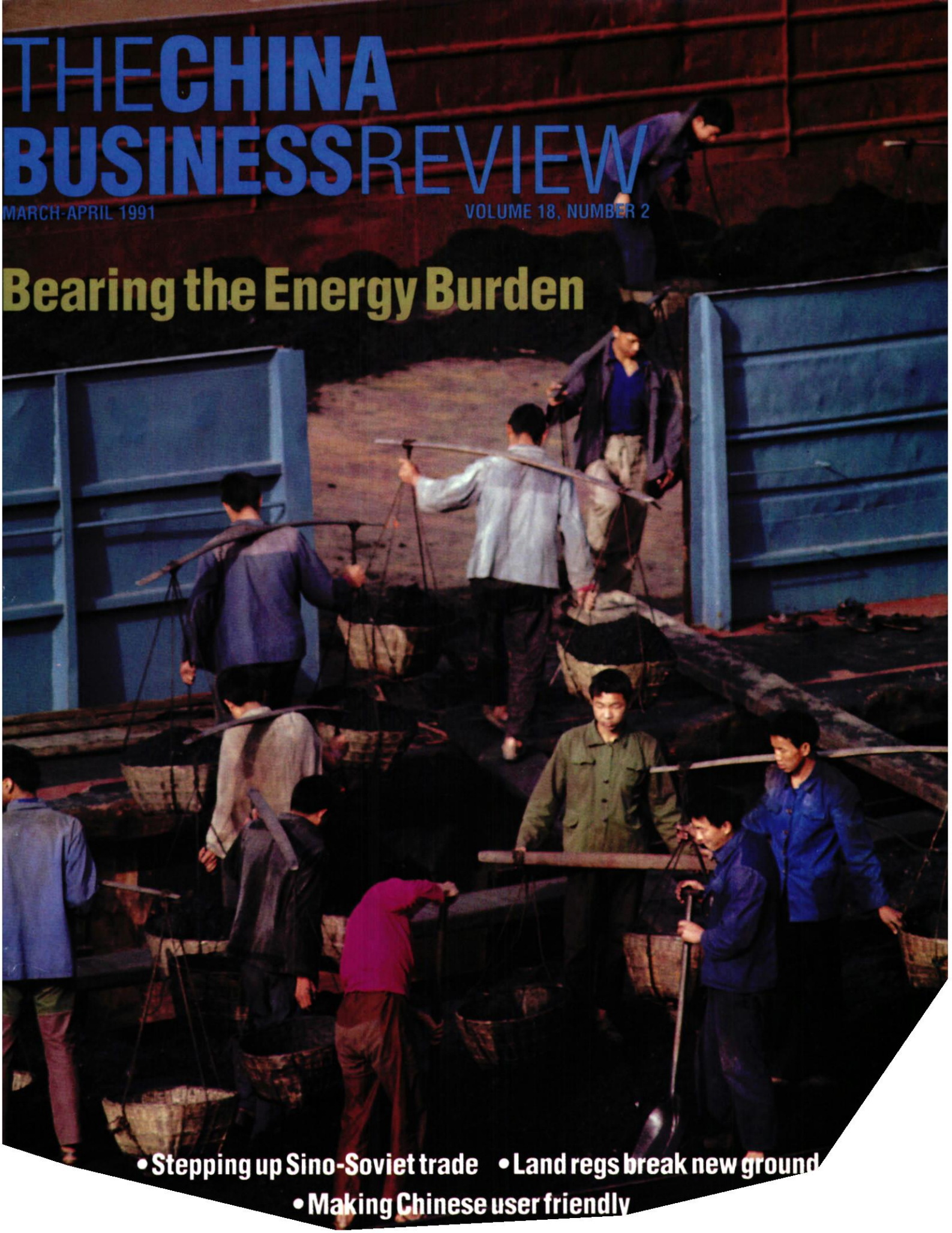
THE CHINA BUSINESS REVIEW
MARCH-APRIL 1991 VOLUME 18, NUMBER 2

Bearing the Energy Burden



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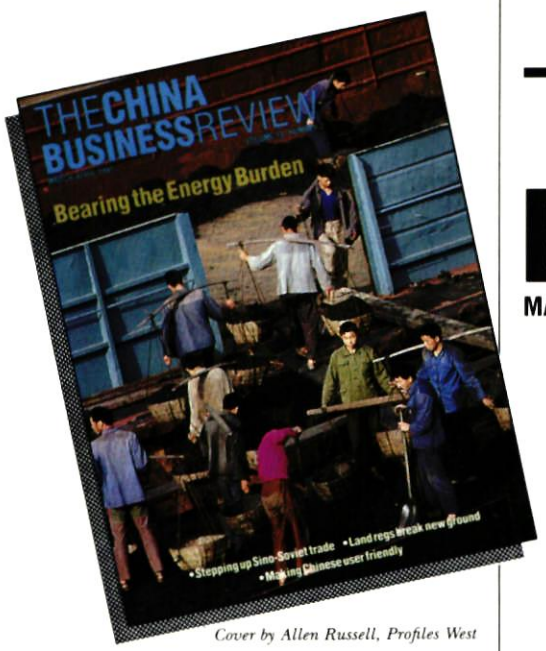

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摘要 Trends & Issues

The Lure of Oil

On January 24, Amoco Corp.'s subsidiary Amoco Orient Petroleum Co. signed the largest foreign offshore oil development contract in China—and perhaps the largest foreign investment contract since Tiananmen—to develop jointly with the Chinese the Liuhua 11-1 oil field in the Pearl River basin, 150 miles southeast of Hong Kong. Amoco is to hold a 49 percent stake of the estimated $500 million venture while the China National Offshore Oil Corp. (CNOOC) will hold 51 percent.

The venture is expected to begin producing oil in 1995, at an initial rate of at least 60,000 barrels per day. It will join two other groups already producing oil off China's coast. The investment is expected to pave the way for new downstream projects, including a petrochemicals complex and a refinery in Huizhou, Guangdong Province. The refinery is currently in the feasibility study stage, and could begin operation in about five years. Several foreign companies—including Shell (UK)—have reportedly shown interest in the project. —DR

NPC Preview

The National People's Congress (NPC) is scheduled to assemble in late March. Though few details have been released about the specific agenda, a key task is likely to be approval of the Eighth Five-Year Plan, passed at the plenum meeting in December 1990.

According to Gui Shiyong, vice minister of the State Planning Commission, under the Plan "major efforts will be devoted to the readjustment of the economic structure and the improvement of economic returns; efforts will be made to tap the full potential of existing enterprises instead of initiating new ones."

The Plan emphasizes agriculture, basic industries, infrastructure, and science, technology, and education. GNP growth is set at 6 percent per year, while growth in industry is to rise 7 percent and in agriculture 3.5 percent. Key projects in energy, communications, raw materials, and water conservancy are to be given priority. The Plan will also provide more construction funds to provinces along the Yangtze River—especially Shanghai—as opposed to South China and the special economic zones, which previously received priority.

Other possible items on the March agenda include the software and copyright law implementing regulations. The NPC will also reportedly consider new tax laws for foreign-invested enterprises.

Short Takes

MFN Revived for 1991

In mid-January, Senator Daniel Moynihan (D-NY) introduced a bill calling for the denial of most favored nation (MFN) trading status to China. The issue, however, is unlikely to be fully considered until summer. The President must announce his decision to renew MFN by June 3; if he does so, Congress has until September 3 to take an expedited vote on the decision.

New World Bank Projects

In January and February the World Bank approved three more China projects: the $168 million Integrated Urban Cities project, the $150 million Shanghai Industrial Development project, and the $120 million Key Studies project. Though these projects fall outside the "basic human needs" (BHN) restrictions imposed on all Bank projects since July 1989, they were approved on the grounds that they promote reform in China. The Bank is likely to continue submitting new projects for approval on a case-by-case basis over the coming months.

