant would emit 900 tons of sulfur dioxide, 4,500 tons of nitrogen oxide, 400 tons of heavy metals (mercury, arsenic, lead, and cadmium), 350,000 tons of solid waste, and 6.5 million tons of carbon dioxide per year.

These plant emissions, combined with those of the estimated 400,000 industrial boilers in China and the burning of coke for private heating and cooking, are largely responsible for the fact that 500 major Chinese cities, including Beijing, do not meet WHO clean-air standards. According to the World Bank, 4.5 million people in China die each year from illnesses caused, at least partially, by pollution levels that exceed world standards. Air pollution-related illnesses also are responsible for the loss of 7.4 million work-years annually. Most of China's existing coal-fired electric plants currently lack the technology to remove sulfur dioxide and nitrogen oxide from coal, and acid rain in southern and southwestern China has become a serious concern. In Chongqing, for example, acid rain damaged 24 percent of the municipality's vegetable crop in 1993, a roughly ¥62 million (\$7.5 million) loss. The World Bank estimates the annual cost of air and water pollution on the economy to be \$54 billion, or roughly 8 percent of GDP.

Though nuclear waste disposal requires careful long-term planning, nuclear power plants have fewer direct effects on the environment than coal-fired plants, since they emit nei-

ther air pollutants nor carbon dioxide. A typical nuclear power plant produces 20 tons of spent fuel per year. But in terms of volume, the amount of highly radioactive waste generated by China's present nuclear electric plants is small. Spent fuel rods are removed from the reactors and placed in cooling ponds and later, if necessary, in above-ground containers, where they remain for 100 years or more. Less than 1 percent of the spent fuel remains radioactive for tens of thousands of years. These wastes must be placed in geological repositories to decay into a natural state. In contrast, wastes from coal-fired plants, such as mercury and lead, remain toxic forever. The onsite spent fuel storage capacity of the Daya Bay nuclear station is 15 years, and that of the Qinshan plant, 10 years. But because China has had a nuclear weapons program, requiring effective nuclear waste disposal systems, for more than 35 years, waste disposal is not a new problem created by nuclear power generation facilities. In addition, CNNC is a member of the World Association of Nuclear Operators—an information exchange forum for plant operators. Thus, nuclear energy presents certain advantages for China, a nation with harmful levels of air pollution and greenhouse gas emissions.

COAL REMAINS KING

Though highly polluting, fossil fuels, mainly coal, will continue to be China's main energy source for the foreseeable future. In 1997, roughly 82 percent of China's electricity was generated from fossil fuels. By 2010, Chinese energy officials expect fossil fuels will provide 73 percent, or 374,000 MW, of the country's total energy; hydroelectric plants, 22.5 percent, or 115,000 MW; nuclear electric plants, 3.9 percent, or 20,000 MW; and renewables, 0.5 percent, or 2,500 MW.

And though the percentage of fossil fuel-burning plants as a portion of all power plants is expected to decrease, the absolute numbers of such plants will increase dramatically. Between 2000-2010, China intends to enhance its electricity generating capacity by adding at least 81 coal-fired power stations, each with a capacity of 2,000 MW, according to the official PRC publication *The Science and Technology Daily*. Since a Chinese power station generally consists of several small plants, 81 power stations could translate into over 300 new plant orders.

NUCLEAR DEVELOPMENT PLANS

Recognizing the unique advantages of nuclear power for China, PRC officials have set ambitious goals for the sector (see *The CBR*, September-October 1996, p.16). China's goal for 2010 is a significant increase over the 2,100 MW of electricity currently generated by the country's three nuclear power plants. By 2020, China intends to have available 50,000 MW of nuclear capacity and 150,000 MW by 2050.

Orders for plants must be placed soon to meet this goal. But with an estimated cost of at least \$1 billion per 1,000 MW of electric capacity, nuclear power plants are expensive. To date, China has ordered eight additional plants with a combined capacity of 6,650 MW. Phase two of the Qinshan plant was launched in May 1997 and involves the installation of two Canadian reactors. During phase three, China will build two reactors, with technical assistance from Western suppliers such as Westinghouse. The Lingao Nuclear Power Plant in Guangdong Province, launched in June 1997, will consist of two French reactors. Most recently, in late December 1997, China and Russia signed an agreement to build the 2,000 MW Lianyungang Nuclear Power Plant in Jiangsu Province.

At a work conference held in Beijing in early January of this year, CNNC announced plans to speed up construction of all planned nuclear power plants. The third phase of the Qinshan plant will begin by the end of this year, and construction of the Lianyungang plant will start in 1999.

NUCLEAR SAFETY ISSUES

In the aftermath of Russia's Chernobyl nuclear disaster, PRC officials have emphasized safety issues in China's nuclear electricity program. Advanced safety features have been incorporated into China's reactor designs. Construction standards, inspections, and regulatory programs under which plants operate have also been updated. US-China cooperation on nuclear safety began in 1981 when the US Nuclear Regulatory Commission (NRC) began to assist China in establishing its safety regulations and operator standards. A lack of funds, however, has since reduced such cooperation.

Standardization of equipment among plants is a key element of any nuclear

MODELING SUCCESS



ABB Inc.'s relationship with China began in 1907, when the company supplied the country with one steam boiler. ABB continues to contribute to China's industrial development through active participation in large infrastructure projects, especially in railway transportation; power generation, transmission, and distribution; and industrial and building systems.

ABB established a Hong Kong office in 1974 and, in the late 1970s, a Beijing liaison office, which became a formal representative office in the early 1980s. Since 1995, Asea Brown Boveri China Investment Ltd., a fully owned Beijing-based holding company, has represented ABB in China and

Hong Kong. ABB currently employs 6,000 people in its 20 joint-venture companies, sales offices, and engineering and service centers in 14 Chinese cities—Beijing, Chongqing, Chengdu, Fuzhou, Guangzhou, Harbin, Nanjing, Qingdao, Shanghai, Shenyang, Tianjin, Wuban, Xi'an, and Hong Kong.

ABB's projects include providing China with its first two 600 megawatt (MW) super-critical turbine generators for the Shidongkou Power Plant near Shanghai, and its first 500 kilovolt (kv) direct-current transmission scheme from Gezhouba, Hubei Province, to Shanghai. Most recently, ABB won a contract to supply eight 700 MW hydrogenerators for the Three Gorges Power Plant. ABB also is establishing a transformer company in Chongqing to manufacture power transformers of up to 500 kv. When this company becomes fully operative, it will employ more than 1,000 people.

CBR Assistant Editor Darlene M. Liao recently discussed ABB's China operations with Robert Newman, president of ABB Combustion Engineering Nuclear Systems.

CBR: *What impact will the implementation of the 1985 US-China Peaceful Nuclear Cooperation Agreement have on ABB and other foreign suppliers?*

NEWMAN: Implementation of the 1985 agreement will finally allow US suppliers such as ABB to participate in China's peaceful nuclear energy program without restrictions. For the foreseeable future, its rapidly growing demand for electricity production makes China the world's largest market for the design, construction, and operation of new nuclear energy plants.

ABB Combustion Engineering (ABB-CE)'s experience in South Korea provides an excellent example of what can be expected of larger-scale participation in China's nuclear energy program. In 1986, South Korea selected ABB-CE's System 80 design as the standard upon which to base its future nuclear power plant program. Fabrication of the heavy components—reactor vessels and steam generators—has been performed in South Korea, while fabrication of high-precision stainless-steel components and electronic equipment has been performed in ABB-CE's US facilities. South Korean engineers assisted in the development of System 80+, ABB-CE's latest advanced nuclear plant design. System 80+, completed in 1997, conforms to the most stringent safety standards ever required by the US Nuclear Regulatory Commission. Many of the advanced features of the design

have been incorporated into the nuclear plants ordered by South Korea. In 1997, ABB-CE extended its technology transfer agreements with the South Korean nuclear industry for another 10 years and is assisting in the development of the country's next-generation design.

ABB-CE sees China's burgeoning nuclear energy program as an opportunity to repeat its successes in South Korea on a much larger scale. A number of suppliers from Canada, France, Japan, and Russia have benefited from participation in the PRC nuclear market, while US companies have been excluded. Understandably, China welcomes the level playing field that will result from implementing the 1985 US-China Peaceful Nuclear Cooperation Agreement. Chinese firms believe it will result in suppliers offering them better prices, more advanced technology, and increased technology-transfer opportunities.

CBR: *What obstacles stand in the way of greater foreign participation in China's civilian nuclear market?*

NEWMAN: In recent years, China has made tremendous progress in moving toward international standards and business practices. Progress in the nuclear non-proliferation area, for example, allowed the US government to lift its nuclear trade restrictions. During the current Asian financial crisis, China is proving to be a stabilizing force in

the region and a responsible leader on the world stage. But China must continue to make progress in moving toward international standards and practices. This will allow China to have expanded access to the world marketplace and, hopefully soon, become a member of the World Trade Organization. Based on China's financial strength and the increasing willingness of international banks to invest in China, there should be no reason for China to slow down the expansion of its nuclear energy program.

CBR: *What is your mid- to long-term outlook for US involvement in China's nuclear power sector?*

NEWMAN: With the removal of nuclear trade restrictions, US industry should become the predominant foreign participant in China's nuclear energy program. US suppliers such as ABB-CE have the longest record of nuclear experience and the most advanced designs, which are also licensed to the highest safety standards in the world. As it expands into developing markets, US industry has historically demonstrated the greatest willingness to form joint ventures with local industry, share the latest technology, and continue cooperative relationships. US industry also has access to the financial resources needed to supplement China's own resources—an essential component for large, capital-intensive projects such as nuclear energy plants.

FOOD BRANDS IN CHINA

An analysis of China's food market by
region, product and brand



Key Features of the Report

- An analysis of over 1,000 leading food brands including market size, market shares, and price comparisons
- The brands apply to 34 food categories and are analysed both nationally and by region
- Competitive analysis is given for all processed food sectors including the positioning of international versus local brands, and of imported versus domestically produced brands
- Research supported by retail surveys across China's six regional centres
- Profiles of China's largest food groups, plus unique data on foreign activity in the food industry

The Authors of 'Food Brands in China'

Xiaohong Wu is Seymour Cooke's research manager for China. The senior consultant was Zhilin Gan, President of the Chinese Association for Food Science and Technology. Miki Ito provided a perspective on China from Japan.

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safety program. The proliferation of plant types increases the probability of error. Without standardization, maintaining safety can become extremely complicated, and plant operation and maintenance costs can become excessive, as each design requires regulators, regulations, and maintenance and training procedures tailored to that plant's characteristics. If China were to implement equipment standards based on its current plants, the United States would be shut out of the PRC market, since China has no US-built plants. Current safety procedures of China's three operating reactors are based on Canadian, French, or Russian safety standards.

US NUCLEAR PARTICIPATION TO RESUME

The 1985 US-China Peaceful Nuclear Cooperation Agreement set the stage for nuclear trade between the two countries. But prior to 1997, no US President had made the certifications necessary to implement the agreement. President Clinton's decision to implement the agreement, announced during last October's summit with PRC President Jiang Zemin, comes in response to new PRC commitments to stop the proliferation of weapons of mass destruction and address US concerns about potentially destabilizing shipments of advanced conventional weapons to Iran. Other PRC commitments that served as prerequisites for implementing the agreement included:

- An agreement to work with the United States to bring the Comprehensive Test Ban Treaty into force and to begin the formal negotiation process for the Treaty on the Prohibition of the Production of Fissile Materials Used in Nuclear Weapons;
- Reiteration of the PRC's commitment to withhold assistance, including personnel and scientific exchanges, for unsafeguarded nuclear facilities and nuclear explosion programs;
- Publication of PRC nuclear export control regulations, which occurred in September 1997 (see p.40);
- An agreement to promulgate regulations on the export of nuclear-related dual-use items by mid-1998;
- Clear assurances that China will not engage in nuclear cooperation with Iran;
- Full membership, as of October 1997, in the Zanger Committee, the nuclear exporters group of the Nuclear Non-Proliferation Treaty;
- Tightened controls over the export

of chemicals that could be used to produce chemical weapons, and an agreement to promote the Chemical Weapons Convention within a multilateral framework; and

- An agreement to address US concerns over the shipment of advanced conventional weapons—especially missiles—to Iran.

Legislation passed in 1985, and strengthened in 1990 in amendments to the Foreign Relations Act, requires the President to issue to Congress a series of certifications to implement the 1985 agreement. On January 12, 1998, Clinton submitted to Congress documents that certify, among other things, that he has "clear and unequivocal" assurances from China that a national export control regime to regulate nuclear exports is in place and that the PRC will not engage or aid in the proliferation of nuclear weapons. These certifications must sit before Congress for 30 days of continuous session. A congressional challenge to the agreement, such as legislation to extend the waiting period, was mounting during the winter months but was not likely to prevent implementation of the agreement. Once the agreement becomes effective, likely this spring, US companies will be able to begin export licensing procedures.

Civilian nuclear cooperation is in the interests of both the United States and China. As China has long expressed a preference for the advanced designs of US manufacturers, the lifting of the ban

is sure to lead to contracts with US suppliers. According to industry analysts, the PRC civilian nuclear equipment market has the potential for annual sales of \$1.6 billion-\$2.4 billion over the next 20 years.

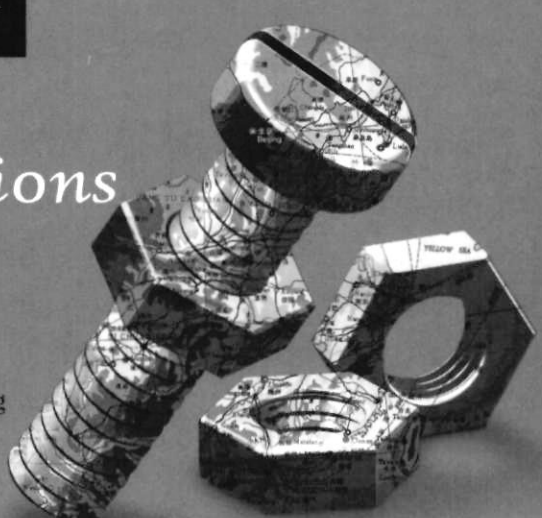
Though the full effect of the Asian financial downturn on China remains unclear, it appears that the crisis will not detract significantly from continued growth of the Chinese economy. Such growth, and China's unmet energy demands, will propel the continued expansion of the country's energy programs. Though coal will remain the dominant energy source, greater reliance on nuclear power is both likely and necessary if China is to make strides in boosting electricity and easing pollution. 完

The PRC civilian nuclear equipment market has the potential for annual sales of \$1.6 billion-\$2.4 billion over the next 20 years.

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Details Make the Difference

Upfront attention to contract terms can minimize the hazards of exporting to China

Robert C. Goodwin, Jr. and Jennifer S. Casden

Companies engaged in the day-to-day sale of US goods to China have witnessed a number of bilateral trade developments unfold in the past year that stand to affect their business significantly. On the downside, China stepped up implementation of standards and inspection regulations (*see The CBR*, May-June 1997, p.22). On the upside, China lowered tariff rates on a range of imported products. While these "big picture" issues command the attention of both inexperienced and experienced companies that export to China, exporters would do well also to take stock of the myriad details and unique nature of selling and shipping goods to China.

CONTRACT BASICS...

Whether generated through a tender-and-bid process, or individual negotiations with an enduser, an export order from a Chinese buyer usually involves a sales contract that incorporates standard Chinese contract terms and conditions, and spells out the cost of the goods, payment terms, and shipping details. While many large PRC organizations have the authority to deal directly with foreign sellers, most Chinese endusers still must use a "foreign trade corporation" (FTC) to execute the contract and import the desired goods. As a result of the FTC's key role in the process, a US exporter may find that negotiating sales contract terms with the enduser and the FTC together may prove to be the most productive way to elicit favorable contract terms. Terms favorable to the exporter, however, ultimately depend on the nature of the issues and the number of firms competing for the sale. Contract provisions that pose the greatest problems for US exporters typically are penalty provisions for late delivery; narrowly drawn *force majeure* clauses; and a requirement that arbitration

of any disputes take place in China rather than in a third country.

... AND PAYMENT TERMS

Among the most critical issues in any sale are, of course, the payment terms. The most common payment arrangement for exports between parties that are unrelated or have no close relationship is the letter of credit (L/C). An L/C is a commitment by the "issuing" or "opening" bank, acting on behalf of the buyer, to pay the seller the amount stated in the L/C at the specified time, provided the seller presents the documents set forth in the L/C to the bank. An L/C can be either fully payable upon presentation of documents (called payable at "sight"), or payable fully or partially over time (called a "time L/C"). The L/C, the most commonly used payment method in China transactions, offers more payment security to the exporter than any other option, and provides at least some security to the Chinese importer by guaranteeing that the goods have been shipped.

The L/C is opened after the sales contract has been signed. How quickly the buyer can

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gather the money and turn it over to the FTC, which then opens the L/C through an issuing bank, determines whether the L/C is opened immediately after the conclusion of the sales contract or several months thereafter.