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评论 Commentary

Non-Market Economies and US Antidumping Laws

Eric Garfinkel

China, like all countries, is subject to US antidumping laws, the purpose of which is to prevent foreign producers and exporters from selling merchandise in the United States at less than foreign market value when such sales cause injury to US industry. When a US petitioner files an antidumping case against products from a market economy country, the Department of Commerce (DOC) determines whether the merchandise is being dumped by calculating the foreign market value of the imported merchandise (typically, the price of the merchandise when sold in the market of the producing country or to a third country other than the United States) and comparing it to the price of the merchandise imported into the United States. If a producer sells merchandise in the United States at a price lower than the foreign market value, the producer is dumping. The dumping margin is the difference between the two prices.

When a petition is filed against a non-market economy country (NME) such as China, the exercise is similar. However, because production, prices, wage rates, exchange rates, availability of inputs, and input prices are not controlled by the market but by the government, it is difficult to obtain an accurate measure of foreign market value. Therefore, Congress has directed DOC to determine such costs by using "prices or costs of factors of production in one or more market economy countries." The market economy countries are used as surrogates for the NMEs because the prices or costs of factors of production in an NME are not representative of the true economic costs of production. If information on these prices in the surrogate country is inadequate, then DOC may use the price at which the merchandise is sold by one or more comparable market economy countries in other countries, including the United States.

The statutory standard for determining which market economy countries are acceptable surrogates for a particular NME country sets two conditions. First, the market economy country must be "at a level of economic development comparable to that of the non-market economy country." Second, the market economy country must be a significant producer of comparable merchandise. In DOC's antidumping regulations, comparability is determined by reference to "generally recognized criteria, including per capita gross national product and infrastructure development (particularly in the industry producing such or similar merchandise)." The determination of what criteria are important depends on the particular facts and production factors in each case.

Eric Garfinkel is assistant secretary for import administration at the Department of Commerce.

Open Dumping Season on China?

David L. Simon

The antidumping law of the US imposes duties on imports that are sold at "less than foreign market value." In non-market economy (NME) cases, the benchmark foreign (or fair) market value is calculated using data from a surrogate country. What difference does this make? A lot.

Exporters in market economies essentially have control over their dumping margins; they can adjust their prices to avoid dumping charges. In NME cases, however, the exporter has no control whatsoever over the costs or prices in the surrogate country—indeed, it cannot even know what surrogate the Department of Commerce (DOC) will select. Therefore, the NME exporter has no ability to control its dumping margins. Consequently, when entering a contract to buy from a Chinese supplier, US importers of Chinese goods involved in a dumping case cannot know what their ultimate liability may be for antidumping duties.

This inherent uncertainty is compounded by the fact that the exporter can have little, if any, influence over DOC's selection of a surrogate. DOC enjoys nearly unfettered discretion in its surrogate selection, and the history of Chinese antidumping cases suggests that sur-

David L. Simon is an attorney with Grunfeld, Desiderio, Lebowitz & Silverman, a New York and Washington, DC law firm specializing in customs and international trade matters.

rogate selection tends to maximize the dumping margins applied to Chinese goods. A review of one case, in which my firm represented a major Chinese exporter of cotton shop towels, highlights these problems.

In September 1982, DOC initiated a dumping investigation of cotton shop towels from China. It ended up establishing a dumping margin of 37.2 percent for the exporter, the China National Arts and Crafts Import/Export Corp. (CNART). The margin calculation was determined by comparing CNART's US price to the cost of production of cotton shop towels in Indonesia.

In the first administrative review—during which imports over the previous 12 months are assessed to set actual duties payable for that period and to set a new estimated dumping margin for future entries, DOC compared the selling price of Chinese-made towels to the United States to that of US-made towels. In the second review, DOC compared the Chinese price to the average unit value of US imports of shop towels from Hong Kong. In the third review, DOC compared the Chinese price to an amalgamated cost of production based on Pakistani yarn cost, Indian labor cost, and Indonesian overhead and profit figures. The margins in these reviews ranged from 38.4-55.3 percent.

The second review provides a particularly instructive example of the difference surrogate selection can make. In that case, DOC failed to ascertain the cost of production or selling prices in any surrogate country. The remaining option was to compute fair market value from the unit values of US shop towel imports from one or more market economy surrogates. DOC rejected import values from Indonesia, the Philippines, and Malaysia—which are all at levels of economic development comparable to China—before turning to the import value from Hong Kong. If DOC had used one or more of those countries as a surrogate, the dumping margin would have been about one-quarter the amount derived from using Hong Kong.

DOC rejected using these countries as surrogates on the grounds that their shop towel exports might have benefitted from export subsidies, which are considered to distort export pricing. The basis for this decision was a set of countervailing duty cases filed in the early 1980s and subsequently withdrawn by the petitioners—none resulted in a final determination of subsidization. Moreover, after these cases were withdrawn, Indonesia and the Philippines undertook to terminate all their export-subsidy programs by acceding to the multilateral GATT Subsidies Code. DOC, however, ignored this fact and treated these countries as unfair traders, unsuitable for surrogate purposes.

DOC instead calculated fair market value based on import unit values from Hong Kong, even though its initial investigation in 1982-83 determined that Hong Kong did not produce any shop towels at all! DOC rationale for using Hong Kong was that the 1983 finding did not preclude the possibility that production had been undertaken since then. On legal grounds this finding is questionable at best, since DOC determinations are required to be based on "substantial evidence in the record." One would thus assume that the prior finding could not be reversed without evidence of renewed production.

Each administrative review in the cotton shop towels case has relied on an entirely different set of surrogate foreign-market values—the crucial element in a dumping calculation. The Chinese exporter has no control over the selection of surrogate country, and therefore no control over its dumping margins. In fact, throughout all these reviews, CNART's price to the United States was virtually constant, while its margins gyrated from 38-55 percent.

These vagaries in the administration of the dumping law for China are not unique to the shop towels case, and are all the more troublesome in light of the substantial increase in the number of dumping cases being brought against Chinese goods—in recent months at least eight such cases have been filed. The growing number of dumping cases against China not only reflects China's increased exports to the United States, but also a perception within the trade community that China is an easy target. As these cases tend to result in uniformly high margins and create uncertainty in the marketplace, they cannot bode well for US-Chinese trade relations.

Welcoming Hong Kong Immigrants

Changes in US immigration policy should boost confidence in Hong Kong's future—and help US companies in the process

Paul Donnelly

Under the US Immigration Act of 1990 passed in late October, Hong Kong has been granted generous visa allowances. Hong Kong's quota has not only been raised significantly, it will remain distinct from China's after 1997. Moreover, the new bill—the first major change in immigration policy in some 25 years—features a temporary new visa category for Hong Kong employees of US companies as well as a new worldwide category of investor visas.

In addition to increasing the number of visas allotted to Hong Kong, the Immigration Act gives Hong Kong visa recipients unprecedented flexibility with which to use them. Typically, immigrant visas must be used within four months of the date of issue; in the case of Hong Kong citizens, however, they will be valid until January 1, 2002. This flexibility is intended to encourage Hong Kong citizens to stay in the territory up to and beyond 1997, in order to help stem the braindrain and ensure Hong Kong's continued viability as a financial and trade center.

The US Immigration Act phases in Hong Kong's increased visa allowances over a four-year period. For fiscal years 1991-93, the number of visas permitted for Hong Kong citizens is to double from 5,000 to 10,000. In fiscal year 1994, the number will be doubled again, to 20,000—the same number that China receives. Immediate relatives (spouses and minor children) of adult US citizens are not subject to the quotas, so the actual influx of Hong Kong immigrants in any given year could exceed these limits.

In addition to increasing the number of visas allotted to Hong Kong, the Immigration Act gives Hong Kong visa recipients unprecedented flexibility with which to use them.