Once the L/C is opened, the participants must observe the L/C's three important dates: the date by which the goods must be shipped; the date by which the exporter must present the required documents to the bank; and the L/C's expiration date. The type of purchase, and the lead time to manufacture the products, determine the dates used in the L/C. For example, if the goods take 6 months to produce and another month to prepare for shipment, the FTC will insert a "last ship date" that is 7-8 months from the date the L/C is opened. In transactions with Chinese buyers, the exporter typically must present to the bank the required documents within 15 or 21 days after the shipment. Under international rules, 21 days is the standard maximum period by which exporters must present L/C documents. Similarly, the L/C's expiration date generally falls 21 days after the last ship date or later, if the exporter successfully negotiates for such a date. In the case of a time L/C for which several document presentations are made, or for which one presentation is made with payments due at different times, the L/C's expiration date can fall after the date of the last document presentation or payment due date.

For most exporters, orders from China are no longer paid for through an L/C for 100 percent of the contract value. China's credit squeeze, instituted in 1993 to help cool an overheated economy, has forced most endusers and exporters to incorporate into their sales contracts some type of deferred payment—a time L/C, for instance, or an initial L/C partial payment followed by telegraphic transmission (T/T) payments on specified dates. Other payment methods include:

■ **Prepayment** A prepayment generally requires a Chinese buyer to pay a pre-determined portion of the contract value in advance. But in most cases, even if the Chinese buyer is willing to pay in advance for the goods, China's foreign-exchange regulations generally prevent prepayment. Every current-account, foreign-currency transaction is subject to review by PRC government authorities to ensure that payment falls within the scope of permitted transactions. This system of "verification and cancellation vouchers" is designed to

ensure that foreign exchange obtained for import purchases is used for that purpose, and to discourage large prepayments (some Chinese organizations, nevertheless, manage to circumvent these rules).

■ **Open account** In this case, the exporter sends the required documents (including the invoice) directly to the buyer after shipping the order, requesting payment by T/T within a specified timeframe. This payment method is simple and involves a minimum amount of paperwork, bank fees, and administrative time. As the most risky payment option for the exporter, however, such open-account terms are not recommended for companies without a presence in China to follow up locally on payment issues. Even when exporters have a presence in China, the open-account method should be reserved for low-value orders, or cases in which risk of nonpayment is minimal because of an established relationship between the buyer and seller. If the buyer refuses to pay, the seller's legal recourse is limited.

■ **Documents against payment (D/P)** Typically considered a reliable payment method in international trade, a D/P transaction—like an L/C payment—requires that the exporter send the bill of lading and other required documents to an agreed-upon bank in the buyer's country. But unlike an L/C transaction, in which the bank has an independent legal obligation to pay on the basis of the submitted documents, a D/P transaction requires the bank simply to act as the exporter's agent, accepting payment from the buyer in return for the shipment's documents, which the buyer can then use to take possession of the goods. Not all banks in China, however, are familiar with the D/P method. Particularly in the case of air shipments, requiring a Chinese buyer to pay the bank before he or she obtains the original documents needed to claim the goods usually does not work. This is not necessarily because Chinese buyers are reluctant to pay up front, but because goods can often be claimed in China only with a copy of the air waybill. Moreover, unlike an L/C, a D/P transaction does not protect the seller if the buyer refuses delivery. A buyer can refuse to pay the contract amount, even if all of the documents are in order. In such a case, the seller would be left with legal ownership of the goods, but the goods would already be in China, at the airport or shipping dock.

China's credit squeeze has forced most endusers and exporters to incorporate into their sales contracts some type of deferred payment.

■ **Documents against acceptance**

(D/A) A variation of the D/P method of payment, the D/A method instructs the issuing bank to release shipping documents against the buyer's acceptance of a time draft (instead of acceptance of payment in the D/P method). Such a payment scheme is generally considered riskier than the D/P method because the D/A method guarantees that the buyer can take possession of the goods prior to payment.

DOCUMENTS APLENTY

No matter which payment form is used, sellers can undertake a number of steps to ensure a successful transaction. First, the buyer and seller should decide, during contract negotiations, which documents will be part of the L/C terms (or will be sent directly to the buyer if they use another payment method). Documents commonly required include the commercial invoice; a shipping document such as the original air waybill, bill of lading, rail memorandum, or truck receipt; a packing list; and an insurance certificate (original and one copy). Chinese buyers also frequently request that the exporter, upon shipment of the goods, send a fax confirming shipment and a certificate attesting that, as per the contract requirements, certain documents were sent to the consignee in China. When negotiating a sales contract, exporters should also be familiar with the variations of these documents that buyers might require, including:

■ **Certificate of Quality/Quantity issued by an independent surveyor**

Despite the name, this inspection does not necessarily confirm the quality of the goods. Unless specifically engaged to open and assess the contents of the box, a surveyor merely counts how many pieces are being shipped. Costs

The great benefit of the L/C is that the seller is paid based on presentation of documents demonstrating that the goods were shipped, not based on approval by the buyer.

for such a survey can be \$200-\$300 for a small air shipment valued at under \$150,000, and much more for large sea shipments. A shipment worth \$1 million, for example, could incur thousands of dollars in survey costs. Exporters are thus encouraged to request that an independent surveyor-issued certificate be substituted with a seller-issued "Certificate of Quality/Quantity," indicating the quantity of goods actually surveyed. For ocean shipments, the customer may request a container inspection. The two sides should negotiate such a request at the time of the contract signing and factor the cost into the contract price of the goods. This survey delays the shipment time, however, and does not eliminate the possibility of a subsequent inspection if goods arrive damaged in China.

■ **Set of operation manuals** Sometimes a customer will ask that operation manuals be included among the documents presented by the exporter for payment under an L/C. Such bulky materials should never be part of the documents submitted under an L/C. Rather, they should be shipped together with the goods.

■ **Combined bill of lading** For goods that will be transhipped via a third country en route to China, US exporters cannot issue a multimodal shipping document, as PRC banks will not accept it. A US exporter should therefore include such language in the sales contract and advise the Chinese buyer of documents that can be provided. For example, an exporter may provide an air waybill, consigned to a transferring agent in Hong Kong, and a bill of lading for shipment from Hong Kong to China, consigned to the buyer.

■ **Advice of shipment by cable or telex** At the buyer's request, an L/C sometimes instructs the exporter to notify the buyer by cable or telex when the goods have been shipped. Often, however, Chinese buyers have no access to cable or telex machines. Exporters should therefore request that the L/C stipulate notification by fax and include the fax number.

■ **Acceptance certificate** A buyer may request that an acceptance certificate, issued by the buyer once the goods have arrived in China, be included as one of the documents required under the L/C. Though buyers only occasionally request an acceptance certificate, such a request should be resisted since it essentially converts an L/C transaction to an open-account transaction. The great benefit of the L/C is that the seller is paid based on presentation of documents demonstrating that the goods were shipped, not based on approval by the buyer. A requirement for an acceptance certificate puts the exporter at the mercy of the buyer, who is under no obligation to forward the certificate within a reasonable timeframe. In effect, acceptance certificates eliminate an L/C's built-in payment safeguards.

CHINESE CHARACTERISTICS

L/Cs, though the most preferable form of payment, can nonetheless be costly. A beneficiary (the exporter) typically pays the advising bank a minimum of \$200 to collect on an L/C, including several different categories of fees, which tend to differ among banks. Since the commission fee that the beneficiary pays to the bank (over a certain minimum value) is a percentage of the total sales value, a higher-value sale will result in higher banking fees. And if banking documents have discrepancies, which occurs when the documents submitted for payment do not exactly match the L/C requirements, the bank assesses the beneficiary a minimum \$50 charge. Moreover, if an exporter cannot meet an L/C requirement and requests an L/C amendment prior to shipment, the bank will assess a fee of at least \$50. To avoid additional costs, the exporter should confirm that the L/C holds the buyer responsible for all bank charges assessed by the issuing bank in China, as the issuing bank sometimes passes on charges for the buyer's account to the seller's account.

Providing detailed L/C instructions to the buyer at the time that the sales con-

tract is negotiated can further reduce confusion surrounding documentation requirements of an L/C. The exporter can request that its bank in the United States be named as the advising bank, to serve as the liaison between the buyer and the issuing PRC bank on the one hand, and the exporter on the other. If the issuing bank names a different lending institution as the advising bank for the L/C (which is quite common if the exporter does not specify a bank of choice), receiving the L/C and processing documents may take longer.

After the advising bank sends the L/C to the exporter, the exporter must review carefully the L/C requirements and conditions. If the exporter cannot meet one or more of the L/C requirements, or the L/C contains provisions not previously agreed upon, then the exporter must request an amendment to the L/C. Upon receiving the amendment, or the original L/C with acceptable terms, the exporter may ship the goods. After shipment, and within the timeframe stipulated in the L/C, the exporter submits all required documents to the advising bank, which passes them to the importer's bank for payment.

The average processing time for a Chinese L/C is 2-4 weeks from the date the documents are submitted to the advising bank. International rules relating to letters of credit require that the issuing bank complete its review of the documents within seven days of receipt and that payment be based only on the documents. While Chinese banks purportedly accept such rules, they nevertheless often send the documents to buyers and ask for their payment approval. Though unusual in cases where an exporter meets all L/C requirements, payment can be delayed, or even refused altogether, if there are unanticipated problems. According to sources in the banking community, several years ago a number of US commodity exporters from the Midwest failed to receive the agreed-upon payment when prices dropped after shipment.

Another way in which Chinese practices regarding L/Cs differ from other countries' is that Chinese L/Cs are virtually always issued without giving the US advising bank the authority to reimburse itself on a bank in the United States. Consequently, US banks are reluctant to discount Chinese L/Cs. (Discounting is the practice of paying the holder of a negotiable instrument a discounted amount in advance, and taking

the holder's place in collecting the funds from the buyer.) Some US banks, however, discount time L/Cs once the Chinese bank gives authenticated notice of its acceptance of the drafts drawn under the L/C.

Beneficiaries of Chinese L/Cs also run into problems regarding "confirmation," whereby the advising bank in the exporter's country essentially endorses the L/C and promises to pay the exporter if the issuing bank does not. Unlike banks in other countries, Chinese banks will not allow confirmation of their L/Cs as a matter of principle. But there are ways around this problem. The Export-Import Bank of the United States will insure a US bank for 95 percent of the value of its commitment to an exporter to purchase drafts and documents drawn against L/Cs supporting an export to China. The US bank can then issue a letter to the exporter that is equivalent to a confirmation.

As is the case with L/Cs from many other countries, however, discrepancies in documents submitted by the exporter are the most common problem. Chinese banks are very strict regarding document compliance and will declare a typographical error a discrepancy, regardless of whether the meaning remains clear. And though an advising bank occasionally permits an exporter to substitute revised documents for ones originally presented, such action technically falls outside the rules. An exporter should require the advising bank to review copies of the documents for errors prior to formal presentation.

At times, even the most carefully prepared documents will contain discrepancies. Because Chinese L/Cs are payable only at the counters of the issuing bank in China, and because the issuing bank in China grants the advising bank in the United States no authority to negotiate the L/C or accept and review documents on behalf of the Chinese bank, the issuing bank in China has the final say in what constitutes a discrepancy. In cases where time constraints or the nature of the problem preclude issuing replacement documents, the documents containing errors are submitted on an "approval" basis. The exporter, in this instance, must request that the buyer authorize the bank to pay the exporter after the issuing bank in China receives the documents. In effect, the transaction becomes another version of an open-account payment method, with all the accompanying uncertainties that this implies.

One of the best ways for a seller to prevent discrepancies and other problems with Chinese L/Cs is to request a draft of the buyer's L/C application before it is submitted to the bank. Discussing in advance the terms of the L/C will help safeguard against payment delays and minimize bank fees assessed for L/C changes.

PACKAGING PRECAUTIONS

Once the L/C terms are acceptable to an exporter, he or she can move on to shipping matters. The exporter determines how to package the goods least expensively for safe shipment, but it is helpful to discuss the issue during contract negotiations. If the buyer asks that the goods be packed in wooden boxes, or other non-standard export packaging, the exporter should advise the buyer that such materials increase packing charges, and that the additional weight can raise the shipping cost by up to 30 percent.

Nevertheless, the exporter should remember that the goods must be adequately packed to ensure safe arrival at the final destination, even if the exporter is only responsible for transport to an intermediate location. Such precautions are necessary, as Chinese buyers typically hold the exporter responsi-

ble for goods damaged during shipment, which not only delays payment but also opens the door to claims for losses.

Generally, standard export packing of heavy cardboard is suitable for goods shipped to major airports in China. For shipments to remote or smaller airports, train stations, or inland ports, however, the Chinese transporter is unlikely to have adequate equipment to handle large packages with care, resulting in rougher handling. Such goods, whether shipped via rail, truck, ship, or aircraft, should be packed in wooden boxes to ensure safe arrival, and the additional

Discussing in advance the terms of the L/C will help safeguard against payment delays and minimize bank fees assessed for L/C changes.

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Exporters must make sure that transportation arrangements for the shipment are specified in the sales contract.

charges included in the contract's freight costs. The type of packaging used for goods sent by container depends on whether the container will be delivered to the enduser's location or whether the enduser's goods will be offloaded at the port of entry, or some other location.

Exporters should also package goods in such a way as to avoid pilferage and loss. For example, the exterior of boxes containing electronic equipment such as VCRs and computer printers should neither be labeled nor include an easily identifiable name-brand shipping mark. Shipping marks—either a mark specified

by the buyer, or the contract number and final destination—should be printed on the boxes in waterproof permanent ink. And because pallets are often broken down in China, the exporter should consolidate small boxes into larger cartons (that still meet weight and dimension restrictions) to be placed on pallets. For cases in which consolidation is not possible, including those that involve a small number of items or an urgent shipment that limits packing time, the exporter should label all boxes with the proper shipping address and marks (including box numbers), indicate on the shipping document how many pieces are on a skid, and include box-by-box packing lists.

SHIPPING NUANCES

Exporters must make sure that transportation arrangements for the shipment from the United States to the final destination are specified in the sales contract. For example, if the contract calls for delivery to Jinan, Shandong Province, the seller cannot simply arrange for shipment by air to the Beijing airport and expect to secure overland transport to Jinan for Customs clearance. With Jinan as the final destination, the exporter must find a way to

move the goods, in bond, from Beijing to Jinan. Once the shipment arrives in Jinan, the goods then clear Customs. Alternatively, the contract may stipulate that the customer will clear the goods in a major airport and handle the onward shipment.

HELP FROM FREIGHT FORWARDERS

Freight forwarders, companies that coordinate shipping details, can assist the exporter in all aspects of international trade and provide as much or as little assistance as needed. The extent of responsibility and work that an exporter assigns the freight forwarder depends on the size of the exporting company's export department and the number of personnel handling international transactions. If the exporter's staff is slim, or lacks international shipping specialists, then a forwarder can handle all shipment details and work closely with the exporter. Larger companies with a high percentage of international sales commonly have an in-house freight forwarder to handle and coordinate all shipments. An exporter should keep in mind, however, that a freight forwarder's involvement only begins after the terms and conditions of the contract and L/C are set. No matter how competent the freight forwarder, ensuring that the details of the shipping arrangement are correct is the exporter's responsibility.

Choosing a freight forwarder depends on a number of considerations. For example, are the forwarder's warehouse facilities for receiving and storing cargo safe and secure? Does the forwarder have a good credit history and client references? Are the forwarder's rates competitive? Freight-forwarder fees vary, but basic charges such as documentation preparation and freight rates can be compared among other freight forwarders. Moreover, the exporter must decide whether a larger freight forwarding company is preferable to a smaller one. A larger forwarding company may offer a broader range of services that better accommodate an exporter's needs. But an exporter may find that smaller freight forwarding companies are more responsive to special requirements. Perhaps the most important criterion, however, is experience shipping to China, because of the differences in China's import procedures.

Acting as the exporter's agent in shipping products is among the services that a forwarder offers an exporter. The



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freight forwarder checks on vessel and flight availability, sailing and departure dates, and estimated times of arrival at the final destination. Additional tasks that a forwarder can undertake for an exporter include: providing freight quotes to an exporter prior to signing a contract with the customer; booking steamer or air cargo space; arranging for container space; coordinating inland freight transportation to the departure port; and preparing the necessary export shipping documents, including the shipper's export declaration showing the export shipment clearance through US Customs. Most forwarders can also consolidate, inspect, and count the cargo items at their facility before shipment. In addition, the forwarder may take care of banking documents (for the L/C) and deal directly with the bank or customer, if necessary. Exporters may also have freight forwarders handle buyers' insurance claims for missing pieces or damaged goods.

Freight forwarders should be able to offer an exporter competitive rates. Since forwarders ship goods for many customers, they can often establish contracted rates with a carrier that are lower than an exporter would receive from the carrier. The freight forwarder may also be able to consolidate a seller's goods with other goods destined for China, which lowers costs further. Such a move, however, could raise the buyer's importing costs and delay delivery to the customer's facilities, as consolidated shipments must be broken down, reorganized, and checked by the forwarder's agent once they arrive in China.

The freight forwarder may be able to offer better rates for marine cargo insurance, because of the volume of the forwarder's total shipments. But if a company's international export shipment volume is large, the firm should consider carrying its own open policy with an insurance company. The company may be able to secure cheaper rates (as much as half the cost that the forwarder charges), though the exporter's staff will be responsible for some additional paperwork and meeting reporting requirements.

BANKS AS A RESOURCE

An exporter can also find its bank to be another valuable resource when selling its wares to China, as banks generally are willing to assist customers and explain the L/C transaction process. Selecting a bank with an international department that routinely handles L/C

transactions is advisable. An exporter can obtain help preparing documents from the bank's L/C specialists. Such banks can also transfer funds, provide information on foreign exchange, offer hedging options, provide financing, and handle assignments of proceeds on an L/C. And cultivating a relationship with bank representatives could prompt them to act more quickly when an exporter asks the bank to check on the status of, or forward, documents.

IN THE WORKS

Negotiations over the PRC's accession to the World Trade Organization (WTO), and the financial tumult in Asia, likely will mean additional changes in China's trade policy, with implications for the export of goods to China. To ensure China's continued stability in the wake of the region's financial crisis, Beijing will likely step up foreign exchange controls. According to a recent *China Daily* report, PRC foreign exchange control authorities have increased cooperation with the country's Customs offices and have intensified their review of import transactions. As a result, PRC buyers may find it more difficult to arrange for an advance payment of a portion of the contract value of an imported good.

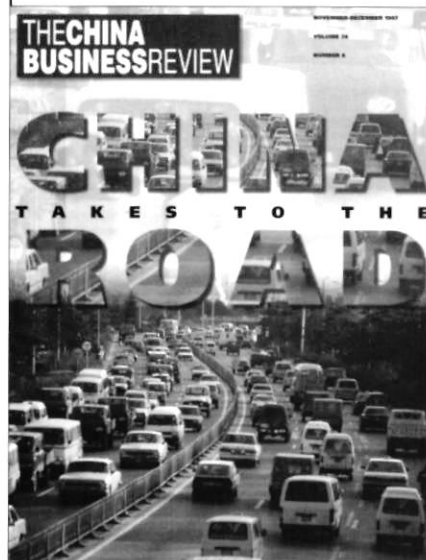
China's requirement that FTCs serve the principal role for importing and exporting goods is a major issue in the country's ongoing WTO negotiations. Beijing is likely to relax the FTC requirement gradually, allowing more Chinese companies to deal directly with their foreign counterparts. And over the next several years, foreign companies established in China should be able to import and sell products themselves through their own international trading companies. But it is unlikely that Beijing will implement any dramatic changes in the basic structure of China's trade regime in the near term, and exporters that use an FTC to sell goods to Chinese endusers should see little change in the format of such transactions.

The need for attention to detail on L/Cs and shipping issues, nevertheless, will remain every bit as important as it is now. The types of problems that can arise in negotiating and executing export transactions can increase transaction costs and take up a significant amount of an exporter's limited personnel resources. To the extent that such problems can be anticipated and avoided, exporters have a better chance of making their efforts profitable. 完

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A Tangled Web

Iain K. McDaniels

US export control policy faces new challenges in the post-Cold War era

At the nexus of national security and international trade lies the opaque, highly technical realm of export controls. US export controls limit the types of goods and services that can be sold to other countries, including China, to maintain national security, advance foreign policy goals, and maintain adequate US supplies of scarce goods. But the end of Cold War rivalries, the globalization of the world economy, and increasing foreign availability of high-technology goods complicate this system. As China develops and modernizes, there will be new and greater opportunities for American firms to sell high-value, high-tech goods to China, and to invest in high-tech manufacturing projects in China to supply the PRC and regional markets. US export control policies will play a role in determining whether US firms can realize these opportunities.

The tension between commercial and security interests has become a subject of growing debate. A PRC government "white paper," released in the summer of 1997, pointed to overly strict US export controls as a key factor in the burgeoning US trade deficit with China. The diversion of a US-made supercomputer to a PRC military research facility and its subsequent return to the United States sparked public discussion of US export control policies. And President Clinton's decision, announced during the late-October 1997 summit with PRC President Jiang Zemin, to allow the sale of US civilian-use nuclear technology to China, was not without controversy. Export control issues continue to be the subject of Capitol Hill hearings, as the Administration and Congress seek to reach a consensus on the future direction of the US export control regime.

Export controls are certain to factor into the decisionmaking calculus of American business for years to come. Exporters to China, traditionally subject to some of the more stringent US controls, tend to be particularly concerned about changes in the US and multilateral export control regimes.

WHO GOVERNS WHAT

No single US government agency or piece of legislation administers or codifies US export control policy. Rather, the US export control regime is a tangled web of laws, and parts of laws, administered by multiple government agencies.

The departments of state and commerce take the lead in regulating and restricting exports, but they receive input from the departments of defense and energy, the Arms Control and Disarmament Agency (ACDA), and

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the Nuclear Regulatory Commission (NRC), among others. A handful of laws and regulations govern the export of potentially sensitive items to China. The Export Administration Act of 1979 (EAA) covers export controls on dual-use goods and technology (items that are primarily used for civilian commercial purposes but may also have military applications). Next, the Export Administration Regulations (EAR), clarified in 1996 and revised regularly, are essentially procedures for implementing the EAA. The Arms Export Control Act (AECA) of 1968 regulates munitions and defense-related technologies and services, including the recategorization of certain munitions as "dual-use." The Atomic Energy Act of 1954 prohibits the transfer of nuclear material to certain non-nuclear weapons states. Finally, sections of the Foreign Relations Authorization Act for fiscal years 1990-91 condemn China's human rights violations by imposing certain economic sanctions.

DUAL-USE GOODS AND TECHNOLOGIES

Dual-use goods, such as machine tools that can manufacture both civilian aircraft and missile bodies, were previously controlled by the EAA and the EAR. When the EAA expired on August 20, 1994, President Clinton issued Executive Order 12924 to invoke the authority of the International Economic Emergency Powers Act to continue the export control procedures contained in the EAR. Congressional legislation to reauthorize or rewrite the EAA has yet to pass both houses, as no clear consensus exists within Congress, or between Congress and business, on how the EAA should be revised.

Central to the export control regime laid out in the EAR is the Commerce Control List (CCL). Issued by the Department of Commerce (DOC) Bureau of Export Administration (BXA), the CCL classifies all dual-use products manufactured or sold in the United States into 10 general commodity categories: nuclear technologies and materials; materials, chemicals, microorganisms, and toxins; materials processing goods; electronics; computers; telecommunications and information security products; lasers and sensors; navigation and avionics products; marine products; and propulsion systems, space vehicles, and related equipment. Each category is further broken down into five subgroups: equipment, assemblies, and components; test, inspection, and pro-

duction equipment; materials; software; and technology. Items on the CCL that are restricted under the EAR are assigned an Export Control Classification Number (ECCN) and require an export license. Items not specifically restricted by the EAR, but for which other limitations may exist, fall under the catch-all category EAR 99. EAR 99 items require an export license only if they violate general prohibitions. Under EAR, exporting an item with an ECCN to a certain country may require an export license, pending the results of a complex 29-step process that examines the possible reasons for controlling the item's export to that country. Manufacturers or exporters who believe a given item should be included on or removed from the CCL may file a commodity jurisdiction request with the Department of State Office of Defense Trade Controls (DTC).

On January 15, 1998, BXA issued a revised CCL that has been harmonized with the control list of the Wassenaar Arrangement, the multilateral export control regime for conventional and dual-use goods. The revised CCL includes additional controls on US exports and additional reporting requirements for goods exported to countries that are not Wassenaar members, such as China. The revisions reportedly strengthen export controls on items that may be used in missile technology systems, and relax controls on geophones, photographic and light systems, tracking radars, underwater vision systems, virus protection software, and certain lasers and navigation systems.

The Enhanced Proliferation Control Initiative (EPCI) provisions of the EAR allow the Department of Commerce to prohibit the export of any item that could contribute to the proliferation of weapons of mass destruction and related technology, even if the specific item does not appear on the CCL. EPCI regulations require exporters to obtain a license from BXA if they know, or are informed by BXA, that the end use of an item could aid proliferation. BXA rejects license applications for items it concludes would contribute to proliferation.

Under the EAR, applications for export licenses are approved by interagency consensus, and licenses are issued by BXA. Executive Order 12981, issued by President Clinton on December 5, 1995, expanded the scope of interagency involvement by granting review authority to the departments of

Technological advancements and expanded foreign availability of controlled goods call for a revision of US export control requirements.

state, defense, energy, and ACDA, in addition to the Department of Commerce. All agencies must make their recommendations to BXA within 30 days. BXA then reviews the recommendations and issues licenses accordingly. BXA, however, is seeking to reduce its processing time, an average of 32 days in 1997, and has requested that the other agencies delegate some of their review authority to BXA.

According to recent congressional testimony by Under Secretary of Commerce for Export Administration William A. Reinsch, 96 percent of the decisions on export license applications are achieved by interagency consensus at the working level. If consensus at this level fails, the application is forwarded to a DOC-chaired Operating Committee. Should disagreement persist, applications move first to the assistant secretary-level Advisory Committee on Export Policy, then to the cabinet-level Export Administration Review Board, and, ultimately, to the President. To date, all license disputes have been settled at, or below, the assistant-secretary level.

Under the Administration's policy of engagement with China and its aim of creating export-oriented jobs, in recent years the government has approved the vast majority of licenses for exports to China, not including those that pose a national security threat. But technological advancements and expanded foreign availability of controlled goods call for reducing restrictions on controlled goods and technologies. For example, the processing capacity of supercomputers that may be legally exported to China was recently increased, but subsequent regulations added the requirement of post-shipment verification of the civilian enduser. According to Reinsch, only about 9,000 export control licenses are issued annually. This figure

The end of the Cold War, and the increased global availability of high technology, has led to greater reliance on multilateral export control regimes to control weapons proliferation.

may be misleading, however, as many companies refrain from applying for licenses because they anticipate that their applications will be rejected. Nonetheless, further relaxation of controls, or modifications to the items on the CCL, are unlikely in the short term, since the controls over the export of many CCL items are reinforced by multilateral controls or apply only to "rogue" states, such as Iran, Iraq, Libya, North Korea, and Syria.

A TIGHT HOLD ON MUNITIONS

An embargo on munitions shipments to China has been in place since 1990, when Congress attached the Tiananmen Square-related sanctions to the Foreign Relations Authorization Act for fiscal years 1990 and 1991. The embargo will likely remain in effect for the foreseeable future, given political realities in the Administration and Congress. The President, however, can waive the sanctions, in whole or in part, by certifying to Congress either that China has made progress on human rights, or that lifting the sanctions is in the US national interest. Presidents Bush and Clinton both have issued waivers on certain Tiananmen legislation sanctions, allowing exports of dual-use goods such as satellites and avionics. At the summit press conference with PRC President Jiang Zemin on October 29, 1997, President Clinton clarified that, though he would take the necessary steps to lift the sanctions on peaceful nuclear cooperation, "the other sanctions, which cover a range of issues from OPIC [Overseas

Private Investment Corp.] loans to crime control equipment and many things in between, under [US] law, have to be reviewed on a case-by-case basis."

Nonetheless, certain provisions of the munitions export procedures remain relevant to exporters who wish to have a munitions item reclassified as civilian-use. The AECA grants the President jurisdiction over the export of munitions and defense-related technologies and services. Executive Order 11958 transferred jurisdiction to the State Department's DTC. DTC administers the International Traffic in Arms Regulations (ITAR), which governs munitions export procedures. Included in ITAR is the US Munitions List, which details controlled goods, technologies, and services. The 21-category Munitions List is compiled by the Department of State with the concurrence of the Department of Defense (DOD). Exporters seeking to reclassify a munitions item as civilian-use may file a request with DTC.

MULTILATERAL EXPORT CONTROL REGIMES

US trade with China is also subject to several multilateral agreements. The end of the Cold War, and the increased global availability of high technology, has led to greater reliance on multilateral export control regimes to control weapons proliferation. While the United States is a party to most of these agreements, China's participation in these international regimes is limited, but growing (*see box*).

China is not a member of any of the four major export control groups: the Australia Group (biological and chemical weapons); the Missile Technology Control Regime (MTCR); the Nuclear Suppliers Group (NSG); or the Wassenaar Arrangement, formerly known as the New Forum (conventional weapons and dual-use goods) (*see The CBR*, November-December 1995, p.26).

China has declined to participate in the Australia Group on the grounds that the necessary inspections would violate PRC national sovereignty. Though currently not a member of MTCR, China signed a bilateral agreement with the United States in October 1994 to adhere to the MTCR conduct codes, and has since reiterated that commitment. China does not participate in the NSG because the group's requirements for "full-scope safeguards" would block China's nuclear cooperation with India and Pakistan (such cooperation is permitted under the Nuclear Non-Proliferation

Treaty, to which China belongs). NSG's full-scope safeguards, adopted in 1992, are applicable to all fissionable materials in all of a member country's nuclear operations. And the PRC was excluded from the negotiations that established the Wassenaar Arrangement in 1996. China fell short of the conditions for Wassenaar membership, which include accepting the norms of non-proliferation regimes, participating in all international non-proliferation agreements, and implementing a comprehensive domestic export control system.

Because China is not a member of the four principal arms control regimes, goods and technologies controlled under these agreements usually may not be exported to China. If a Wassenaar member such as the United States approves an application for an export license that was denied in the past three years by another Wassenaar member, it must notify all members within 60 days. In addition to complying with the Wassenaar notification requirement, US companies, in particular, must also submit to BXA semi-annual reports detailing exports of Wassenaar-controlled goods and technologies. For shipments between January 15-June 30, 1998, for example, the first report must be filed by August 1, 1998.

US CONTROL OF NUCLEAR GOODS AND SERVICES

Given the US commitment to preventing the proliferation of nuclear weapons, it is perhaps not surprising that nuclear-related equipment and technology are subject to additional US export controls. Under the Atomic Energy Act, nuclear equipment and technology exports to China, and any other country, are permitted only if the importing and exporting countries sign an agreement. In 1985, China and the United States signed the US-China Peaceful Nuclear Cooperation Agreement. Congress approved the agreement, but attached several conditions, including a requirement that the President certify that China refrains from assisting efforts of non-nuclear weapons states to acquire nuclear weapons or related technology. During their October 1997 summit, President Clinton and PRC President Jiang Zemin agreed to take actions to implement the agreement, which will enable US companies to sell nuclear-related goods and services to PRC civilian nuclear projects, subject to US government monitoring and export control procedures (*see p.24*).

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US government control over nuclear technology exports is spread across multiple agencies. NRC licenses nuclear materials and equipment, BXA licenses nuclear dual-use equipment and commodities, and the Department of En-

ergy (DOE) licenses nuclear-technology transfers. Exports of reactors; high-enriched uranium, plutonium, or U-233 in excess of one kilogram (kg); and heavy water or nuclear-grade graphite in excess of 1,000 kg, must be approved by

the Sub-Group on Nuclear Export Coordination, which is chaired by a State Department official and made up of representatives from ACDA, DOD, DOE, and NRC. If the US-China Peaceful Nuclear Cooperation Agreement clears congress-

CHINA'S EXPORT CONTROL REGIME

The absence of a comprehensive, transparent PRC export control regime has affected China's trade relations. Many foreign high-technology companies selling to Asian markets currently invest in production facilities outside China, such as Hong Kong, Taiwan, and other East Asian localities with proven track records in controlling sensitive exports. As a result of the demonstrated effectiveness of Hong Kong's export control regime, for example, US companies are permitted by the US government to export far more advanced technology to firms in Hong Kong than to mainland firms.

China's 1992 signing of the Nuclear Non-Proliferation Treaty (NPT), which restricts all exports of nuclear weapons, explosives, and devices, marked an important step toward implementing a national export control system. Since the early 1990s, China has issued numerous export control regulations to meet its NPT obligations, protect national security interests, and build a higher level of trust with its trading partners.

EXPORT CONTROL STATUTES AND AUTHORITIES

Several administrative bodies, including the National People's Congress (NPC), the State Council, the Ministry of Foreign Trade and Economic Cooperation (MOFTEC), the Ministry of Foreign Affairs (MFA), the Ministry of Chemical Industry (MCI), and the China Atomic Energy Authority, have the authority to promulgate regulations and laws regarding export controls. The main piece of legislation governing PRC exports is the 1994 PRC Foreign Trade Law, which grants MOFTEC authority over a range of imports and exports. In 1996, the State Council issued Regulations on Export License Control of MOFTEC of the People's Republic of China, which grants MOFTEC administrative authority to carry out PRC export license procedures and issue implementing regulations for present and future State Council export control laws.

MOFTEC's Department of Science and Technology oversees the licensing

process for exports. The types of goods that fall under MOFTEC's licensing scope, however, are less than clear. Goods and technology that have both civilian and military applications, or dual-use goods, are mentioned in only a few paragraphs of the 1996 regulations. For example, the regulations stipulate that enterprises seeking to export heavy water and chemicals that could be used in poisonous products, or certain main-frame computers, must apply to MOFTEC for technical examination and license approval. But the regulations also state that enterprises seeking to export any dual-use chemicals must apply to MCI for approval. Thus, though the regulations do not detail MOFTEC's administrative role in licensing dual-use chemicals, in practice MOFTEC coordinates with MCI on license applications for dual-use chemical exports. A description of the procedures for controlling dual-use goods in general is absent from the regulations.