A new edge for US companies

In addition to the increase in traditional visas, an extra 12,000 visas will be available annually to Hong Kong managers of US companies and their families, from fiscal years 1992-94. Also valid until 2002, these visas have been allotted solely for Hong Kong.

This new visa provision should help restore US company competitiveness in retaining qualified Hong Kong employees. While other countries—such as Canada, Australia, and France—have already enabled their companies to offer similar visa guarantees, US companies could only promise Hong Kong employees other benefits, such as higher salaries, to compete with rival offers.

Despite the intended attractiveness of the employee visas, however, employee response—and company designation of eligible employees—has been slow. According to immigration attorney Austin Fragomen, "Curiously, since this safety net has been offered, there has been an average participation rate of 50 percent or less. One would assume that [Hong Kong employees] would just jump on board, but the fact is, they don't. And a number of major companies just aren't playing." One reason for the slow response may be US companies' obligation to relocate Hong Kong employees to the United States if they are granted the visa (*see* box). Companies confident that they can

Paul Donnelly is a partner in a Washington, D.C. immigration consulting firm. He is also a former staff aide to the chairman of the House Subcommittee on Immigration, Refugees, and International Law.

meet such qualifications, however, should take advantage of the opportunity; these visas will only be available for the next three years. There are no guarantees that the program will be extended.

Making room for entrepreneurs

Another provision of the 1990 Immigration Act allocates an annual 10,000 visas worldwide to people who invest approximately $1 million and create 10 "new permanent jobs" in "targeted employment areas" in the United States, although the US attorney general has wide discretion over where qualifying investments can be made. According to State Department calculations, Hong Kong will likely be allowed 250 such visas.

This measure puts the United States on par with countries like Canada and Australia, which already offer investor visas. Those countries, however, allow passive investment—permitting purchases of real estate to qualify as investment, for example—while the US provision, with its relatively strict requirement of job creation, may be interpreted to target hands-on entrepreneurs.

Total demand for US investor visas is expected to be great. "It will outweigh the numbers," predicts US Immigration and Naturalization Service (INS) spokesman Duke Austin. "Some [applicants] have been waiting 10 years [to come to the United States under the old laws.] Now there will be a scramble [to take advantage of the new slots]."

However, such key questions as exactly what constitutes a "targeted employment area" or whether a line of credit can be considered an investment have not yet been answered. Austin notes, "We're not going to grandfather in potential investor immigrants who have already made such investments;" however, exactly when the investment must be made to qualify is still unclear. The American Immigration Lawyers Association submitted to the government draft regulations dealing with these issues in mid-February, but there has been no word as to when the government will release the final regulations with specific details on the required qualifications.

In the meantime, the INS is currently accepting preliminary applications for investor visas, which concerns some observers. Attorney Gerard Chapman, a key player in the association's lobbying effort, noted that the practice "certainly has the potential to create an unfair result for a lot of people who are filling out their applications hastily. There are bound to be inconsistencies."

Hoping for the best

Ironically, although there is a great deal of interest in Hong Kong in obtaining US visas, the majority of visas allotted—at least in the short term—may not be used. Surveys conducted by the Hong Kong Institute of Management reveal that although Hong Kong citizens want the right to live abroad, most don't really want to leave Hong Kong. One study showed that of 25,000 Hong Kong residents given Singapore passports, only 10 percent have emigrated. The United States, however, may be perceived as a more attractive place to emigrate. In any case, as 1997 approaches, Hong Kong emigration levels are likely to rise.

The new US immigration law actually invites the best and brightest of Hong Kong's entrepreneurs to seek their futures in the United States, an invitation that may in turn reinforce confidence in Hong Kong's own future. For although no one can predict how Beijing will administer Hong Kong, the law's provisions provide both a hedge against post-1997 conditions and a chance to strengthen investment and immigration ties between Hong Kong and the United States.

Who Is Eligible?

Hong Kong residents wishing to obtain visas under the new employment and investor visa categories must meet several prerequisites under the 1990 US Immigration Act.

EMPLOYEE VISA

Hong Kong employees of US companies wishing to qualify for this visa must . . .

☑ Have been with a US company for 12 months before applying; and

☑ Be an officer, supervisor, or serve in a capacity that is managerial, executive, or involves specialized knowledge.

Firms wishing to help their employees secure these visas must . . .

☑ Employ at least 100 people in the United States and at least 50 overseas;

☑ Have at least $50 million in annual turnover; and

☑ Promise the applicant a job in the United States with comparable wages, benefits, and responsibilities.

INVESTOR VISAS

Hong Kong residents wishing to qualify for this visa must invest:

☑ Not less than $1 million in an urban targeted employment area; or

☑ Not less than $500,000 in a rural targeted employment area; and

☑ In a business that creates at least 10 new permanent full-time jobs.

(Regulations to define terms and conditions for all provisions of the US Immigration Act of 1990 are still in the drafting stages.)

China's New Land Development Regulations

Beijing does an about face and welcomes foreign investors

Pitman B. Potter

On May 19, 1990, the Chinese leadership approved two sets of regulations designed to promote land development projects. Under these regulations, foreign investors in particular are encouraged to establish industrial and commercial tracts by taking control of large plots of land, developing them, and then transferring or leasing parcels to other investors.

Passage of The Interim Regulations of the People's Republic of China on the Sale and Transfer of Land-Use Rights in State-Owned Land in the Cities and Towns (the land conveyance regulations) and The Interim Regulations of the People's Republic of China Concerning Administration of Investing, Developing, and Managing Sizeable Land Areas by Foreign Investors (the land development regulations) marked a significant change in Chinese policy toward land development. Previous government notices issued in late 1989 forbade land development projects—especially those involving foreigners—largely in response to perceived abuses in Shenzhen's real estate market and conservative political backlash following the announcement of two large foreign development projects in Tianjin and Hainan Island. The new regulations represent a return to pre-June 1989 reform policies that encouraged foreign investment in property development.

An 'ok' to use—not own—Chinese land

The land conveyance regulations provide the conceptual foundation and regulatory prerequisites for implementation of the land development regulations, with which they are to be used. They contain two caveats: ownership of the land is not transferred with land-use rights, and land use must comply with State regulations and cannot run contrary to the public interest. These qualifiers are of major importance; with ownership it is easier both to transfer land and acquire financing for it. Furthermore, the public interest limitation permits the Chinese government to regulate closely the types of projects for which the land is used. Currently, emphasis is on advanced technology and export-oriented projects, though the government may use its regulatory authority to promote and encourage other types of projects in response to changing policies.

Foreign investors are encouraged to take control of large plots of land, develop them, and then transfer or lease parcels to other investors.

Although primarily intended to spur foreign investment in land development projects, the regulations extend the right to receive and transfer land-use rights to all enterprises, organizations, and individuals—Chinese and foreign. Land-use conveyances are subject to the management authority of the land administration departments at and above the county level, although other government departments are involved in the record-keeping process. If a record-keeping organ finds a problem with a conveyance, in effect it can deny approval by refusing to record the project.

Pitman B. Potter is director of the Chinese Legal Studies Program at the University of British Columbia, and also serves as special counsel to the international law firm of Graham & James. He was assisted in the preparation of this article by Samuel X. Zhang.

Acquiring land-use rights

Under the regulations, land-use rights are conveyed in four ways: by grant, transfer, lease, and pledge. Grants of land-use rights are issued by the State or its authorized agencies for specific periods of time in exchange for payment of transfer fees, generally paid up-front in a lump sum. The grants are conditional upon the recipients' (the "land users") investing, developing, and using the land in accordance with a master plan developed by the local land administration bureau and the local planning, construction, and real estate departments. Grants may be extended through simple agreement or by bidding and auction.

Time limits are imposed on grants of land-use rights according to the type of proposed development:

- Residential use: 70 years;
- Industrial, educational, scientific, technological, cultural, health, athletic, or multiple uses: 50 years;
- Business, tourism, and recreational use: 40 years.