The export of military equipment and technology—with the exception of chemicals that could be used in weapons development—is controlled by the little-known State Administrative Committee on Military Products and Trade (SACMPT) under the guidance of the State Council and the Central Military Commission (CMC). Reportedly formed five years ago, SACMPT's main function is to draft laws and policies to govern military exports. The PRC Regulations for Controlling the Export of Military Goods, promulgated on October 22, 1997, by the CMC and the State Council, and implemented on January 1, 1998, grants SACMPT authority over military export administrative procedures and license applications. The regulations require that SACMPT license all military exports that could "jeopardize regional and world peace, security, and stability," but does not provide a list of articles that require licenses. Implementing regulations for the October 1997 law may soon be issued to clarify ambiguities.

MCI currently has authority over exports of sensitive—including dual-use—chemicals. According to MOFTEC offi-

cial, in 1996 MCI issued regulations with a list of controlled substances that is the same as the control list of the multilateral Chemical Weapons Convention, which China signed in 1993 and ratified in 1997. These MCI regulations also outline the export license application process for chemicals on the list. The process consists of a review by MCI, MOFTEC, and MFA, after which MCI makes a decision on issuing the license. In September 1997, MCI issued additional regulations containing tighter controls.

NUCLEAR TECHNOLOGY CONTROLS

In its efforts to achieve implementation of the 1985 US-China Peaceful Nuclear Cooperation Agreement, China has made significant progress in strengthening its export controls on nuclear technology and equipment. On May 27, 1997, the State Council issued a circular announcing for the first time that all nuclear-related exports would be administered jointly by the China Atomic Energy Authority, China Nuclear Industrial Corp., and other "officially designated departments or companies." According to the circular, nuclear materials and technologies to be exported may not be used in any foreign nuclear facilities that are not supervised by the International Atomic Energy Agency (IAEA).

The circular, however, fails to outline any procedures for determining an end-user's intentions, to list enforcement authorities, to detail penalties for illegal transfers, or to specify what dual-use goods are prohibited for export. But in the past year, several circulars have been issued that fill in the gaps. The State Council issued the Notice of the List of Nuclear-related Dual-Use Products and Items, and the List of Signatories of the Nuclear Non-Proliferation Treaty on June 27, 1997. And on September 10, 1997, the State Council promulgated the Control on Nuclear Exports Regulations, including the Nuclear Exports Control List. Though similar to the Nuclear Suppliers Group (NSG) list of prohibited exports, the PRC list does not contain a "catch-all" category. Such

sional hurdles on schedule, US firms will be able to apply to these various agencies for licenses to export nuclear equipment and technology to China beginning in mid-March. Under this timetable, US civilian-use nuclear exports are un-

likely to enter China before 1999.

BEHIND THE TIMES

While supporters of US-China civilian nuclear trade await implementation of an 18-year old agreement, other US in-

dustries must cope with outdated export controls even as demand for US-controlled goods from China and other countries rises. For example, outdated controls and licensing procedures for advanced testing and manufacturing

a category, which would include unclassified items that could be used to produce or operate nuclear weapons, is a required feature of export control regimes of NSG members. The September 1997 regulation also requires all nuclear-related export licenses to be approved by the China Atomic Energy Authority; Commission for Science, Technology, and Industry for National Defense (COSTIND); and MOFTEC. COSTIND previously did not wield this administrative authority.

DUAL-USE TECHNOLOGY

Concerned about the re-export of US-licensed dual-use goods from China, the US Department of Commerce (DOC) encouraged MOFTEC in the mid-1980s to implement procedures to prevent such re-exports from China without US approval. According to a bilateral agreement announced in 1985, PRC endusers of certain dual-use products must obtain from MOFTEC an "enduser certificate," informing the enduser that the product may not be re-exported. This certificate is required for items that have a minimum value of \$5,000 and are controlled by DOC's Bureau of Export Administration (BXA). Replacement parts valued at less than \$75,000 and exports to certain non-Chinese entities are exempt from the enduser certificate requirement. The US exporter must submit the enduser certificate to DOC to obtain a US export license. A DOC official may then conduct a "pre-license check" to verify that the product's end use is civilian-related and that the PRC buyer does not intend to re-export the good.

Though these procedures are "on the books," PRC importers largely ignore them. Currently, MOFTEC is not issuing enduser certificates systematically and is refusing to permit DOC to conduct pre-license checks. One US official has suggested that enduser certificates are not being issued either because endusers are not applying for them, perhaps because they are unregistered trading companies, or because MOFTEC considers the pre-license verification process an encroachment on PRC sovereignty.

In response to US government concerns about re-exports of dual-use items, China issued the Elaboration on Endusers and Final Use. While such a statement has proven sufficient for other countries' export control authorities, the United States remains unsatisfied and has demanded that China develop additional procedures for controlling US dual-use goods. For example, US officials continue to believe that planned dual-use imports from the United States should be subject to a pre-licensing inspection, a PRC General Administration of Customs check after the goods have been unloaded, and spot surveillance of endusers. BXA and MOFTEC officials hope to resolve bilateral differences on export controls at an April seminar in Washington.

OUTSTANDING ISSUES

Although PRC export control regulations are numerous, the lack of a single administrative authority to govern China's dual-use technology trade remains a significant weakness, since certain civilian-use items that could also have nuclear weapons-related end uses are not fully regulated. This loophole must be remedied before US government can implement the 1985 US-China Peaceful Nuclear Cooperation Agreement. At the October 1997 summit, PRC President Jiang Zemin assured President Clinton that China would strengthen nuclear-related dual-use export controls by mid-1998 in order to implement the agreement. MOFTEC reportedly has completed a draft dual-use export control law. Whether the draft contains provisions for a comprehensive dual-use regime or only procedures for nuclear dual-use items remains unclear. If the draft is not submitted to the NPC this March, the regulations may be issued without NPC approval, perhaps by the State Council or MOFTEC itself.

Aside from the progress made on implementing the 1985 US-China Peaceful Nuclear Cooperation Agreement, the PRC has expanded its participation in international weapons control treaties. In addition to its participation in the NPT and

the Chemical Weapons Convention, China joined the Biological Weapons Convention in 1984. China, like the United States, is an original party to the Organization for the Prohibition of Chemical Weapons and sits on the organization's executive council.

Most recently, in October 1997, China became a full member of the Zangger Committee, the nuclear exporters group of the NPT. The Zangger Committee maintains a list, known as the "trigger list," of goods and technologies that could contribute to a nuclear explosive program. Exporting these goods triggers IAEA safeguards and inspections. The Zangger Committee is remarkably similar to the NSG and both maintain similar lists of items subject to controls. The two groups will become even more similar in three years, when the Zangger Committee adopts full-scope safeguards. China also has agreed to begin negotiations on the Treaty on the Prohibition of Production of Fissile Material Used in Nuclear Weapons, and the Convention on the Physical Protection of Fissile Material.

Implementation of an effective export control regime, though, will reassure foreign governments and companies about China's commitment to non-proliferation of weapons of mass destruction. Such a regime also would curtail the temptation of PRC enterprises to resort to sales, for much-needed hard currency, of sensitive high-technology goods to any willing buyer. Though China appears intent on establishing an effective export control regime, ministerial restructuring will likely complicate the process. And once new controls are implemented, enforcement issues are sure to rise in importance. Whether the PRC General Administration of Customs will have the necessary funding, mechanisms, and communication links with all the various bureaucracies involved to ensure that new regulations are enforced remains unclear.

—Piper A. Lounsbury

Piper A. Lounsbury is deputy director of the US-China Business Council's Beijing office.

The Administration seeks to liberalize the regime cautiously, while Congress works to bring back unilateral controls and requirements.

equipment in the semiconductor industry have limited the ability of US firms to compete successfully for foreign investment in projects in China. Based on 1989 technology, the US control list for semiconductors and semiconductor manufacturing equipment is three generations behind the current technology.

The CCL covers 10 semiconductor items, including lithography equipment, etching equipment, masks and mask-making equipment, and "cluster tools," used for sequential wafer processing. US policymakers believe that, if exported to China, these items could aid China's computer-simulated nuclear testing program. Although the CCL dovetails with the Wassenaar Arrangement list agreed to by all of the major chip exporters—the European Union, Japan, South Korea, and the United States—Japan and the European Union do not view the Wassenaar Arrangement controls as a total restriction on exports of advanced equipment. Thus, the United States unilaterally restricts exports to China of equipment used in the production of wafers with line widths at or below 0.7 microns. As technology advances and line widths decrease, the larger chips soon will become obsolete and more difficult to sell on the international market. For example, a large US electronics company's wholly owned wafer fabrication plant in China may process chips with widths no smaller than 0.7 microns, though the company had hoped to process chips with 0.5 micron widths. Meanwhile, Japan's NEC won the widely touted "Project 909" semiconductor joint venture in China by agreeing to transfer advanced technology that would enable the joint venture to process wafers with line widths of 0.5 microns, and eventually 0.35 microns (see *The CBR*, Novem-

ber-December 1996, p.8). US semiconductor equipment suppliers also complain of other conditions, such as post-shipment verification, placed on their licenses. These additional conditions create difficulties for both the exporter and the enduser and further decrease the competitiveness of US products.

Meanwhile, Congress recently imposed new conditions on export controls on supercomputers as part of the massive National Defense Authorization Act for Fiscal Year 1998. The key provisions of the act for supercomputer suppliers are as follows:

■ Exports or re-exports of computers with a composite theoretical performance level of more than 2,000 million theoretical operations per second (MTOPS) to Tier 3 countries (countries to which exports would involve a "certain degree of risk," including China) are subject to a 10-day "prior review" by the secretaries of commerce, defense, energy, state, and the director of the ACDA. A written objection submitted by any of the above-mentioned administrators would require an item to obtain an export license from DOC. Previously, licenses were not required for the export of computers with capabilities of 2,000 to 7,000 MTOPS to civilian endusers.

■ DOC must submit a report to Congress identifying all exports of supercomputers with capabilities of more than 2,000 MTOPS since January 25, 1996. For exports to China, the report must provide information on the manufacturer and exporter, the MTOPS level, the intended end use of the computer, and an assessment of the enduser's purpose for obtaining the computer.

■ All supercomputers with performance levels over 2,000 MTOPS exported to over 50 countries, including China, must be checked by a DOC official after shipment to confirm its enduser. The verifications are to be recorded by DOC in annual reports to Congress, detailing the destination country, date of export, intended end use and enduser, and the result of the post-shipment check.

According to Administration officials, the act limits the President's flexibility to adapt export control policy to changing technology and evolving security concerns and imposes "unrealistic" requirements. Commerce Under Secretary Reinsch recently indicated that the post-shipment verifications will soon be unsustainable, since the number of required inspections is multiplying yearly.

Reinsch also stated that the new requirements will serve only to "handicap [US] companies' competitiveness" since supercomputer technology is readily available from other countries. Though President Clinton expressed reservations about the bill's strengthened control over supercomputer exports to China and other Tier 3 countries, he signed the bill on November 18, 1997. President Clinton subsequently released a statement that the Administration would work with Congress to restore the President's flexibility on computer export controls. BXA released regulations on February 3 implementing the new requirements.

SEARCHING FOR A CONSENSUS

As the cases of nuclear equipment, semiconductors, and supercomputers indicate, the US export control system, as currently structured, has drawbacks for US business. Increased availability to China of foreign high-tech goods has limited the effectiveness of US export controls and hindered US competitiveness. The system prevents certain US suppliers from entering the PRC market, while foreign competitors gain footholds. From the standpoint of many in the business community, the US system is also too rigid and broad to keep up with rapidly changing technology. The system would be more effective if it focused on certain "choke-point" technologies, those components or technologies that are not widely available and are used to produce technology that the United States finds objectionable.

The future of the US export control regime is uncertain. With Cold War rivalries gone, the Clinton Administration and Congress continue to vie for control over the direction of the US export control policy. The Administration seeks to liberalize the regime cautiously, while Congress works to bring back unilateral controls and requirements. Neither side has yet been able to dominate the issue, though those in Congress favoring strengthened export controls have seemed recently to be gaining the upper hand. But in reconciling differences and reaching a consensus, change seems inevitable. The Administration and Congress must consider the limitations of export controls and forge an export control regime that adequately accounts for the realities of present-day global commerce. 完



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Financial Fallout

*China is sure
to feel the
repercussions,
for better or for
worse, of Asia's
financial
downturn*

Daniel H. Rosen, Ligang Liu, and Lawrence Dwight

Waves of financial turmoil have emanated from Southeast Asia since mid-1997, when the value of the Thai currency, the baht, began to fall. After the baht's collapse, speculators turned their attention to Malaysia, Indonesia, and the Philippines, where markets and currency values then fell. A competitive devaluation by Taiwan initiated a second round, and fueled an attack on the Hong Kong dollar. Phase three is ongoing, with Korea implementing measures tied to an International Monetary Fund (IMF) bailout of \$57 billion, and Japan beginning to reform its weak financial sector.

Amidst these developments in Asia, rattled investors have shaken up the stock markets of all of the advanced economies, and general anxiety over the stability of the emerging markets has spilled into Eastern Europe, Latin America, and Russia. But the PRC has remained conspicuously insulated from this volatility. Like the Asian economies affected by the financial tumult, China has external debts and non-performing bank loans. And PRC trade certainly is affected by currency fluctuations. But China's sizeable current-account surplus; significant amount of foreign exchange reserves; and, most important, controls on its capital account, protected the country from the most devastating effects of the crisis. Nevertheless, the region's turmoil will indirectly affect the PRC economy and its reform process.

CRISIS CULPRITS

Most of the Asian emerging economies affected by the financial crisis have in common weak financial sectors, attributable to some combination of the absence of prudential regulation, a lack of competition and supervision,

and widespread cronyism. In such a context, overvalued currencies with fixed exchange-rate regimes undermined stability. High returns from investments in these economies, partly due to the artificial strength of the currencies, led to a focus on short-term capital inflows at the expense of less-volatile, long-term investments. Fragile financial sectors could neither cope effectively with large inflows of short-term capital, nor curb increasing maturity mismatches. In addition, much of the corporate borrowing for investments in these countries was not hedged against foreign exchange risk. Signs of market volatility in the region thus hastened traders' decisions to sell holdings of vulnerable currencies.

Non-productive investment and the emergence of investment "bubbles" aggravated financial fragility. Property markets, especially, had become speculative, leading to inflated asset bases. The inclination to ignore such realities evaporated quickly at the first signs of trouble.

Large current-account deficits, often associated with high volumes of imported capital goods, afflicted the first group of economies—

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Thailand, Malaysia, Indonesia, and the Philippines. In some cases, particularly that of Thailand, high demand for foreign luxury goods further drained reserves, eroding the ability to pay short-term debts. Fixed exchange-rate regimes forced these countries' central banks to intervene in currency futures markets to stave off pressure to devalue—a sign that markets had become convinced that these countries could not meet their obligations. Such interventions consumed dwindling foreign exchange reserves while failing to reassure currency traders and investors that the status quo could be maintained.

The initial unwillingness (or incapability) of leaders in crisis-afflicted countries to address the consequences of their policies by making macroeconomic adjustments, cleaning up widespread corruption, or devaluing their currencies, fueled confidence problems. In Thailand, several ministers quit in close succession. In Malaysia, Prime Minister Mahathir scoured the scene for foreign scapegoats rather than confront the culpability of his own economic program and domestic institutions. In Indonesia, uncertainty regarding President Suharto's health and ability to act boldly, given the extent to which his family had its fingers in the national coffers, heightened fears that the country would not take the actions necessary to address its crisis. Most of the affected Asian economies, including the stronger players to the north such as South Korea and Japan, suffered from some degree of crony-related paralysis, which prevented leaders from expeditiously addressing the crisis.

Such political conditions created the potential for contagion in Asia. Because these nations export similar products, one currency devaluation quickly led to another, as markets bet that neighbors would have no choice but to follow suit. Because many countries in the region had similar financial-sector problems, the logic of attacking one country's currency was easily extended to others. With the myth of an Asian growth miracle shattered by developments in Thailand, Indonesia, and Malaysia, rosy assumptions that had benefited more advanced economies in the region soon withered. For instance, the assumption that currency values could be successfully defended (precluding the need for foreign exchange hedging) was quickly negated by currency volatility that spread from Thailand, Indonesia, and Malaysia to Taiwan, Hong Kong, and

Singapore, then to South Korea and Japan.

Considerable debate exists over the *underlying* and *proximate* causes, or "triggering events," of financial crises. Currency speculation in Asia during 1997 was the *coup de grâce* for several countries with weak financial sectors, including Thailand. In other cases, the fall of one market cast bad loans onto the books of the financial institutions of a neighbor, such as Japan. In crafting responses to the present crisis, countries must address underlying weaknesses, not simply try to deal with the proximate causes.

WHITHER CHINA?

So far, China has remained largely insulated from the financial fallout in Asia, despite many similarities with the hardest-hit emerging Asian economies. For example, like the afflicted countries, China has a deeply troubled banking sector. At least 22 percent of China's State-sector bank loan portfolios are non-performing. Though China's large economy and abundant foreign exchange reserves moderate the country's \$152 billion in external debt, hidden external debt in the form of offshore Chinese holdings is also large. Patchy growth rates in broad swaths of the economy result from the misallocation of resources and overcapacity in certain sectors, such as real estate.

Other characteristics, however, have helped immunize China from the contagion. Unlike Thailand and Malaysia, China does not suffer from significant exchange rate misalignment. After depreciating in the early 1990s, the *renminbi* (RMB) has appreciated considerably in recent years in *real* terms. This is in contrast to the common suggestion that the RMB has greatly depreciated during these years. Even after the 1997 devaluations of its neighbors, a change of merely 10 percent could return the RMB to its pre-1994 value in trade-weighted terms. But if Asian currencies sink lower, China's trade competitiveness will follow, especially in the absence of concomitant productivity growth.

Further, China's current account has been largely in balance for most of the reform period, tending more often toward surplus than deficit in recent years. China currently has a \$140 billion cushion of reserves, second in size only to Japan's. The amount of short-term borrowing in China is manageable, mitigating the risk of payment shortfalls. Most

Unlike Thailand and Malaysia, China does not suffer from significant exchange rate misalignment.

important, unlike virtually all other Asian economies directly affected by the financial turmoil of 1997, China's RMB is not convertible for capital-account transactions. Non-convertibility means that there is no forward market that speculators can use to attack the RMB. Large RMB spot transactions require the pre-approval of the State Administration of Foreign Exchange (SAFE). SAFE approval requirements, and related limitations on foreign participation in PRC equity markets, have translated into a low level of foreign portfolio investment. By contrast, China benefits from the world's second-largest inflow of foreign *direct* investment (FDI), which, unlike foreign portfolio investment, is difficult to withdraw on short notice.

Other features of the PRC economy also distinguish China from its Asian neighbors. Banking flows in China are under heavy government influence. Though this is also true to an extent in South Korea, the share of total investment funds subject to fiat in China is larger. And households, which deposit as much as 40 percent of all funds intermediated by China's financial sector, have few places other than savings accounts to put their money, further dampening the potential for financial upheaval in China. After all, depositing money under the mattress is not much more attractive than depositing it in a PRC bank.

NOT OUT OF THE WOODS

China's insulation from certain effects of the region's financial woes does not mean China has discovered a superior financial development strategy, however. China's ability to keep the capital account closed and still enjoy prodigious flows of FDI has much to do with the country's size and market potential. But the financial sector reforms that PRC leaders have so far deferred impose present and future costs. Though China was at little risk of a *direct* hit from the region's financial turmoil in

The region's financial crisis may provide the sense of urgency for inter-linked reforms needed to spur bolder steps from Chinese officials.

1997, the risks of the *indirect* effects of turmoil are potentially great, and fall into the following categories:

■ **Trade** The most significant potential effect of the 1997 crisis for China is lost export competitiveness. Association of Southeast Asian Nations (ASEAN) member countries and South Korea devalued their currencies an average of about 34 percent in 1997. China's RMB, on the other hand, has appreciated in real terms since 1994, when China unified its exchange rate system. Overall, the RMB has appreciated in real terms almost 40 percent against the US dollar and 70 percent against the Japanese yen.

In fact, China's inflation rate, rather than fluctuations in the RMB exchange rate, has had the largest impact on the country's competitiveness with its major trading partners in the 1990s. High inflation has moderated the impact on exports of China's stronger currency. And despite adverse exchange rate effects, China has accumulated trade surpluses and heavy investment inflows. China's merchandise trade surplus in 1996 measured \$12.2 billion, and \$13.8 billion through the third quarter of 1997. The country's low inflation, achieved through tight monetary policy since 1994-95, must be sustained if China is to maintain this trade performance, especially if it foregoes a devaluation.

Financial chaos in Asia could indeed have a negative impact on China's exports. But the question of China's lost export competitiveness largely depends on the extent to which Chinese exports compete with those of other Asian economies in third markets, primarily the United States and Japan. Our comparison of major US imports from China and other Asian countries at the three-digit Standard International Tariff Code level (a moderate level of product disaggregation) reveals some overlap, but not

an alarming amount. Nonetheless, Chinese products could face "crowding out" in the world market. US consumers, for instance, may opt to purchase Malaysian microelectronics instead of Chinese toys and sweaters, if the price discount is significant. And as the awareness of price differences grows, the effect on PRC exports will become more pronounced. In short, the impact of regional currency devaluations on China's export competitiveness probably will not be apocalyptic, contrary to some analysts' predictions. But the impact will likely grab the attention of PRC officials addicted to perennially strong export growth.

■ **Investment** China, with its limited capital markets, relies on FDI to help fund development. The danger of the present regional crises for China is that capital flows to the PRC will slow. Utilized FDI totaled \$42.3 billion in 1996, and reached \$45.3 billion in 1997 (up 8.5 percent over 1996 inflows by preliminary estimates). But growth of China's inward FDI flows was decelerating even before the region's financial turbulence erupted. Contracted FDI fell in 1997 to \$51.8 billion (a 29.3 percent decline over 1996). Now China's FDI source countries face shrinking asset bases, higher reserve requirements (due to new regulations), and nervous investors, all of which may cause a reduction in investment in China from these economies. Some Western investors, too, may be skittish about investing in Asia in coming years, because of the reduced purchasing power of consumers in local markets. Other Western investors may prefer to "bargain shop" in Southeast Asia rather than invest in China. Still another possibility is that investors may perceive China as a relatively safe haven with better economic prospects than the other Asian economies. In such a case, direct investment could shift from elsewhere in Asia to China, moderating, in turn, the slowing of FDI. Most likely, though, a combination of these forces will affect China on a sector-by-sector basis.

The second possible effect of the crisis on investment in China concerns risk premiums. In the months preceding the Thai crisis, spreads for returns on loans between developed and emerging Asian economies for infrastructure investment dollars had narrowed. In the aftermath, risk premium rates for China's neighbors increased. China is not immune to the rise in the cost of capital for emerging markets, and investors may now demand more assur-

ances from Chinese partners to satisfy anxieties at home.

■ **Hong Kong** Though a source of pride for China, Hong Kong could become a financial liability to the mainland as a result of the financial downturn. PRC firms hold, by some estimates, \$80 billion in assets and investments in Hong Kong (though these estimates are highly speculative). In addition, the PRC could be forced to use its reserves to bolster the Hong Kong dollar's peg to the US dollar. Thus, Hong Kong represents a significant investment liability should it fail to withstand further currency speculation.

When Hong Kong returned to Chinese rule last July, Beijing reiterated its commitment to maintaining a strong and stable Hong Kong. "Mother China" has committed to defend the city's financial position. It would be a serious blow to Chinese pride were the Hong Kong peg to fall. This is an important disincentive for China to devalue its own currency.

■ **Reform** The regional financial turmoil also affects China's reform agenda. Until 1997, China had managed to defer the gargantuan tasks of State-owned enterprise (SOE) reform and financial (including banking) sector reform, which loom like thunderclouds over the PRC economy. As the Asian crisis was unfolding, and in the face of a slowing domestic economy, PRC President Jiang Zemin was staking his tenure on deeper reforms. Jiang amplified this commitment on subsequent visits with US, Japanese, and Russian leaders. The region's financial crisis may provide the sense of urgency for inter-linked reforms needed to spur bolder steps from Chinese officials. Though Beijing's initial reaction to the crisis was self-satisfaction with its gradualist approach to reform, including the closed capital account, such thinking has given way to the recognition that deferring reform further is not prudent. Thus, People's Bank of China chief Dai Xianglong announced in January that he planned to push ahead with central bank reform despite the volatile situation. Nicholas Lardy of the Washington, DC-based Brookings Institution has said that non-performing loans are equivalent to roughly 20 percent of China's Gross Domestic Product (GDP), and notes that some senior PRC officials estimate that the share of non-performing loans grows by 2 percent yearly. By contrast, non-performing loans in the Philippines represented only 3 percent of GDP at the time of the crisis. The financial

volatility in the region only makes reform more urgent and more costly to defer.

DEVALUATION DILEMMA

Given the observed and potential effects of the region's financial crisis on PRC trade, there has been pressure for China to devalue the RMB. China appears unlikely to succumb to such pressure in the near future, as there is both external and internal economic logic against devaluation. Beijing's recognition of its regional responsibility will take precedence over domestic demands for an easy way out. China is more likely to draw on its foreign exchange reserves than devalue in 1998.

Several factors argue in favor of a stable Chinese currency. First, in the prevailing skittish atmosphere, a PRC devaluation could easily spawn another round of unproductive counter-devaluations throughout the region. Thus, PRC policymakers cannot be sure that such a move would have the intended effect. Second, the present RMB exchange rate appears close to the equilibrium rate, since the current account has not strayed too far from balance since the 1994 "devaluation." Third, a fall in the value of the RMB also could be mistaken for a signal of resignation toward the Hong Kong dollar peg to the US dollar, thus rekindling speculative attacks on the Hong Kong currency. Such a signal not only would embarrass China, but also would diminish Hong Kong's prominence as a hub for financing Chinese development. Fourth, refusing to bow to the pressure to devalue will earn China respect from Western countries and reflect favorably in negotiations over China's accession to the World Trade Organization (WTO) and participation in the Group of Seven (G-7). Failure to hold the line, conversely, will no doubt draw fire.

A review of the domestic and external factors favoring devaluation is nonetheless instructive. First, RMB devaluation could serve as a tool to stimulate China's slowing economy. China's tight credit policy appears responsible for the sharp decrease in both fixed investment and non-State sector investment, the erstwhile engine of growth. Second, attempts to relax lending are unlikely to boost the economy, given the large volume of non-performing loans. Third, the acceleration of State-sector reforms will increase the number of redundant workers, further exacerbating anxieties about the consequences of reduced exports. Fourth, increased competitive advantage

in international trade for China's neighbors, caused by currency devaluation in the region, argues for RMB devaluation. Finally, lower infrastructure and labor costs, and potentially improved regulatory structures (due to IMF bailout terms in some cases) in Southeast Asia and South Korea, may brighten investment prospects in these countries, causing FDI to bypass China. These various scenarios are surely setting off alarms in Beijing.

PROSPECTS FOR GROWTH...

As a result of the crisis, the growth of China's economy will likely slow marginally and moves to reform SOEs and banks will intensify. The crisis has allowed Beijing to compare vulnerabilities in the PRC banking sector with those of its Asian neighbors. The developments have also made Beijing more aware of the opportunity costs of holding back development of domestic equity and bond markets and participation in these markets by foreign investors. By diversifying risk and tapping into more efficiently mediated capital sources, China would reduce its interest payments on investment over the longer term.

... AND FOR COMMERCIAL RELATIONS

The financial tumult is likely to have several effects on foreign firms on the ground in China. These companies can expect increased scrutiny of investment proposals, as officials attempt to prevent investment in sectors that contribute little to overall development, such as entertainment. At the same time, the PRC has already begun to augment or reinstate investment incentives to maintain current levels of FDI inflows. With regard to profits, margins in many export sectors may narrow, forcing foreign investors to focus even more intensely on China's domestic market. If so, concerns about distribution and after-sales market issues will mount further.

Even if China opts not to devalue its currency, the US bilateral trade deficit is likely to continue to grow and strain relations. Such strain will be magnified by the fact that 1998 is a congressional election year in the United States. US trade officials will likely pursue improved market access in China and PRC compliance with trade agreements aggressively. On the multilateral front, the crisis provides an opportunity for both public- and private-sector investors to refocus attention on economic fundamentals in the region. IMF insistence

The PRC has already begun to augment or reinstate investment incentives to maintain current levels of FDI inflows.

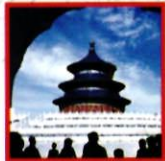
that countries receiving bailouts introduce certain economic reforms may force other countries to strengthen lending regulations.

Such bilateral and multilateral developments could enable the United States to resolve a number of bilateral economic issues on not only commercially viable terms, but also on a proactive, forward-looking basis. The Asian crisis of 1997 should also lead to increased dialogue between China and its trading partners over involvement in the international economic management structure, foremost the WTO and G-7. But if the United States enters the fray with bluster, acting haughty about international obligations because of its relative economic strength, or with vitriol, given its soon-to-balloon trade deficit and the temptation to fall back on populist approaches for the sake of upcoming elections, China and other precariously positioned Asian partners may be driven to take defensive stances. This would only slow progress on the WTO front.

If, however, the United States approaches the financial crisis responsibly, it can help move important bilateral negotiations forward more quickly. Responsible US actions include clear support for the work of the IMF, continued attention to the need for fundamental reforms in the afflicted countries as the trade-off for IMF assistance, and renewed involvement in global trade policy, which could arise from congressional passage of fast-track legislation.

Overall, the greatest specific American contribution to resolving the crisis may be to further fashion a long-term partnership with China—the new strong center—to reduce fears of mercantilist haggling into the next millenium. Nothing will calm investors more than the knowledge that the United States, the world's wealthiest economy, and China, the world's most dynamic economy, are committed to a lasting partnership. 完

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Toward a Less Hazardous Workplace

Harold J. Engel and Ji-zhou Pedersen

A soon-to-be released law will fill some gaps in China's labor law regime

One of the effects of China's recent economic growth, especially in manufacturing, has been a recognition by the central government of the need to address workplace safety and health in a systemic manner. This realization appears to reflect Beijing's conclusion that to avoid becoming the "sweatshop nation" of the world, China must establish an effective, practical, and consistent occupational safety and health law that also will not discourage foreign investment. The Chinese government has begun the process of establishing such a law, and is adopting nationwide standards. To ensure that the law and standards are uniformly implemented and enforced, the government also plans to train thousands of inspectors and other personnel.

CHINA'S HAZARDS

Workplace safety and health hazards are widespread in China, covering virtually every industry, from manufacturing, construction, and large-scale hydroelectric power plants, to oil, gas, and mining exploration. It is estimated that China suffers direct economic losses of several billions of *yuan* each year because of lost productivity, reduction in product quality, and increased retraining and medical expenses resulting from industrial injuries and illnesses. Like many other countries undergoing economic development, China's track record in industrial safety leaves much room for improvement. According to PRC government statistics, in 1995, 18,160 workers died in industrial accidents in China's factories and mines; 4,879 others died from various diseases caused by poisonous fumes and dusts; and 148 perished from acute poisoning. The mining industry alone accounted for 60 percent of the work-related deaths in 1995. Factory deaths caused by ac-

cidents increased from 7,264 in 1995 to 10,016 in 1996.

Toxic work environments are also a serious concern. According to the PRC government, an estimated 33.8 million Chinese people work in factories, in both metropolitan and rural areas, that produce toxic substances. Exposed workers frequently encounter levels of toxicity that can have adverse human health effects. China's own research shows that outmoded technology, and insufficient investment in modern workplace safety and health practices, are the major factors contributing to the poor working conditions of many enterprises. Central and provincial health departments have classified approximately 100 occupational illnesses, among which pneumoconiosis—a disease of the lungs caused by inhalation of irritants, such as coal and asbestos by miners, and dust by construction workers—is considered the most common. The last pneumoconiosis outbreak occurred in 1996, and medical experts predict

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The enactment of additional workplace safety and health legislation is specifically listed as one of China's top priorities in the Ninth Five-Year Plan.

another outbreak within 10 years unless urgent remedial steps are taken.

PRIORITY ON SAFETY

China's rising occupational injury and death rates have drawn the attention of both the PRC State Council and Ministry of Labor (MOL). MOL and State Council officials recognize that workplace safety and health directly affect China's social environment and, ultimately, the stability of the national economy.

The 1994 Labor Law of the People's Republic of China (the Labor Law), which took effect January 1, 1995, covers labor contracts and collective contracts, working hours, vacations, wages, occupational safety and health, special protection for female and juvenile workers, vocational training, social insurance and welfare, labor disputes, and supervision and inspection. The law—a statement of broad principles pursuant to which specific workplace safety and health regulations are to be enacted—provides a structural framework that defines the rights and duties of workers, employers, China's labor union, and the government. Thus, the Labor Law's chapter on occupational safety and health lays out only general principles, and is not nearly as comprehensive as the US Occupational Safety and Health Administration (OSHA) law.

Seventeen implementing regulations for the Labor Law have been passed to date, covering such issues as occupational training, insurance, and compensation. These regulations, together with the few workplace safety and health rules and regulations promulgated by the State Council and other governmental agencies prior to the enactment of the Labor Law, constitute the sum total of China's workplace safety and health regulatory activity. Many of these rules and regulations do not address specific hazards, but

rather deal only with the design specifications of personal protective equipment. In contrast, the OSHA standard for noise, for example, specifies the workplace noise level above which employees must wear ear protection.