Land users may transfer or lease their land-use rights, provided they meet conditions regarding invest-

ment, development, and use of the land in question as set forth in the terms of the original grant of land-use rights. Transfers involve reconveyance of land-use rights for the remaining period of time for which the rights were originally granted, while leasing entitles the lessee to rights for only a part of the period.

Land-use rights may also be pledged as financial security. Upon default on the underlying obligation or declaration of bankruptcy by the debtor, the creditor has the right to dispose of the property. The creditor also enjoys preferential rights to any income generated by the pledged property, and has priority over competing claims to such income. These provisions suggest that foreign-investment enterprises (FIEs) may use land-use rights to secure financing for development projects on the land to which the rights pertain. The creditor's ability to recoup the debt may thus be strengthened under the new regulations, but the need to obtain various governmental approvals for each conveyance may dilute the value of such security arrangements.

Land-use rights terminate at the end of the period specified in the original grant, at which time the land-use right and all improvements on the subject land revert to China without compensation to the land user. Although land users may apply for extensions, foreign investors may benefit from structuring their investment projects so as to depreciate fully all improvements on the land in order to maximize income during the initial period of land use.

The land conveyance regulations do provide that compensation be paid to land users in situations where, for special reasons of public necessity—and in accordance with legal procedures—the State takes back the land-use rights prior to expiration of the land-use period. Such provisions are consistent with the content of other Chinese legislation regarding foreign investment, and should not alarm potential investors.

Land use by appropriation

Under special circumstances, foreign investors may obtain land-use rights through appropriation. In these cases payment of the one-time land transfer fee is waived, but the land user is required to make periodic payments of land-use taxes. Stricter limits are imposed on use of the land, and if the land user stops using it according to the terms of the land-use agreement, the local government may take it back. Compensation is limited to the costs of such improvements as plumbing or electrical wiring—not the value of the land-use rights themselves. Land-use rights obtained through appropriation may be reconveyed only if the following conditions are met:

- The land user is a corporation, enterprise, or other economic organization or individual (this excludes government and other public institutions);
- The land user holds a certificate of land use as well as a certificate of title to the improvement and fixtures on the subject land; and
- The land user has signed a contract granting land use and paid the lump-sum land transfer fee or plans to use the proceeds of the reconveyance to pay this fee.

This last provision in effect permits grants of land-use rights to be made in exchange for periodic payments of land-use fees (for the right to continue to use the land) and the transfer fee (for the right to reconvey). Though the two types of payments make obtaining land-use rights by appropriation more costly than obtaining them by ordinary grant, the Chinese authorities may insist on this approach in cases where original land-use rights were obtained prior to promulgation of the new regulations or where a foreign investor that intended to use the land directly—as the site for a production enterprise, for example—later seeks the right to reconvey.

The land development regulations provide that investment incentives currently available to export-oriented enterprises be made available to qualifying foreign enterprises in the land development area.

Special rules for foreigners

The land-use rights laid out in the land conveyance regulations are to be implemented according to separate regulations—the land development regulations. These regulations govern foreign investment in land development projects in China's special economic zones (SEZs), open cities, and special economic and technology development zones (ETDZs); they may also be applied to the interior in the future. While the general principles are reasonably clear, the specifics on the interrelationship between the two sets of regulations is not articulated fully, and there are ambiguities in the rules that will require further elaboration by local authorities.

Under the land development regulations, foreign investors may obtain land-use rights to approved plots of land from the land administration agency of the people's government at the municipal or county level. Rights to use land do not extend to underground resources, nor do they give foreign investors administrative authority over the area in question.

A foreign investor obtaining land-use rights is permitted to transfer, lease, or mortgage these rights after meeting several requirements. The primary requisite is that the land be developed according to a "land development plan" submitted by the foreign developer and approved by Chinese authorities. The term "land development" is defined somewhat ambiguously in the land development regulations as "comprehensive development and construction," and may be satisfied by such activities as leveling of the land; construction of infrastructure for the supply of water, power, and heat; and the building of road and communications systems. With specific approvals, the foreign developer may construct and operate post and telecommunications facilities and specialized port facilities. Although the regulations suggest that foreign developers must install extensive infrastructure, this obligation may be reduced—or at least clarified—through careful drafting of the land development plan.

The land development regulations provide that investment incentives currently available to export-oriented enterprises—tax holidays, for instance—be made available to quali-

fying foreign enterprises in the land development area. Qualifying enterprises must be approved by the State Council under the Implementing Rules for the Examination and Confirmation of Export-Oriented and Advanced Technology Enterprises of 1987, and are likely to receive the same consideration as similarly situated enterprises in the SEZs and ETDZs.

Drafting a land development plan

The land development plan must define the purpose, time frame, and overall goals of each stage of the development. If the land is subject to a local government's master plan, the investor's land development plan must comply with the master plan's requirements. In addition, construction projects within the development area must conform to Chinese laws and regulations on such issues as environmental protection, resource management, and construction standards.

After the plan has been approved at the city or county level, it must be submitted to the provincial government for examination. The provincial government—notably the provincial land administration bureau, the lead approval agency—is authorized to approve projects using less than 1,000 mu (approximately 165 acres) of cultivated land and less than 2,000 mu of uncultivated land. If a land development project seeks to utilize land in excess of these limits or if the total value of the investment exceeds the approval authority of the provincial government, the project must be submitted for approval to the State Planning Commission and the State Council. Foreign investors wishing to avoid the uncertainties and delays of central level approval may seek to limit the size of their investments or try to acquire development land in small parcels, each of which might be eligible for approval by provincial authorities.

Foreign investors wishing to avoid the uncertainties and delays of central level approval may seek to limit the size of their investments or try to acquire development land in small parcels, each of which might be eligible for approval by provincial authorities.

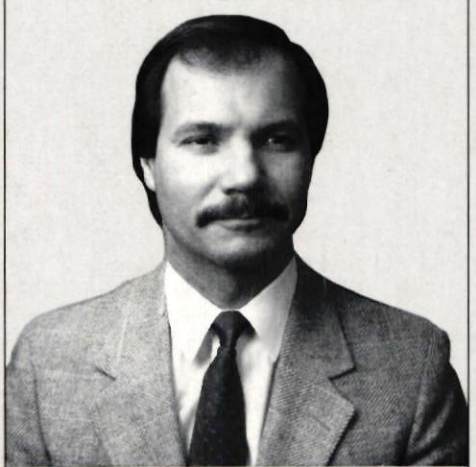
Signing the contract

Concurrent to drafting the land development plan, the foreign investor must establish a "development enterprise" to act as the initial holder of the land-use rights and developer of the property. This enterprise may take the form of a Sino-foreign joint or cooperative venture, or a wholly foreign-owned enterprise.

As with any FIE, the development enterprise must submit a feasibility study for approval by the State Planning Commission or its provincial-level planning committee. This feasibility study will ordinarily overlap with the development plan, although the two documents are not identical and generally will be sub-

Sitting Pretty

New Jersey-based Concord Camera became one of the first foreign companies to receive significant land-development rights in China after signing an agreement with the Henggang Economic Development Corp. to develop 60 million sq ft (approximately 1,377 acres) in Bao An County, Guangdong Province. Editor Pamela Baldinger spoke with Bill Pearson, executive vice president of Concord, about the company's plans for development and impressions of the land development market in China.



CBR: *Concord is known primarily as a manufacturer and distributor of cameras. How did you get involved in the land development business?*

Pearson: Concord has been manufacturing cameras in the town of Henggang since 1983. We started small, but kept growing, expanding our facilities; the town essentially grew up around us. In 1987 all the land adjacent to our facilities had been used up, and we became concerned about future expansion. The local government, with whom we enjoy very good relations, granted us 1 million sq ft about half a mile away, and even cleared it for us.