But the enactment of additional workplace safety and health legislation is specifically listed as one of China's top priorities in the Ninth Five-Year Plan (1996-2000) and in the accompanying Long Term Plan for the Year 2010. In 1996, MOL issued the Proposal for Work Safety Plan During the Ninth Five-Year Plan. The proposal identified two legislative gaps in China's workplace safety and health record: the lack of comprehensive safety regulations and standards; and the absence of an effective enforcement mechanism for existing and future laws, regulations, and standards.

In China, the formulation of most regulations begins with the ministry in charge of the specific regulatory area (see *The CBR*, November-December 1996, p.30). MOL, pursuant to the State Council's direction, was designated the State administrative and legislative authority over national workplace safety and health issues, and began drafting a national workplace safety and health law in 1996. Most of the draft law's stipulations are almost certain to become law when the legislation is promulgated this year.

The draft sets forth specific inspection criteria that, among other requirements, call for inspectors to present their credentials prior to entering the workplace. In addition, the draft contains procedures for the issuance of corrective orders and penalties, and an administrative review process for contesting penalties. The draft law permits China's union, the All China Federation of Trade Unions (ACFTU), to request MOL inspections. ACFTU also is responsible for overseeing the implementation of the law and its standards. Employing units must report work-related injuries and illnesses to local labor bureaus, and arrange for therapy and rehabilitation of workers who have contracted occupational illnesses. Employers must pay for both periodic health examinations and health surveillance examinations for current staff. (Health examinations are used to diagnose and treat injuries or illnesses, whereas health surveillance examinations are intended to determine if workers exposed to toxic or carcinogenic substances are developing latent illnesses.) Workers, for their part, also bear responsibility for complying with the law and its standards.

The draft provides that the design, construction, and operation of any new building or renovation must include safety and health protection features—a practice already in place in China, though without the full force and effect of a national law. Thus, the draft law's provisions may increase the short-run operating costs for both foreign and domestic businesses in China, but should save money in reduced health care expenditures over the long term.

CRAFTING A FRAMEWORK

Labor unions, as they are known in most Western, and many developing countries, do not exist in China. ACFTU has been identified as the central government's partner in improving occupational safety and health. Though in the draft law ACFTU bears responsibility for ensuring compliance with the new law in the workplace, the union's role seems likely to be advisory, rather than one with specific authority to take or order remedial action. It is also unclear what role State-owned enterprises (SOEs) have had in the development of the draft law, though ministries and specific State-owned entities have been consulted.

On occasion, PRC lawmakers attempt to incorporate the experience of foreign countries and companies into the legislative drafting process. Foreign companies have been eager to contribute to establishing a comprehensive workplace safety law in China, under which the interests of industry and the rights of workers are addressed fairly. Both Sino-foreign joint ventures and wholly foreign-owned enterprises have had an opportunity to offer direct input into the development of China's draft workplace safety and health law through the China Industrial Information Institute (C3i). C3i, a US-based non-profit business league, promotes the development of occupational safety and other business information, laws, and standards in the PRC. MOL provided C3i with a copy of the initial draft of the PRC workplace safety and health legislation in June 1996. In September 1997, MOL signed an exclusive agreement of cooperation with C3i, under which the two organizations are to collaborate to establish China's occupational safety and health legislation and standards.

Many of the revisions proposed by C3i have been incorporated into the current draft of the legislation. According to the initial draft, for example, safety inspections were to be conducted by MOL, and health inspections by the PRC Ministry of Health. But a subsequent

draft incorporated C3i's suggestion that both safety and health inspections be performed only by MOL, to eliminate the duplication of efforts and the confusion of having more than one agency inspect a work site for related hazards.

As in any country, however, China's central-level lawmaking process has not gone unchallenged. Some provincial governments were initially unsure of the need for a uniform national law and enforcement practices, for example. Through the cooperative efforts of MOL, its provincial bureaus, and C3i, significant progress has been made on this issue. The draft law now includes language stipulating that its provisions apply to all enterprises throughout China, including private, government, and jointly owned ventures.

Foreign companies that have provided input view their participation in this legislative process as consistent with their goals and practices in China. Many foreign corporations establish a uniform corporate culture at all their facilities worldwide, and apply higher workplace safety and health standards in their foreign operations than are required by the host country. In China, many US companies support the adoption of a national workplace safety law as an important step toward improving working conditions in China and leveling the playing field with State-owned entities and smaller foreign companies that employ less rigid safety standards.

EXPANDING COOPERATION

Satisfied with the results of cooperative efforts on occupational safety, MOL broadened the scope of foreign input to labor-related lawmaking. Since April 1997, C3i and MOL have been collaborating on revising China's mining safety and health law, primarily by extending its reach to include oil and gas exploration and transportation issues. China National Offshore Oil Co. also has been involved in the development this law. The oil, gas, and mining industries in China constitute an important part of the national economy, and the government considers worker safety in these industries a national priority. The legislative and standards development process for the mining safety and health law is expected to be completed in 3-5 years.

MOL and C3i executed a third agreement on November 20, 1997, regarding the formulation of China's wage law and regulations. The PRC wage and hour law will address such issues as minimum wage, overtime pay, length of the work

week, types of exempt enterprises (based on staff size, revenue, and type of production), record keeping and notice posting, time limits for wage payment, methods of wage payment, permissible offsets (including union dues, insurance contributions, and taxes), child labor restrictions, and enforcement measures.

A PROMISING START

China's development of occupational safety and health laws and programs compares favorably to those of other nations in the region. Vietnam, for example, has no workplace safety and health law, and presently has no plan for enacting such a law. Indonesia has a rudimentary and somewhat incomplete occupational safety and health law, but has initiated standards and training programs intended to improve the effectiveness of its law. China's rapid industrial and economic growth has compounded the technical complexity of the lawmaking process. Nonetheless, Beijing's approach to the

drafting process, including the acceptance of input from foreign businesses, should result in an occupational safety and health law, and standards and enforcement procedures, that address the needs of China's workers and managers alike.

MOL's decision to seek advice from foreign companies that are experienced in the labor and employment law arena bodes well for the development of the rule of law in China. Indeed, the relationship and information exchange between MOL and C3i is consistent with the joint statement issued by PRC President Jiang Zemin and President Clinton after their October 1997 summit describing future US-China cooperative efforts to strengthen the rule of law in China. Based on MOL's willingness to consider foreign input in the case of occupational health and safety, it is reasonable to expect that PRC officials could agree to other efforts aimed at implementing effective labor regulations and enforcement procedures. 完



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ANNUAL CONFERENCE SIZES UP '97, PREPARES FOR '98

The impact of State-owned enterprise (SOE) reform on China's economy and the Asian financial crisis were common discussion topics at the US-China Business Council's Forecast '98 meeting on January 29. Though all speakers generally agreed that China will remain stable in the short term, most commented that social disruptions could increase as workers are laid off in the wake of State-sector restructuring.

Anne Stevenson-Yang, then-director of the Council's China Operations, began the morning session with an overview of China's investment environment. Stevenson-Yang stated that SOE reforms, which include a new government emphasis on raising funds through stock listings, stand to affect China's investment climate this year. State Council Executive Vice Premier Zhu Rongji's move to streamline China's bureaucracy, she added, could weaken the industrial ministries, particularly the electric power, machine-building, electronics, and chemicals ministries. Spelling uncertainty for investors in 1998 are regional financial instability and the threat to the *renminbi* (RMB); the battle between central and local governments over the control of foreign investment; the political clout of Chinese industrial conglomerates; and systemic corruption.

Regarding investment strategies, Stevenson-Yang noted that more Western multinationals are concluding that heavy, upfront investment may not be the key to success and that high-end products tend to be unsuitable for the PRC's extremely price-sensitive consumers. Control of logistics and distribution, more than any other element of business, ultimately determines which foreign firms are successful in China.

Stevenson-Yang projected that foreign investors in the future could excel in

fields for which there are still few regulations, such as media and entertainment, and in which management provides the added value, such as boutique retail ventures and chain stores.

Following Stevenson-Yang, David M. Lampton, director of China Studies at the John Hopkins University Paul H. Nitze School of Advanced International Studies, spoke about the PRC political system. PRC leaders recognize that they face an unemployment crisis, but remain confident of their ability to manage the economy in light of accomplishments in 1997, said Lampton. PRC President Jiang Zemin's consolidation of power at the 15th Party Congress stands to help the government tackle such problems as an inadequate tax system, money-losing SOEs, and a weak banking sector.

Though the PRC leadership has now set a clear political agenda for economic and bureaucratic reform, Lampton warned that the regional economic downturn may make it difficult to move ahead with that agenda. The question is thus how China's leaders will cope politically with the country's economic problems. Lampton suggested that signs of how effectively Beijing is managing such problems will be whether regulation of key PRC industries becomes separated from management; whether numerous ministries are restructured; and whether the banking sector is made commercially viable.

Nicholas Lardy, a senior fellow with the Brookings Institution's Foreign Policy Studies Program, closed the morning session with a discussion of the PRC economy. Lardy detailed the reasons why China's economy likely will avoid the fate of many of its Asian neighbors. The lack of currency convertibility for China's capital account; the significant role of foreign direct investment (FDI) in

generating foreign exchange; the favorable structure of China's debt; and abundant foreign exchange reserves all will enable Beijing to avoid devaluing the RMB in the short term. These factors aside, however, Lardy stressed that the question is "when," not "if," China will devalue the RMB. Predicting when, he said, depends on the rate at which China's trade and capital accounts deteriorate, FDI inflows drop, and capital flight escalates.

According to Lardy, abundant foreign exchange inflows have led to an appreciation of the RMB since Beijing unified the exchange rate at ¥8.7:\$1 in 1994. As China's trade and capital account surpluses decline in the next year—the result of slowing export growth and FDI inflows—Beijing will be forced to sell foreign exchange to defend the RMB's exchange rate. Over the long term, as tariffs fall, imports will grow, putting downward pressure on the RMB exchange rate.

United States Trade Representative Charlene Barshefsky delivered the luncheon address, opening with remarks about the Asian financial crisis. Asian countries, said Barshefsky, are strategic partners of the United States. The United States should help minimize the devastating impact of Asia's troubles by supporting the International Monetary Fund. She commended China for its commitment to regional security and pledge not to devalue the RMB, and criticized Japan for its inadequate efforts to date to facilitate Asia's recovery from the regional financial turmoil.

Regarding China's accession to the World Trade Organization (WTO), Barshefsky commented that China made progress on a number of fronts in 1997, including market access issues and a new offer on service-sector liberalization.

ASIA'S FINANCIAL CRISIS TOPS SHANGHAI, HONG KONG AGENDAS

Council member company representatives in Hong Kong heard from financial experts about the impact of the Asian financial crisis on China. Andy Xie of Morgan Stanley, Dean Witter, Discover & Co.; Diane Yowell of HongkongBank; Philip Segal of the *International Herald Tribune* and the Economist Intelligence Unit; and Andrew Freris of BankAmerica Corp., all

commented on the likelihood of Beijing devaluing the *renminbi*, the PRC's weak banking system, and the Hong Kong dollar's link to the US dollar. The panelists' estimates for 1998 gross domestic product ranged from 7 to 8 percent for China, and 3.2 to 4 percent for Hong Kong.

Speaking to roughly 50 member company representatives gathered in

Shanghai, Robert Griffiths, economic officer of the US Consulate in Shanghai, also discussed the Asian currency crisis. Griffiths addressed the regional crisis, detailing its brief history and commenting on its potential impact on trade with investment in China. He also commented on the question of currency devaluation in China.

BEIJING OFFICE CONVENES CHINA OPERATIONS '98

The Council's China Operations conference, which took place in Beijing on February 17-18, featured a full slate of experts speaking on such topics as US-China relations and China's ministerial restructuring. The two-day conference began with a presentation by Council Vice President Richard Brecher on recent developments in the bilateral relationship. In the plenary session, member company representatives heard an analysis of China's new political lineup from Willy Wo-Lap Lam, political analyst for the *South China Morning Post*. Asia's economic and financial crisis was the topic of a presentation by Liu Zhenya, economics professor at People's University. And Austin Koenan, deputy CEO of China International Capital Corp. Ltd., a joint-venture investment bank formed by Morgan Stanley, Dean Witter, Discover & Co., spoke about financing options in the context of China's State enterprise reforms. The luncheon featured a presentation by Long Yongtu, vice minister of the Ministry of Foreign Trade and Economic Cooperation, who heads China's negotiation team for WTO accession.

US Embassy Minister-Counselor Robert Ludan; Pacific Rim Resources President Julie Reinganum; and BD Associates Managing Director Duncan Clark, addressed China's ministerial restructuring at one of the conference's four afternoon workshops. Options for entering the China market through shareholding and acquisition was the topic of the workshop featuring Jack Perkowski, chairman of Asian Strategic Investments Co., and Tim Berger, a mergers and acquisition adviser for Liaoning Province. The other two afternoon sessions examined the prospects for foreign involvement in the entertainment industry, with RXL Pulitzer President Dennis Bracy, Brent Associates President William Brent, and Claydon Gescher Associates Partner William Soileau; and distributing industrial goods, with US-China Industrial Exchange, Inc. Vice President Jim Spear, Timken Corp.'s Michael Adkins, and GE China's Bruce Eichman.

But commercially meaningful offers on distribution, telecommunications, and financial and professional services have not been forthcoming. The pace of progress on contentious issues regarding these sectors, said Barshefsky, remains in China's hands.

Member company representatives were briefed on China's new approach to SOE reform at one of the three concurrent afternoon workshops. Richard S. Newfarmer, lead economist of the World Bank's Poverty Reduction and Economic Management Unit, East Asia Region, opened the session. He remarked that SOE reform had become increasingly urgent. China's top leadership apparently has accepted that workers will have to be laid off, that the government must reduce its control over the State sector, and that private firms must be permitted to participate in previously closed industries. Weak productivity levels in rural areas and rising unemployment, too, will force Beijing to consider a faster reform schedule.

Next, James McGuigan, a managing director at Peregrine Capital (USA) Inc., evaluated strategic investment opportunities for multinationals under current reforms. McGuigan stated that the mergers and acquisitions "theme" of SOE reform opens the door for foreign participation in joint-stock cooperatives with smaller, loss-making SOEs. Though the permissible degree of foreign control over such companies remains uncertain, foreign firms will be able to acquire strategic stakes in both small and medium, if not large, SOEs. In the short term, he said, investors are more likely to be successful in positioning themselves for future opportunities by developing relationships with key companies, rather than by acquiring SOEs up for sale, many of which are not viable.

Stevenson-Yang wrapped up the session with insights on the meaning to PRC leaders of SOE reform. Though a growing number of SOEs are declaring bankruptcy, merging, or converting to share companies, many large State companies are opting to remain under State control. At the same time, the transfer of State assets to asset management offices and holding companies from regulatory ministries bodes well for legal transparency, she said.

The workshop on China's defense sector and commercial relations heard from James Mulvenon, resident consultant at the Rand Corp. Mulvenon addressed China's military commerce and US national security issues. He clarified the or-

ganizational and functional differences among PRC military, defense-industry, and civilian companies and pointed out that there is a "firewall" between the PLA and defense-industry firms. Mulvenon concluded with recommendations for US policy.

Randy Schriver, senior country director for China, Taiwan, Hong Kong, and Mongolia of the Office of the Secretary of Defense, briefed workshop participants on US-China military relations. Schriver discussed recent improvements in bilateral military relations. The United States, said Schriver, hopes to broaden and deepen the relationship to include new areas of cooperation, including humanitarian relief and nuclear safety. Finally, James Lewis, director of the Office of Strategic Trade and Foreign Policy Goals, Bureau of Export Administration, US Department of Commerce, discussed developments in US export control policy toward China.

The third afternoon workshop explored issues in localization—the process of shifting the management of China-based operations from expatriates to local managers. Mae Shen, an independent international business consultant, gave an overview of the process of selecting and training an expatriate general manager. Shen also detailed considerations involved in selecting a qualified PRC citizen to succeed the expatriate general managers.

Sheila Melvin, director of the Council's Shanghai office, spoke about the growing variety of MBA education programs in China. Combined with in-house training, an MBA education can prove to be an important part of a successful localization plan. Because such programs educate Chinese managers about Western business practices and terminology, they can improve communication between a joint-venture manager and the home office. Though it is too soon to tell whether the relatively young MBA programs can make the difference between success and failure of a company's localization program, MBA programs, according to Melvin, nevertheless should be treated as a potentially useful element of such a program.

Wrapping up the localization workshop were Lisa Bolton and Zhang Weijun, both of Towers Perrin. Bolton and Zhang presented several successful localization strategies based on a recent Towers Perrin localization survey. The strategies included successful identification of local talent, and the adherence to a model that incorporates both Chinese and Western business cultures.

POLLUTION CONTROL IN THE PEOPLE'S REPUBLIC OF CHINA: AN INVESTOR'S GUIDE

BY SHELLEY CLARKE, FELICITY THOMAS, HUSAYN A. ANWAR, AND CAROLINE COOK. LONDON: ENVIRONMENTAL RESOURCES MANAGEMENT, 1997. 139 PP. \$210 SOFTCOVER.