Not long after, our major stockholder—who bought land in Taiwan in the early 1970s and then watched it skyrocket in value throughout the 1980s—recognized that the Henggang area (which is a short distance from Shenzhen's economic and technological development zone) was growing and looked to duplicate his Taiwan success there. In late 1988 he approached the Henggang authorities with a proposal to develop an industrial park. The Chinese moved very quickly after the Tiananmen incident, and we signed the contract on July 17, 1989.

CBR: *You didn't have second thoughts about getting involved in such a project so soon after Tiananmen?*

Pearson: No, because we had excellent relations with the local authorities, and were under no financial pressure.

CBR: *What were the terms of the land-use grant?*

Pearson: We were given title to the land for 25 years, though the Chinese have told us it will be no problem to extend it to 50. We do not have to pay anything until we begin construction, at which time part of the land-use fee comes due. The property is then rent free for 12 years, after

mitted for approval separately. After the feasibility study has been approved, the development enterprise must receive final operating approval from the Ministry of Foreign Economic Relations and Trade (MOFERT) or its provincial-level agencies, depending on the size of the investment.

Once established, the development enterprise must enter into a land-use contract with an entity of the local government—usually the land administration bureau. The contract is the basic document by which the land-use rights are granted to the foreign investor, and specifies the investor's rights and obligations. Accordingly, the land-use contract should make specific reference to the land development plan and include the basic terms and conditions required by the foreign investor, such as the length of use, projects to be carried out, and plans for reconveyances.

Contract terms regarding land-use fees and land-transfer fees are often closely contested, as the government in effect operates as an agent for local land holders seeking the highest value for their land. Although specific prices vary from region to region, land transfer fees quoted in Guangdong Province in 1990 ranged from ¥10-18 per sq m, while land-use fees were generally set at ¥.2 per sq m per year. The foreign investor's negotiating power regarding these fees tends to depend on the nature of the proposed use of the land.

The land-use contract should make specific reference to terms and conditions required by the foreign investor, such as the length of use, projects to be carried out, and plans for reconveyances.

Clearing the way

The land development regulations and the land conveyance regulations enable foreigners to pursue potentially valuable opportunities in land development in China. As with nearly all business endeavors there, each step of the process of establishing a project involves numerous bureaucratic approval procedures, which are likely to be time-consuming and somewhat opaque. Further detail on these procedures probably will be supplied through future regulations. Although it is uncertain when complete implementing regulations will be made public, tax regulations imposing industrial and commercial consolidated tax (ICCT) on reconveyances of land-use rights by foreigners were passed last October, at rates varying from 5-8 percent depending on the source of the derived income.

Despite the need for further clarification, a number of Asian and North American companies have already embarked on land development projects in manufacturing, tourism, and other sectors, primarily in the south. Future interest will likely hinge on the state of the Chinese economy and the extent to which the provisions of the new regulations are built upon to lend greater predictability to land development projects. 完

which we must pay the rest of the land-use fee. There is no fee to reconvey. Upon expiration of the agreement, the property reverts back to the government, without compensation for improvements.

CBR: *These terms are a good bit more liberal than those outlined in the land development regulations. To what do you attribute this? Did you have to receive special approval from the central government?*

Pearson: It all stems from our special relationship with the local authorities—plus the fact that our agreement was signed before promulgation of the new regulations. We didn't have to receive formal central government approval, but the project clearly has been accepted by the central government. In fact, Beijing often sends visitors to our manufacturing site, which seems to be recognized as a sort of model facility in China. We are definitely unique; we know that we've been accorded special privileges.

CBR: *Where does the project currently stand?*

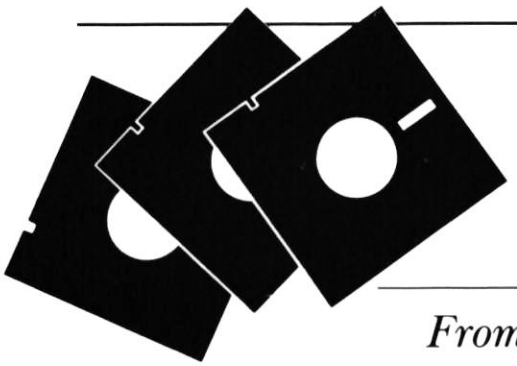
Pearson: Initially we planned to finance the first stage of development—promotion and preliminary infrastructure development—through a secondary public stock offering (we are listed on NASDAQ). However, with both the October 1989 stock market crash and the decline in investment in China following Tiananmen, we put everything on hold, and are just beginning to get back to the project. We have no timetable because we are under no financial pressure.

CBR: *Why should a foreign company invest in your development area as opposed to Shenzhen, Pudong, or elsewhere?*

Pearson: Because you can't beat our location; we are only about 15 miles from Hong Kong on a new four-lane highway that runs directly to the territory. Foreign companies in Henggang can thus capitalize on the infrastructure and human resource strengths of Hong Kong. There are few problems with roads, power, or water supplies in Henggang—a new French nuclear reactor in the area is scheduled to come on line by the end of the year, and will supply 30 percent of its output to the local electricity grid. In addition, there is considerably less formal government control in Bao An than in Shenzhen or other larger cities.

CBR: *Do you believe the new land development regulations will encourage foreign land developers to invest in China?*

Pearson: I think it's unlikely. It's not like there are many existing projects making a lot of money. A foreign developer simply cannot look at China the way he or she might look at any other country—it's a very difficult environment to work in. We would never have gotten involved in this project if we didn't have such an unusually strong relationship with the authorities here.



Making Computers Chinese Compatible

From inputting to printing, a host of new products make the task easier

Jeffrey Kao

As the vast potential of the Chinese computer-related market has become apparent, numerous companies in China, Taiwan, the United States, and Japan have begun to develop new products specifically for use in Chinese language computing. As a result, businesspeople and others now have a wider choice of hardware and software packages than ever before. Though these packages have not yet mastered all the challenges presented by computing in an ideographic language with tens of thousands of characters, they are vastly improved over just a few years ago and capable of meeting most user needs at a reasonable price.

From the standpoint of the individual or small business requiring Chinese computing capabilities, product developments have followed a favorable course with respect to the critical factor of compatibility. Unlike the situation in Japanese computing, where many incompatible systems coexist, developers of Chinese microcomputer systems have for the most part strictly adhered to the requirements of the IBM PC-compatible hardware/Microsoft MS-DOS operating-system platform familiar to the majority of personal computer users in the United States. Although some systems may have specific configuration requirements that call for certain types of monitor/display cards or printers, the majority are easily run on any compatible machine. Nevertheless, understanding the unique capabilities and requirements of the various products available is key to evaluating how well each will perform any given task.

Simply inputting text is the first and most difficult hurdle in Chinese language computing. According to *People's Daily*, over 700 different methods for keyboard input of Chinese have been published, though only a fraction have actually been implemented. While in part testimony to the rich variety and complexity of Chinese characters, the abundance of input schemes also indicates the difficulty any single method faces in gaining universal acceptance.

Software packages are vastly improved over just a few years ago and capable of meeting most user needs at a reasonable price.

One keyboard, 10,000 characters

There are essentially three means of entering data for computer processing: touch, visual, and audio, with touch—or typing—the most common. While languages with small character sets like English are easily accommodated by the standard keyboards found in most personal computer systems, keyboard entry of Chinese, with its thousands of characters, is a more difficult task.

The main objectives for any Chinese input method are to minimize the number of keystrokes required to input a given character and avoid keystroke combinations that interrupt the input process by calling up two or more different characters from which the user must select. The method must also be based on logical, easily learned principles applicable to the typical microcomputer.

The most common inputting methods involve breaking a character down according to phonetic transliteration or shape. In a few methods both character shape and transliteration have been combined. Phonetic input is the more straightforward method, with Taiwan's *zhuyin fuhao* (or "bopomofo") and China's *pinyin* transliteration systems most prevalent. Although easy to use, phonetic input systems are limited by the great number of homonyms occuring in the Chinese language. Still, phonetic input is included as an option in most Chinese software, and is often a necessary fallback when the precise form of a character cannot be recalled.

In most phonetic systems, after a word is typed, a press of the space bar will display a list of numbered characters with that pronunciation on a line at the bottom of the screen. If the number of homonyms exceeds the number that can be displayed on a single line, subsequent presses of the space bar will cycle through displays of the remaining possibilities. When the intended character appears on the line, the user must press its corresponding number to input it. For such applications as word processing, however, the distraction of having to move one's eyes and thoughts between the text and the character selection line can be a serious drawback, and also slows typing significantly.

Jeffrey Kao is director of information systems at the Council.

Typing shapes

Shape-based input methods, in contrast to phonetic ones, attempt to identify the components most frequently combined to form Chinese characters, and then assign them to the individual keys of a keyboard. For example, in one such method the character *mei*, meaning beautiful, may be input by typing T, G, and K—the keys representing the various components of the character in that scheme. Though mastery of a shape-based input method may eliminate the need to select between homonyms, learning to recognize the various character components and keyboard layout of any given system generally involves significant time and practice. Most software packages therefore incorporate versions of both shape-based and phonetic input methods to allow the user to select which he or she prefers to use.

Two shape-based input methods have distinguished themselves as leading contenders in the two main markets for Chinese-language computing. The *wu bi zi xing* (five stroke-character form) is dominant on the mainland, and the *Cangjie* method predominates in Taiwan. The five-stroke method assigns over 130 character components to 25 keys (A-Y) on a standard keyboard, and is reportedly the primary input method of 83 percent of professional data-entry personnel in China. *Cangjie* distributes 102 components over 24 keys. Both methods are criticized for being hard to learn and easy to forget—a seeming fact of life for all shape-based methods. Still, such systems may be preferred by computer users inputting from Chinese texts, where the characters are right in front of them.

Though both shape-based and phonetic input systems have their advantages, the most convenient Chinese input method is probably the phonetic conversion system. In this system, a word is input phonetically, and the computer itself then selects the corresponding character according to a sophisticated internal dictionary made up of grammatical rules describing possible character combinations and their relative frequencies. Under this system, typing *mei* and *guo* together would input the character combination for the word "America," while the two typed with a space between them would input the characters "not" and "pass." The actual conversion process may be triggered by pressing a special conversion key or keys that signify word boundaries—such as spaces or punctuation marks. It may also occur automatically after periods of keyboard inactivity.

By combining the ease of typing in an easily learned transliteration system with the efficiency of shape-based character selection, phonetic conversion may become the method of choice for Chinese language software—it already has for Japanese. Currently it has seen only limited application in commercial products, as the programming involved is more difficult than that required for the other systems. Nevertheless, it may present the best inputting system for such applications as word processing. For applications where there is less emphasis on a continuous flow of typing—such as databases and spreadsheets—a shape-based method may be more appropriate.

No common language

Just as different software packages employ different methods for inputting characters, they may also employ different methods to process and store this information in the computer memory—a process known as encoding. While English computing features a universal encoding system called ASCII—the American Standard Code for Information Interchange—which permits compatibility when transmitting English-language data between different kinds of equipment, there is no comparable system for Chinese. In the mainland the official encoding standard is known as the GB 2312-80 Coded Chinese Graphic Character Set, a 2-byte, 7-bit code containing 6,763 simplified characters and 619 symbols, while in Taiwan the 2-byte BIG-5 encoding scheme has emerged as a de facto standard. It encompasses 13,053 traditional Chinese characters and 441 symbols.

The lack of a uniform standard for Chinese character encoding presents obvious problems for both users and manufacturers. Currently, many manufacturers are developing parallel product lines based on each of the encoding schemes. Users of Chinese computers must therefore be prepared for incompatibility of data generated under different encoding schemes. This may be a problem for companies with offices in both Taiwan and the mainland, as the data stored in one office may not be able to be utilized by the other.

Another problem concerns the use of traditional and simplified character sets. While a number of programs employing simplified character forms can access traditional ones, Taiwan software manufacturers are prevented from including simplified character sets for political reasons. In addition, in a number of cases a single simplified character may represent more than one traditional character form. The simplified character *mian*, for example, may be used to represent the traditional characters meaning "face" and "noodle." Without contextual information, the computer cannot be expected to properly select the correct traditional character.

Some manufacturers, such as AsiaCom, maker of the Chinese word processing program XinTianMa, have developed encoding schemes that not only allow conversion between simplified and traditional characters but also for the use of both character forms in the same file.

A Software Sampler

The CBR has studied five popular Chinese word processing packages to help companies assess their relative merits. Two of the five are based on combinations of Chinese DOS extension programs and separate word-processing applications (01 2025S/ Liyen and ETen Feidie/Huixing 1), while the other three—EasyWord Professional, XinTianMa, and Xialibaren—are "dedicated" Chinese word processors (the Chinese operating environment and word-processing functions are fully integrated). All five may be run on standard personal computer (PC)-compatible hardware without any special hardware add-ons.

• XinTianMa

All five of the packages allow users to edit, format, and print Chinese and English documents to appearance standards acceptable for most business purposes. In terms of features, ease of use, and overall design, however, a nod may be given to XinTianMa—especially for the English-speaking businessperson with average PC knowledge. XinTianMa combines superior display and printing of documents with a well-designed phonetic conversion input system—employing both *pinyin* and *zhuyin fuhao*—that permits fluid input of Chinese. The program also excels in the area of compatibility, offering traditional and/or simplified character sets and conversion between GB, Big5, and its own proprietary encoding system. Two features that the program would certainly benefit from are mail merge capability and the option to use other shape-based input systems, such as *Cangjie* or the five-stroke method. XinTianMa represents the fourth major release of AsiaCom's original TianMa word processor, and the Canadian company's relatively long and successful track record reflects stable user support and product development policies.

• Xialibaren

Xialibaren offers a great deal of text formatting power and a fast editor featuring *pinyin*-based phonetic conversion input at a very good price. The more technical feel of the package and the fact that most documentation requires good knowledge of Chinese, however, may be an obstacle to some. Further integration between Byx, the package's text editor, and the LSP text-formatting and printing program, should be an important goal of the developers. As it stands, Xialibaren may be a good choice for newsletters or other lengthy documents where formatting power is more important than ease of use. Although Xialibaren is more "user friendly" to native Chinese speakers, the developers are based in the United States and offer free technical support for the first year.

• EasyWord Professional

Unless one is particularly struck by EasyWord Professional's unique stroke-based input method, other word processors should perhaps be given first consideration. The EasyWord method of input is nicely adapted to the extended keyboard layout, and the method itself is easy to learn. It also features a well-designed user interface which makes use of drop-down menus and is capable of displaying two or four document windows simultaneously. However, there are few features from which to select in the drop-down menu system. Two of the five menu categories, line and page processing, merely give access to such simple functions as moving the cursor around the document. In addition, the EasyWord file manager, while quite easy to use, for some reason stores individual document files within its own file listing system where they are hidden from such normal DOS operations as copy and delete. Developed in Australia and Taiwan, EasyWord is available with full technical support from its US distributors.

• 01 2025S/Liyen

The Liyen word processor is clearly modeled after the classic WordStar program, right down to the use of such control key combinations as Ctrl-KB and Ctrl-KK to mark the beginning and end of blocks of text. Document reformatting does not take place automatically after editing changes are made, but must be initiated, paragraph-by-paragraph, by pressing the Ctrl-B key combination. Most of the printer control capabilities are invoked by embedding 'dot' commands at the appropriate locations within the document—a page break, for example, is set by the .FF (form feed) command. For the many users who may have learned word processing on the personal computer with the original WordStar, Liyen may not be such a bad introduction to Chinese language word processing. The program also offers features not found in any of the other programs, such as mail merge.