Over the last few years, China has experienced an unprecedented surge in foreign investment in high-polluting industries, from power generation and petrochemical refinement, to metallurgy and machinery manufacturing. A number of landmark projects have achieved financial closure just over the past year, while an additional \$100 billion in foreign debt and equity is slated for key infrastructure areas during the Ninth Five-Year Plan (1996-2000). At the same time, however, there is a relative dearth of systematically compiled information to guide foreign investors in the highly legislated area of environmental protection. In the past three years alone, there have been more than 350 environmental laws, regulations, and directives enacted in China. As a result, *Pollution Control in the People's Republic of China: An Investor's Guide* comes as a welcome addition to the literature.

This book delivers just what the title promises: a concise, if general, guide that

leads the investor through the PRC environmental planning and control maze. The book consists of seven chapters, covering the Environmental Impact Assessment (EIA) process, enforcement means, media-specific regulations, and general liability issues. The volume's technical appendices, meanwhile, include various PRC forms and standards.

The strength of the volume lies in the clear and concise manner in which it explains key regulatory processes and provides background on various technical areas. Chapters 4 and 5 present readable overviews of the EIA process and the Three Simultaneous Points Policy, China's key environmental planning and monitoring strategy requiring approvals at the design, construction, and commercial operation stages during the development or renovation of a pollution source. On the technical side, chapters 6 and 7 address the manner in which China approaches the regulation and control of key pollutants and other media of environmental degradation, including water and air discharges, solid waste, and noise and land degradation. These chapters include flow charts, technical references to relevant pollution classifications, and discharge standards. The volume concludes with a

general discussion of "Environmental Liabilities and Issues for the Investor," covering civil, administrative and criminal liabilities, and general pointers on dealing with the regulators.

Though clear and readable, the volume omits a layer of detail about critical issues arising in local and industry-specific practice, as well as specific legal and administrative issues. For example, many of the key capital construction industries have their own set of environmental regulations guiding permissions and discharge standards. This omission may, however, simply reflect a statement of the complexity, fluidity, and flexibility of the system. In addition, the chapter on liability issues does little to clarify issues for banks and financial institutions that are concerned with the environmental aspects of lender liability. But, overall, *Pollution Control in the People's Republic of China* is a helpful resource that would be a good addition to the bookshelves of foreign investors and their advisers alike.

—Mitchell A. Silk

Mitchell A. Silk is an attorney with Allen & Overy in Hong Kong and co-author of Environmental Law and Policy in the People's Republic of China.

DISTRIBUTION IN CHINA: CHARTING A COURSE TO PROFIT

BY ARIENA JONG WITH JOHN GRUETZNER. NEW YORK, NY: ECONOMIST INTELLIGENCE UNIT, JULY 1997. 99 PP. \$545 SOFTCOVER.

Touching on everything from advertising rates to port development to selection of wholesalers, this research report, written by two Asia-based consultants, provides a useful overview of the challenges facing foreign companies selling their goods in China. Perhaps inevitably, its broad scope—and the tendency of most multinationals to consider any information regarding their distribution networks as highly confidential—has meant that some sections are much stronger than others. Nevertheless, the authors do a good job of drawing on other sources to illustrate their assertions. *Distribution in China* seems geared toward consumer goods

companies, though firms in industrial sectors may find helpful the chapter on physical distribution, which contains some excellent updates on China's infrastructure development plans.

The most interesting information in the report comes from the results of a December 1996 EIU survey of 72 foreign-invested enterprises. The survey revealed that a majority of respondents found distribution costs in China more expensive than in their home countries (most respondents were US- or EU-based companies, roughly split between consumer and industrial product manufacturers). Nearly half reported that more than 5 percent of all their outstanding accounts are "doubtful," and 20 percent of consumer-goods respondents reported bad debt balances as high as 10-20 percent of sales. Such in-

formation can prove valuable to foreign firms looking to benchmark themselves against others in the China market. Newcomers will find the study provides a good checklist of issues to consider when setting up supply chains, even if there are disappointingly few details on how to operate such chains effectively.

The report gives little attention to such topics as how foreign companies can or should structure distribution activities of multiple ventures. But *Distribution in China* is timely and easy to read, and despite its hefty price tag, offers welcome insights into how to sell goods in China.

—Pamela Baldinger

Pamela Baldinger is director of the US-China Business Council's Hong Kong office.



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Julie Walton

The following tables contain recent press reports of business contracts and negotiations exclusive of those listed in previous issues. For the most part, the accuracy of these reports is not independently confirmed by *The CBR*. Contracts denominated in foreign currencies are converted into US dollars at the most recent monthly rate quoted in the International Monetary Fund's *International Financial Statistics*.

Firms whose sales and other business arrangements with China do not normally appear in press reports may have them published in *The CBR* by sending the information to the attention of the editor.

SALES AND INVESTMENT *November 15, 1997–January 15, 1998*
Foreign or Hong Kong party/Chinese party **Arrangement, value, and date reported**

Accounting and Insurance

INVESTMENTS IN CHINA

Aetna Inc. (US)/China Pacific Insurance Co. Ltd. (Shanghai)
 Announced plans to open life insurance joint venture in Shanghai's Pudong New Area. 1/98.

Agricultural Commodities and Technology

INVESTMENTS IN CHINA

Promise Co. (Japan)/Nanjing Agricultural University (Jiangsu)
 Formed joint venture to produce rice, corn, and wheat hybrids. (Japan:50%-PRC:50%). \$3.6 million. 12/97.

OTHER

United Nations World Food Program
 Initiated agricultural project to improve irrigation, roads, drinking water, and educational facilities in Qinghai Province. 12/97.

Advertising and Public Relations

INVESTMENTS IN CHINA

Hill and Knowlton, Inc., a US subsidiary of WPP Group PLC (UK)/China International Business & Investment Consultant Corp. (Beijing)
 Signed letter of intent to form investment consulting joint venture. 1/98.

Abbreviations used throughout text: ADB: Asian Development Bank; BOC: Bank of China; CAAC: Civil Aviation Administration of China; CNAIEC: China National Automotive Import-Export Corp.; CATIC: China National Aero-Technology Import-Export Corp.; CITIC: China International Trust and Investment Corp.; CITS: China International Travel Service; CNOOC: China National Offshore Oil Corp.; ETDZ: Economic and Technological Development Zone; ICBC: Industrial and Commercial Bank of China; MPT: Ministry of Posts and Telecommunications; NA: Not Available; NORINCO: China North Industries Corp.; P&T: Posts and Telecommunications; PBOC: People's Bank of China; SEZ: Special Economic Zone; SINOCHEM: China National Chemicals Import-Export Corp.; SINOPEC: China National Petrochemical Corp.; SINOTRANS: China National Foreign Trade Transportation Corp.; SPC: State Planning Commission; UNDP: United Nations Development Program; UNICOM: China United Telecommunications Corp.

Banking and Finance

INVESTMENTS IN CHINA

Mitsubishi Corp. (Japan), Continental Grain Co. (US)/Shanghai Foreign Trade Co., Orient International Group Co.
 Opened four joint-venture commodities markets to trade fuels, agricultural commodities, and textiles. \$12.5 million. 12/97.

Clemente Capital Asia (US)/China Investment Consulting Group (Beijing)
 Launched China 2000 Investment Holdings to invest in transportation, energy, communications, and building materials. \$100 million. 11/97.

State Street Mansion House Investment Management Services Group Ltd. (US)/Guangdong Overseas Chinese Trust & Investment Corp.
 Will form a joint venture to seek license to market mutual funds in China. 11/97.

OTHER

Capital Securities Corp. (Taiwan)
 Opened representative office in Shanghai's Pudong New Area. 11/97.

Core Pacific Securities Corp. (Taiwan)
 Opened representative office in Shanghai's Pudong New Area. 11/97.

Chemicals, Petrochemicals, and Related Equipment

INVESTMENTS IN CHINA

Sterlin Pulp Chemical (Canada)/Fuzhou No. 1 Chemical Plant, Yong Tai County Power Co. (Fujian)
 Formed joint venture to produce chlorate. \$30.2 million. 1/98.

Arkenol Asia Inc., a unit of L.L. Knickerbocker Co. (US), Regal Best Ltd. (Hong Kong)/Central Resource Development Co. (Beijing)
 Signed memorandum of understanding to build biorefinery in China. (US:50%-PRC:50%). \$100 million. 12/97.

EFTEC Asia (US)/Shanghai Painting

Established joint venture to produce sealant products. (US:60%-PRC:40%). 12/97.

Kunming Xinmao Industrial Petrochemical Co. Ltd., a subsidiary of Largo Vista Group Ltd. (US)/Governments of Fumin, Dali, and Lijiang counties (Yunnan)

Signed agreements to build joint-venture liquid petroleum gas pipelines. 12/97.

Roche Holdings AG (Switzerland)/Wuxi Zhongya Chemical Co. Ltd. (Jiangsu)

Established joint venture to produce 20,000-40,000 tons of citric acid annually. (Switzerland:60%-PRC:40%). \$25 million. 12/97.

Courtaulds PLC (UK), Chang Cheng Chemicals (Taiwan)

Announced start-up of joint-venture powder coating plants in Guangdong and Jiangsu provinces. (UK:50%, Taiwan:50%). 11/97.

Thermphos International (US)/Xuzhou Seagull Group (Jiangsu)

Formed joint venture to produce STPP for local detergents sector. (US:60%-PRC:40%). 11/97.

OTHER

UGI Enterprises Inc. (US)/China National Chemical Supply & Sales Corp. (Beijing)

Signed agreement for the development of a joint venture to import, store, and distribute propane gas along the Yangtze River. 12/97.

Ashland Chemical Co., a subsidiary of Ashland Inc. (US)

Established Ashland (Nanjing) Chemical Co. Ltd. in the Nanjing Jiangning Economic and Technical Development Zone to sell unsaturated polyesters and serve as a technical support center. 11/97.

Consumer Goods

INVESTMENTS IN CHINA

Koninklijke Ahold NV (Netherlands)

Agreed to purchase 22 consumer goods stores in Anhui Province from Yaohan Liancheng. 1/98.

Fuji Photo Film Co., Ltd. (Japan)

Increased investment in the Suzhou Fuji Photo Film Projector Machinery Co., Ltd., joint venture. \$20 million. 12/97.

LG Chemical Ltd. (S. Korea)/Beijing First Household Chemicals Factory

Established joint venture to manufacture toothpaste. \$11.4 million. 12/97.

Montedison SpA (Italy)/Juhua Group Co. (Zhejiang)

Established joint venture to manufacture fire extinguishers. 12/97.

Daiei Inc. (Japan), Mitsubishi Corp. (Japan)/NA

Opened Dalian Daiei Supermarket Co. joint venture in Dalian, Liaoning Province. (Japan:90%-PRC:10%). \$5 million. 11/97.

OTHER

The Procter & Gamble Co. (P&G) (US), Hutchison Whamoa Ltd. (Hong Kong)

Renegotiated 1988 joint-venture contract to give P&G 100% ownership of their joint-venture holding company by 2017. 10/97.

Electronics and Computer Software

CHINA'S IMPORTS

AT&T (US)

Sold China Telecom a T-45 Internet connection. 11/97.

INVESTMENTS IN CHINA

US Data Equipment Co./China Aerospace Industry Corp.

Will cooperate to build a network computer for China Aerospace. (US:50%-PRC:50%). \$80 million. 1/98.

Walker Inc. (US), Vanda Systems and Communications Holdings (Hong Kong)

Set up joint venture to manufacture mainframe-based system software in China. (US:55%, Hong Kong:45%). \$1.5 million. 1/98.

GulTech International Pte. Ltd. (Singapore), EBD Investments Pte. Ltd. (Singapore)

Will form a joint venture to manufacture printed circuit boards through GulTech's wholly owned subsidiary in Suzhou, Jiangsu Province. \$36 million. 12/97.

SGL Carbon Group (Germany)/Shanghai Carbon Works

Established joint venture to produce medium- and large-diameter ultra high power graphite electrodes used in the steel industry. (Germany:70%-PRC:30%). \$28 million. 12/97.

OTHER

IBM Corp. (US)/Beijing University Founder Group Corp.

Signed agreements to cooperate in developing multimedia software products and market each other's products worldwide. 11/97.

Engineering and Construction

INVESTMENTS IN CHINA

Kubota Corp. (Japan), Sumitomo Bank, Ltd. (Japan)/NA

Announced joint venture to manufacture cast steel. (Japan:30%-PRC:70%). \$6.3 million. 1/98.

BF Goodrich Co. (US)/Wenzhou Youli Plastic Industry Co. (Zhejiang)

Formed joint venture to manufacture plastic piping systems. 12/97.

Dresser-Rand Co. (US)/Shanghai Compressor Co., Ltd.

Formed joint venture to make gas compressors for the chemical and petrochemical industries. (US:60%-PRC:40%). 11/97.

OTHER

Asea Brown Boveri Ltd. (Switzerland/Sweden)

Opened representative office in Chengdu, Sichuan Province. 12/97.

Minoru Yamasaki Associates, Inc. (Japan)

Won contract to design the Xiwang Building in Dalian, Liaoning Province. 12/97.

Krupp Foedertechnik (Germany)/China Jianghe Water Resources and Hydropower Development Corp. (Tianjin)

Awarded contract to build 100 floating dredgers over the next five years. 11/97.

Environmental Technology and Equipment

INVESTMENTS IN CHINA

Actew China Pte. Ltd., a subsidiary of Actew Corp. Ltd. (Australia)/Shanghai Academy of Environmental Science, Shanghai Scientific Instrument Factory

Will develop and assemble wastewater flow measuring instruments. 11/97.

Solucorp Industries Inc. (US)/Aerospace Bureau of Product Development, China Green Environmental Development Center

Formed joint venture to design waste removal system based on molecular bonding technology and remove waste materials from the bureau's battery plants in Guizhou Province. 11/97.

WaterPur International Inc. (US)/Government of the PRC

Signed agreement to establish joint venture to manufacture and market low-cost water-treatment systems. (US:50%/PRC:50%). 11/97.

OTHER

International Bank for Reconstruction and Development/Government of the PRC

Received World Bank loan to implement Shandong Environment Project, scheduled for completion in 2003. \$35.2 million. 1/98.

Global Communications for Conservation (US)/PRC State Science and Technology Commission

Signed agreement to translate and distribute American textbooks on conservation to Chinese schools. 12/97.

International Bank for Reconstruction and Development

Authorized loan for Government of Jiangsu Province for construction or renovation of four water pumping stations. \$42 million. 12/97.

Food and Food Processing

CHINA'S INVESTMENTS ABROAD

Victoria Beverage Co. (US)/China Food & Beverage Co.

China Food & Beverage signed letter of intent to acquire Victoria Beverage Co. and its 60% interest in Sui Ning Beer Factory. \$15 million. 12/97.

INVESTMENTS IN CHINA

Asahi Breweries Ltd. (Japan), Itochu Corp. (Japan), Sumikin Bussan Corp. (Japan), Pine Seal Investment Ltd. (Hong Kong)/Tsingtao Brewery Co. (Shandong)

Set up joint venture brewery in Shandong Province. (Japan:34%/PRC:66%). \$30 million. 12/97.

Hormel Foods Corp. (US)/Shanghai Da-Cheng Meat Processing Complex

Established meat processing joint venture. \$11 million. 12/97.

Lassonde Industries Inc. (Canada)/NA

Increased investment in its fruit juice joint venture from 47% to 71%. (Canada:71%/PRC:29%). \$4.4 million. 12/97.

Ibberson International (US)/China National Beijing Contracting & Engineering Institute for Light Industry

Formed joint venture to design and build food-processing and manufacturing plants. 11/97.

Joseph E. Seagram & Sons Inc. (US)/Three Gorges Construction Group

Signed contract to establish orange juice research, production, processing, and marketing base. \$36 million. 11/97.

OTHER

Ambrew USA/South China Brewing Co.

Signed agreement naming Ambrew as distributor for South China Brewing products in the United States and other territories. 1/98.

Machinery and Machine Tools

INVESTMENTS IN CHINA

Fanuc Ltd. (Japan)/NA

Set up joint venture to market and service robots and factory automation equipment. \$1 million. 12/97.

OTHER

Scotsman Industries Inc. (US)/Xinle Precision Machine Co. (Liaoning)

Acquired 40% equity stake from Xinle Precision Machine Co. to gain 100% ownership of venture in Shenyang, Liaoning Province. 12/97.

Eaton Corp. (US)

Announced formation of Eaton (China) Investments Co., Ltd., a Shanghai-based investment holding company for operations in China. \$30 million. 11/97.

Medical Equipment and Devices

INVESTMENTS IN CHINA

Chiron Diagnostics, a unit of Chiron Corp. (US)/Shanghai Long March-Trace Medical Science Co. Ltd.

Entered agreement to manufacture and distribute Chiron Diagnostics's critical care and chemical reagents. (US:22%/PRC:78%). 12/97.

Hewlett-Packard Medical Products Group, a unit of Hewlett-Packard Co. (US)/China National Corporation of Medical Equipment Industry (Shandong)

Created HP China Medical Division joint venture. 12/97.