• ETen Feidie/Huixing 1

Huixing 1, the word processor which runs in the Chinese environment provided by ETen's Feidie, provides a virtually unlimited number of moveable file windows, mouse support, and a rich selection of editing and utility functions accessible through a pull-down menu system. With a few clicks of the mouse, the user can call up an onscreen calculator or get information on free disk or memory space. Huixing 1 also stands out by allowing the user easy access to an extended graphics character set, which can be used to compose scientific notation or to draw lines and boxes. However, Huixing 1 is relatively weak with regard to text formatting capabilities, lacking the ability to reformat text following editing changes. Beneath its excellent user interface, Huixing 1 works more like a highly customized version of the text editor PE II than a full-fledged word processor.

Both the 01/Liyen and ETen/ Huixing 1 packages are representative of the Chinese-language software offerings from Taiwan. ETen Information System's Chinese DOS extension software reportedly holds more than 90 percent of the local market for such products. Although the company supports its programs in Taiwan with user groups, magazines, and even online bulletin boards, in the United States potential users will likely have to look to their distributors for support.

—Jeffrey Kao

		01 2025S/ Liyen	EasyWord Professional	ETen Feidie/ Huixing 1	XinTianMa	Xialibaren
	Version	3.2*/2.0*	1.0	2.0/1.1*	4.0	2.1
	Price	NA/NA	$499 (disc.avl.)	$88/NA	$695	$259
	DOS (min.)	2.0	3.0	3.1	2.0	2.0
	RAM	512k	640k	640k	640k	512k
	Video	MGA	EGA,VGA	MGA,EGA,VGA	MGA,EGA,VGA, Super VGA 800x600	CGA,MGA, EGA,VGA
S						
y	Hard Disk	---	5mb	2.5mb	5mb	6mb
s	Internal Code	Big5,IBM5550	Big5	Big5,CNS,GH, ET,Wang,IBM5550	Proprietary	GB
t						
e	Character Set					
m	*Traditional*	13,053	13,056	13,053	12,500	6,763
	Simplified	---	---	---	12,500	6,763
	Symbols	441/675		408	Yes	619
	Custom	1,000 (24x24)	490 (48x48)	5,000 (24x24)	256 (24x24)	---
	Input Methods	CJ,ZY,JY,MA	EasyWord (stroke)	CJ,ZY,JY,MA,3C,TG,ET	PY/ZY Cv,Radical	PY Cv,PY,MA
	Abbreviations**	Yes	---	Yes	Yes	Yes
	Set Tabs	Yes	Fixed (5 spaces)	Yes	Yes, txt/decimal	Fixed (8 spaces)
F	Center Text	Yes	---	---	Yes	Yes
o	Align Text	---	---	---	---	Yes
r	Right Justification	---	---	---	Yes	Yes
m	Indent	Yes	---	---	---	Yes
a	Column Tables	---	---	---	Yes	Yes
t	Snaking Columns	---	---	---	---	Yes
t	Line Spacing	0-77 dots	0,1/4,1/2,3/4, or 1 line	0-255 dots	%Chrctr hght, adj. Roman base	%Chrctr hght, frac",mm
i						
n	Mix Fonts	---	---	---	Yes	---
g	Reformat	Yes	Yes	---	Yes	Yes
	Word Wrap	Chinese	Both	Chinese	Both	Chinese
	Command Macros	---	---	---	---	Yes
Edit	Search/Replace	Yes	Yes	Yes	Yes	Yes
	Cut/Paste Block	Yes	Yes	Yes	Yes	Yes
	Screen Display	Avg	Fair	Fair	Excellent	Good
F	Multiple Files	---	Yes	Yes	---	---
i	Merge Files	Yes	---	---	---	---
l	Export/Import	ASCII	ASCII	ASCII	GB,Big5,ASCII	ASCII
e	Mail Merge	Yes	---	---	---	---
	Header/Footer	Header	---	---	Yes	Yes
	Pagination	Yes	---	---	Yes	Yes
P	Auto-Hyphenation	---	---	---	Yes	Yes
r	Footnotes	---	---	---	Yes	Yes
i	Printers	10 dot matrix and laser models	HP, Star 24 pin	34 dot matrix and laser models	Epson24/9 pin, HP,Toshiba P300	HP,Epson,IBM
n						
t	Fonts					
i	*Chinese*	Ming 16,24	Ming 32,48,64	Ming,Kai,Li 16,24	FangSong, Kai 24-64	Song 24-64
n	*Roman*	Printer	NA	Printer	8,10,12,15Cour pro/mo	Courier prop/mono
g	Vertical Printing	Yes	---	Yes	---	---
	Print Selected Page	Yes	---	Print Block	---	Yes
	Print to File	---	---	---	---	Yes
	Preview	---	---	---	Yes	---
	DOS Functions	Copy,Ren,Del	Ren, Del	Yes, DOS shell	---	---
M	Text Statistics	---	---	---	---	Yes
i	Time/Date	---	---	---	---	Yes
s	Drawing	---	---	Yes	---	---
c	Custom Keyboard	---	---	---	---	Yes
	Online Help	Yes	---	---	Yes	Yes

** Version current in 1988. ** User definable input abbreviations.*

Input Methods:
CJ = Cangjie; PY = Pinyin; ZY = Zhuyin Fuhao; Cv = Conversion; MA = Internal Code; 3C = 3 Corner; TG = Telegraphic;
JY = Abbreviated Cangjie; ET = ETen Row/Column

The establishment of a uniform encoding standard for Chinese, however, will depend on the efforts of both the computer industry and relevant governmental organizations. Chinese language computing experts from Hong Kong, Taiwan, and the mainland are already actively involved in cooperative efforts to formulate a uniform standard for character encoding, and may submit a proposal for a uniform standard to the International Standards Organization (ISO) in May. Other groups are also developing their own proposals.

On the industry side, representatives from a number of major US manufacturers—including Xerox Corp., Hewlett-Packard Co., IBM Corp., Sun Microsystems, Inc., Apple Computer Corp., and Microsoft Corp.—have formed the Unicode Consortium, which developed Unicode version 1.0 to encompass the Chinese characters included in the mainland GB and Taiwan CNS standards, as well as the Chinese characters included in the Japanese JIS X 0208-1983 and Korean KS C 5601-1987 standards. It also attempts to establish a code equivalency between these four standards for identical characters. In addition to the manufacturers, the ISO, the body with jurisdiction over such matters, is itself considering a fundamentally different architecture for universal character encoding, ISO 10646.

Adoption—and implementation—of a universal encoding system will doubtless take time, meaning manufacturers will likely increase efforts to develop conversion programs. These programs should eliminate most incompatibility problems currently facing users of Chinese computing equipment.

Getting the final product

Just as Chinese poses special challenges to designers of software and hardware, it also makes unique demands on manufacturers of printers. The sheer size of the Chinese character set and the complexity of the images pose special problems for memory capacity and resolution quality in particular.

Dot-matrix printers are still responsible for the bulk of most Chinese-printed output. The early 9-pin versions began to be replaced by 24-pin models in the late 1980s, and have become the de facto standard for most Chinese language software. Even with 24-pin printers, however, printing of Chinese is carried out in much the same way as it is for charts or images. A bit-mapped picture of each character is sent from the computer to the printer, triggering the impact of the pins in the appropriate patterns. In contrast to the printing of standard roman text (i.e., the ASCII character set), where the patterns of each character are actually stored in the permanent memory (ROM) of the printer and need only be triggered by the appropriate code sent from the computer, the printing of Chinese characters in graphics mode is a relatively slow process. The growing popularity of Chinese language computing, however, has prompted major manufacturers to develop printers specially designed to deal with Chinese.