Metals, Minerals, and Mining

INVESTMENTS IN CHINA

Integrated Carbonics Corp. (Canada)/Liumao Graphite Group (Heilongjiang)

Established joint venture to construct and operate graphite processing plant. (Canada:80%/PRC:20%). 1/98.

Cheung Tai Hong Holdings Ltd. (Hong Kong), Interform Ceramics Technologies Ltd. (Hong Kong)/NA

Announced joint venture to set up ceramics franchise in Guangdong Province. (Hong Kong:65%/PRC:35%). \$4.5 million. 12/97.

Krupp Thyssen Stainless Co. (Germany)/Shanghai Pudong Iron and Steel Group Co.

Established joint venture to produce cold-rolled stainless steel. (Germany:60%/PRC:40%). \$1.4 billion. 12/97.

Rothschild Australian Ltd. (Australia)/Sino Mining International Ltd., a subsidiary of China National Non-Ferrous Metals Industry Corp.

Agreed to develop the Jianchaling gold mine in Shaanxi Province. \$17.3 million. 11/97.

OTHER

Beacon Light Mining Co., Inc. (US)/NA

Will assume Pinnacle International Corp.'s position in a plastic injection-molding joint venture with a Guangdong-based company. (US:55%-PRC:45%). \$11 million. 12/97.

Alcan Aluminum Ltd. (Canada)/China National Non-Ferrous Metals Industry Corp. (Shanxi)

Will conduct feasibility study for proposed primary smelter and power plant for Hejin, Shanxi Province. \$7 million. 11/97.

Packaging, Pulp,
and Paper

INVESTMENTS IN CHINA

Kokuyo Co. (Japan)/Shanghai Hero Co.

Established joint venture to manufacture stationery. (Japan:70%-PRC:30%). \$5 million. 1/98.

Tomen Corp. (Japan), Mitsubishi Heavy Industries (Japan)/Zi Jiang Group (Shanghai)

Formed joint venture to produce PET film for bottle labels. (Japan:30%-PRC:60%). \$43 million. 1/98.

Petroleum, Natural Gas,
and Related Equipment

CHINA'S INVESTMENTS ABROAD

Government of Kazakhstan/China National Petroleum Corp.

Acquired controlling interest in Kazakhstan's second-largest oil field. \$4.4 billion. 12/97.

National Iranian Oil Co. (Iran)/Government of the PRC

Agreed to form joint venture to explore for offshore oil in Iran. 12/97.

INVESTMENTS IN CHINA

Texaco Inc. (US)/Government of the PRC

Signed contract to develop a coal-bed methane gas field in Jiangsu Province. \$500 million. 1/98.

OTHER

Government of Sri Lanka/Government of the PRC

Will cooperate on scientific, technological, and commercial issues in the petroleum industry. 1/98.

British Petroleum PLC (UK), Fortune Oil (Hong Kong)/China Aviation Oil Supply Co.

Acquired Vitol Holding BV's position in aircraft refueling joint venture. (UK:24.5%, HK:24.5%-PRC:51%). 12/97.

Agip, a subsidiary of Eni SpA (Italy)/China National Petroleum Corp.

Signed contracts to start prospecting in sections of the Bohai Gulf and West Africa. (Italy:50%-PRC:50%). 11/97.

Norwegian State Oil Co. (Norway)

Established Norwegian State Oil China Co., Ltd. in Beijing to cooperate with China in oil and gas exploration. 11/97.

Pharmaceutical

INVESTMENTS IN CHINA

Korean Green Cross/NA

Established joint venture to produce albumin, globulin IV, and vaccines. 1/98.

Montedison SpA (Italy)/Shanghai Xianfeng Pharmaceutical Co.

Established pharmaceutical joint venture to manufacture antibiotics. \$30 million. 12/97.

SmithKline Beecham Co. (US)/Shanghai Institute of Biological Products, China National Biological Products Co.

Announced creation of SmithKline Beecham Biological Shanghai Ltd. joint venture to manufacture vaccines. \$100 million. 11/97.

Ports and Shipping

INVESTMENTS IN CHINA

Peninsular and Oriental Steam Navigation Co. (UK)/Shougang Concord International Enterprises Co. Ltd., a unit of Shougang Holding Ltd. (Beijing)

Will merge bulk-shipping operations into a joint venture. (UK:50%-PRC:50%). 11/97.

OTHER

Kawasaki Kisen Kaisha Ltd. (Japan)/COSCO

Announced joint cargo-shipping agreement to expand Kawasaki's trans-Pacific services. 1/98.

Power Generation Equipment

INVESTMENTS IN CHINA

Energy Research Corp. (US), Nan Ya Plastic Corp. (Taiwan)/Government of Xiamen (Fujian)

Signed memorandum of understanding to license electric vehicle battery technology for the manufacture and sale of batteries in China and Taiwan. 12/97.

General Electric Canada Inc., a unit of General Electric Co. (US), Voith Hydro Inc. (Germany), Siemens AG (Germany)/Dongfang Electric Machine Co.

Agreed to produce two turbine generators for the Three Gorges project. 12/97.

Government of Russia/Government of the PRC

Concluded deal to build a joint-venture nuclear power plant in Lianyungang, Jiangsu Province. \$3.5 billion. 12/97.

Property Management and Development

INVESTMENTS IN CHINA

Grandlink Group Pte. Ltd. (Singapore)/Nanjing Jiangning General Economic and Technical Development Co. (Jiangsu)

Signed agreement to build theme park in Nanjing, Jiangsu Province. \$50 million. 1/98.

Charoen Pokphand (Thailand)/Shanghai Kinghill Ltd.

Formed joint venture to develop shopping complex in Shanghai. \$305 million. 11/97.

OTHER**Nam Fong International Holdings Ltd. (Hong Kong)**

Will acquire remaining 30% stake of Trisum Investment Ltd., which invests in residential and retail property development in Guangzhou, Guangdong Province. \$7.1 million. 11/97.

Telecommunications**CHINA'S IMPORTS****Blue Arrow Electronics International, a unit of Triple Crown Electronics Inc. (Canada)/Beijing Cable**

Signed contract to supply optical receivers for cable television. \$1.3 million. 1/98.

Intellect Network Technologies (US)

Sold Sonetlynx multiplexer fiber-optic network system to Ha-Da Expressway. 1/98.

Lucent Technologies (US)

Won MPT contract to supply wireless digital data network to China Radio Data Network. \$10 million. 1/98.

Pacific Research & Engineering Corp. (US)

Won contract to provide broadcast audio consoles. 1/98.

Ramp Networks Inc. (US)

Won contract to sell Internet access devices to China over the next three years. \$6 million. 1/98.

Ascom Asia Pacific Ltd. (Switzerland)

Concluded contract to supply Beijing P&T Administration with 1,000 HDSL links to serve corporate data networks. 12/97.

INVESTMENTS IN CHINA**Cellular Infrastructure Group, a unit of Motorola Inc. (US)/Beijing P&T Administration**

Signed contract to expand Global Systems for Mobile Communications network in Beijing. \$33 million. 12/97.

Matsushita Electric Industrial Co. (Japan)/Qingdao No.6 Electronic Component Factory (Shandong)

Formed joint venture to make audio-visual and communication components. (Japan:60%-PRC:40%). \$8.8 billion. 12/97.

Motorola Inc. (US)/Heilongjiang P&T Administration

Announced contract to expand existing analog cellular network in Heilongjiang Province. \$47 million. 12/97.

NEC Corp. (Japan)/Fourth Research Institute of MPT

Established Xi'an NEC Radio Communications Equipment Co. Ltd. joint venture to produce large capacity synchronous digital hierarchy-based microwave communications systems. (Japan:41%-PRC:59%). \$4.5 million. 12/97.

NEAT&T, a joint venture between Loxley Pacific Co. (Thailand) and Korean Post and Telecommunications (N. Korea)/China Telecom

Will establish fiber optic connection for cross-border telephone services. \$1 million. 11/97.

Nokia Telecommunications (Finland)/Fujian P&T Administration

Formed joint venture in fields of GSM 900/1800 technical services and network planning. 11/97.

OTHER**Agence France-Presse (France)/China Internet Corp.**

Signed agreement to provide online coverage of 1998 World Cup games. 1/98.

Telstra (Australia), Teleglobe Inc. (Canada), Alcatel Alsthom Compagnie Générale d'Electricité (France), Hong Kong Telecommunications Ltd., Kokusai Denshin Denwa Co. (Japan), Korea Telecom, Telekom Malaysia, AT&T (US), MCI Communications Corp. (US), Sprint Corp. (US), SBC Communications Inc. (US)/China Telecom

Signed agreement to build 18,600 mile undersea fiber optic cable. (All parties have equal shares). \$1.1 billion. 12/97.

Aerospatiale, a subsidiary of Daimler-Benz Aerospace (Germany)

Will deliver Sinosat-1, a telecommunications satellite, to China Aerospace Corp. 11/97.

Transportation**CHINA'S IMPORTS****Airbus Industrie (France)/Zhejiang Airlines**

Zhejiang Airlines agreed to purchase three A320 aircraft over next two years. 1/98.

Unisys Asia Pacific Pte. Ltd., a unit of Unisys Corp (US)/Civil Aviation Computer Information Center

Signed contracts to provide the Unisys airline technology system to CACIC. \$16.8 million. 12/97.

INVESTMENTS IN CHINA**Nissan Motor Co. Ltd. (Japan), Ford Motor Co. (US)/NA**

Created joint venture to manufacture the Quest minivan in Guangdong Province. \$190 million. 1/98.

Volvo Trucks, a unit of AB Volvo (Sweden)/China National Heavy Truck Corp.

Announced joint venture to manufacture trucks in Shandong Province. \$374 million. 1/98.

Nippon Yusoki (Japan)/NA

Established battery-operated forklift truck manufacturing and sales joint venture in Shanghai. (Japan:97%-PRC:3%). 12/97.

Union Bank of Switzerland/Government of Yunnan Province

Signed letter of intent to establish toll road joint venture. (Switzerland:30%-PRC:70%). \$300,000. 12/97.

Daimler-Benz AG (Germany)/Yangzhou Motor Coach Manufacturer General (Jiangsu)

Formed Yaxing Benz Ltd. joint venture to manufacture buses. \$60 million. 11/97.

Fata Group (Italy)

Announced plan to establish wholly owned venture to supply high-tech automation systems for China's auto industry. 11/97.

Kuhmo Group (S. Korea)/Jinan Long Distance Coach Transport Co. (Shandong)

Launched Jinan-Kuhmo Transport Co. Ltd. joint venture in Jinan, Shandong Province, to provide bus transportation services. (S. Korea:50%-PRC:50%). \$20 million. 11/97.

OTHER

Aero International Regional (European Union)/Aviation Industries of China

Will undertake feasibility study for joint venture to produce 72-seat planes for regional use. 11/97.

Bombardier Inc., Power Corp. (Canada)/Sifang, a subsidiary of China National Railway Locomotive and Rolling Stock Industry Corp.

Signed memorandum of understanding for joint venture to manufacture rail passenger cars. 11/97.

ITT Industries (US)/Shanghai Jiaotong University, Shanghai Automotive Industry Corp.

Announced opening of renovated automotive manufacturing plant in Minhang district of Shanghai. \$50 million. 11/97.

Miscellaneous

CHINA'S INVESTMENTS ABROAD

Australian Chinese Times (Australia)/Beijing Daily, Beijing Evening News

Set up joint venture to supply Australian newspaper with news from Beijing. 11/97.

CHINA'S IMPORTS

Government of Poland/Government of the PRC

Signed agreement to import copper, automotive parts, and chemical industry equipment from Poland to reduce Poland's trade deficit with China. \$60 million. 12/97.

INVESTMENTS IN CHINA

Primedia Inc. (US)/Chang Cheng Enterprises Holdings (China) Ltd.

Announced joint venture to publish trade and technology titles. 12/97.

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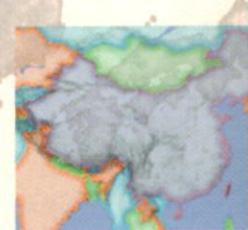
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SHIJIAZHUANG DIARY

Former US-China Business Council intern and recent George Washington University School of Business and Public Management graduate Jim Laubner has a one-year contract with the Hebei Provincial Bureau of Finance in the provincial capital, Shijiazhuang, to teach courses on finance and economics. A native of Massachusetts, Jim had never been to China and knew little Chinese when he arrived in Shijiazhuang in September 1997. Below are some of his observations about life in Hebei.

Before I go any further, I'd like to thank the wise guys who neglected to tell me before I left the United States that not only would it be very cold here in Hebei (they told me that much) but also that it would be cold *everywhere*, including indoors. Until the November day when I witnessed my building's first coal delivery, I had even considered using the exhaust from my vacuum cleaner for a few joules of heat. It was so bad for a while that an American friend told me that she actually had tried using her shower to heat her apartment.

So far, I most enjoy trying to buy odds and ends at local stores. I was ecstatic, for example, when I finally came upon a store that carried plastic wrap. I knew it could be found in the city since my apartment came with a roll, but I can't even begin to tell you how many blank faces I encountered before I found some at a local all-purpose department store. Needless to say, I stocked up for the remainder of the year. I've been looking for Scotch tape for the past few weeks and am beginning to think it may be in vain. Everyone here seems to prefer a type of paste to stick things together.

When my limited Chinese proves useless (almost all the time, it seems) and my dictionary fails me during these searches, I am forced to fall back on my skills as a mime, though I also have a few other tools at my disposal. For example, about a week ago I was walking by a recently opened beauty parlor. Out front a man and woman were playing badminton and invited me to join them. Before I could answer, five other people came out of the shop and asked me in. They knew no English except "hello." As I have taken to doing in such situations, I pulled out my wallet and showed them the few pictures I always carry around. A handful of wallet photos and knowing the lyrics to a few songs (any songs) will take you far in China. These would have to be the two items I would recommend that anyone moving to China bring along. Because of my lack of singing ability and even worse recollection of lyrics, I have been reduced on many an occasion to singing pure nonsense. But as long as it rhymes or follows some melody, it's a great way to entertain an audience.

The first place here that matched my expectations, before I left the States, of what China might be like was the open-air free market in the center of town. The place is immense. I am told it is the fourth-largest market of its type in China. Everything is sold there, from cats to beepers and stationery. There seemed to be more people at the market than in my small home town of 4,000.

Each day brings a new adventure. I recently had a TV debut that everyone in the city seems to have seen, maybe because most residents only receive Hebei State channels 1 and 2. I was on channel 1, which broadcasts a weekly show on foreigners living in the province. They filmed me lecturing at the

Finance Bureau, buying food in open-air markets, shopping in department stores, and mailing letters. The highlight of the show had to be my boss's eight-year-old daughter teaching me Chinese. She wouldn't let my pronunciation slide at all, even for the camera. Now it seems that everyone I meet tries to teach me the few words I was trying to learn on the segment. I also had the great pleasure the other day of hearing my tutor's two-year-old son say to me the Chinese equivalent of "not correct" as I practiced my lesson. Needless to say, I have come to realize since I arrived how much more of an effort it will take to master conversational Chinese.

As for my work, the Finance Bureau ran a story in its newspaper about my arrival and duties, so more and more people seem to attend my classes each week. Teachers from schools under the bureau attend, as well as a range of government officials from other agencies, so I have plenty to keep me busy. They are very interested in learning all they can to improve the business environment here.

The bureau is responsible for spending money in the province and preparing the five-year budget. They take great care of me, providing for every want in at least some way. Outside of my duties, the bureau is helping me arrange some plant visits to factories in the city. There are plants that produce pharmaceuticals, mining machinery, textiles, agricultural machinery and the like. Without the bureau's help, I'd never get through the gates of these places.

I have also been asked to assist the bureau in preparing International Finance Corp. funding proposals for various companies. Some have been very well written, while others would make excellent case studies for MBA students on how not to solicit funds. My favorite examples of the latter have been those with statements to the effect that a certain company does not foresee competition in its industry within the next 50 years, or summary (very summary) financial statements that seem to depict pure fantasy. I hope my meager effort at writing a 20-page template for companies to follow will help in at least some small way. And for that, I hope my former MBA professors have some cause for celebration, as the wisdom they imparted to at least one of their students is being put to a productive use.

More recently, I have had the good fortune to be asked to assist the Post and Telecommunications College here to make English tapes for their students. If on your next trip through China you encounter a post office attendant with a slight Bostonian twang, you can thank me.

Overall, I'm adapting well, but at times I am reminded of how much I take for granted the smaller luxuries of the United States. For instance, I recently needed to mail a small package back to the States and needed a box for shipping. I was advised that the Chinese way to do it was to sew the contents into a cloth bag, sort of like a small kitchen towel. And not long ago I wrote my phone number for a colleague on a tiny yellow "Post-it" note, which he had never seen before. I gave him a couple of stacks to use.

I hope this attempt to convey some of my experiences provides the uninitiated with a better view of life in China outside of the major cities, and offers old China hands pleasant recollections of their own experiences here, in what I am sure were far wilder times!

—Jim Laubner

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