The Taiwan subsidiary of the Japanese company Seiko Epson Corp., for example, began offering Chinese versions of its 24-pin Epson LQ series in Taiwan as early as 1986. The Epson LQ-C series of Chinese printers is capable of storing approximately 18,000 characters in the printer's ROM. The printers can therefore print Chinese characters at a speed and quality comparable to those models printing roman characters. Other Japanese printer manufacturers, such as NEC, Star, and Panasonic, are also supplying Chinese versions of their 24-pin printers to Taiwan, at prices comparable to the English models. On the mainland, the Nanjing Wired Telecommunications Factory produces the Zijin line of Chinese-equipped dot-matrix printers, the latest model of which reportedly prints 120 Chinese characters per second.

While 24-pin dot-matrix printers remain the workhorses for Chinese computing, laser printers offer finer printing resolutions as well as increased memory capacity and printing speed, and also make possible such applications as desk-top publishing in Chinese. Laser printers are therefore becoming more popular in Chinese computing circles.

Just as laser printers offer a selection of typeface, character size, and attribute—such as normal, bold, or italics—in English language applications, Chinese laser printers can also vary style and size of character typefaces. Given the large number of Chinese characters, however, a single Chinese font requires too much storage space to make many different fonts available in the printer's ROM, and add-on ROM cartridges have not been extensively applied to Chinese fonts. The solution is to store the font information in data files on the computer's hard disk, where the printer may access them as needed. However, a Chinese software application offering several different fonts could require several megabytes of hard disk space. In addition, printing speed is much reduced by the need to download fonts.

These problems may be solved by the development of analytical fonts, which rely on algorithms—as opposed to separate images—to describe character shapes. While different kinds of analytical font technologies exist, the best known is Adobe's Postscript language. Aside from conserving storage space, analytical fonts allow for nearly continuous scaling of character sizes and smoother curved lines. Although still relatively uncommon, some companies have begun to produce analytical fonts for Chinese character sets.

Setting up your system

While businesses in the United States wishing to purchase Chinese computing equipment previously had to rely on small, primarily Asian companies selling to a small niche market, the current trend of the major software and hardware manufacturers to "localize" their popular applications and equipment for Chinese-language use provides an ever-larger range of products to choose from. Though most major manufacturers are targeting the Taiwan, Hong Kong, and mainland markets, companies elsewhere should be able to purchase Chinese products from specialty distributors or directly from the manufacturers.

Most companies will be able to establish a satisfactory system simply by buying a Chinese software package for use with existing hardware. Given the frequency with which Chinese software is modified, however, companies should pay close attention to the upgrade and technical support policies of software distributors. 完

Some Great Things Come In Small Packages.

We finally did it! XinTianMa is here, without ROM card!

With XinTianMa, the AsiaCom software engineers have created the Chinese text system of the 90's. As a software-only system, it now runs on virtually any PC, including the Micro-channel machines of the PS/2 series, and laptops.

NewTianMa, of course, has all the features that have made TianMa so popular worldwide. Professional translators, China-oriented businesses, scholars and teachers at universities—thousands of expert users in the field of Chinese word processing have adopted the AsiaCom software as the standard of the future. NewTianMa has many new features, such as: ability to mix simplified and conventional character text, scalable Chinese and Roman fonts (two chinese font faces included in the basic package: Fangsongti and Kaiti) to be combined in your text in different sizes; Hercules, EGA and VGA display up to 800x600; a built-in character dictionary based on radical/stroke count, etc.—To give the user a tool for a perfect look of mixed Roman/Chinese text, we have even introduced the luxury of "Roman boost": in mixed Roman/Chinese documents: you can adjust the baselines of Roman text and Chinese text relative to each other, on a sliding scale.

"Full-featured program fast becoming the most popular Chinese word processor. Choosing proper characters from context, converts phonetic transliterations, or pinyin, to Chinese characters... as fast as you type..."

Home Office Computing in its May '90 issue about TianMa

As a system which has been re-designed from scratch, XinTianMa is more user-friendly than ever, with pull-down menus and pop-up windows. Price US $695, FedEx overnight shipping included. Order by fax or phone, credit cards and fax P.O.'s accepted.

Attention existing TianMa users: Send us your original TianMa distribution diskette #1 as proof of TianMa ownership (keep your existing TianMa system with the ROM card), together with your cheque or billing details, and receive XinTianMa for the price of an upgrade, for only US $395—shipping included! This offer is valid for existing TianMa owners only!

Attention manufacturers/exporters: If your company is exporting a product to China that uses a computer control system, or any form of data processing, contact us to receive information on our "Localization Service." Our project engineers are experienced in integrating Chinese/Japanese/Korean language capabilities into existing hardware/software environments. Specify your requirements.

新天馬

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ASIACOM

Order from AsiaCom Inc.: 1117 Ste-Catherine West, Suite 606, Montreal, Qc, Canada H3B 1H9. Phone (514) 434-9373, **Fax (514) 434-9374**.

Fueling the Economy

China's coal producers can't keep up with soaring demand

J.P. Huang

Meeting about three-quarters of the country's primary energy demand, coal is the cornerstone of China's vital energy market. By aggregate indicators, the coal industry performed well throughout the 1980s, with production increasing close to 6 percent annually. Despite this impressive performance, however, by 1988-89 nationwide shortages of coal became acute—at one point Shanghai had only two days' worth of coal reserves on hand for power generation.

Plagued by lack of capital investment, skewed pricing, transport bottlenecks, and inefficient utilization, the coal sector has not been able to keep pace with overall economic growth, and industrial growth in particular. Though the situation has improved somewhat under the austerity program, unless the central government institutes far-reaching changes in its pricing and distribution system, the gap between supply and demand will only grow wider.

The world's top producer—and consumer

China's proven coal resources exceed 900 billion tonnes, behind only the Soviet Union and the United States (*see* map). Total estimated reserves, however, are in the neighborhood of 2 trillion tonnes; at current production levels it would take 2,000 years to exhaust the total supply. About 70 percent of China's current mines are bituminous, 16 percent are anthracite, and 14 percent are lignite. Most seams are fairly deep, limiting the potential of open pit mining, and the degree of mine mechanization is low but growing.

Plagued by lack of capital investment, skewed pricing, transport bottlenecks, and inefficient utilization, the coal sector has not been able to keep pace with overall economic growth.

Dependence on coal permeates every sector of the Chinese economy. It supplies over 70 percent of industrial fuel and power generation needs, over 50 percent of the raw materials for the chemical industry, and over 90 percent of household energy needs. Insufficient supply of coal thus manifests itself in energy shortages throughout the country; up to 30 percent of China's enterprises are estimated to operate below capacity due to lack of energy.

Exploding demand

The coal industry's inability to keep pace with demand stems from central government policies that weaken production incentives, encourage waste of resources, feature lopsided investment, and clash with provincial directives. While government investment in the coal industry decreased as a proportion of total investment from 5.2 percent in 1981 to 3.54 percent by 1988, for instance, investment in electricity projects increased from 6.84 percent to 9.63 percent over the same period. Since approximately 70 percent of China's electricity is generated by coal-driven power plants, the newly built projects have put acute pressure on coal production. The 159 electricity projects approved during the Seventh Five-Year Plan (FYP, 1986-91) will take up almost 90 percent of the nation's expected total increase in coal production through 1995.

The rapid growth of China's industries has also strained the coal production and distribution system. In 1988, for example, coal production grew 4.4 percent over the previous year, but GNP rose 11.2 percent and industrial output value leapt 20.7 percent. The two heaviest energy consumers, the processing and township industries, grew a staggering 23 and 35 percent, respectively. Such soaring demand has been exacerbated by transport bottlenecks, which have prevented coal supplies from reaching the major consuming centers.

Clogged railways

Geographically, distribution of coal mines is very unequal in China; nearly 80 percent are concentrated in the north and northwest, while the major consuming centers are in the south and east. Between 1982-87, coal destined for Shanghai and Jiangsu and Zhejiang provinces increased

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106 percent. As the journey east from the fields in Shanxi Province and Inner Mongolia involves transport by rail and water (on internal waterways or by sea down the coast) transport is lengthy and expensive.

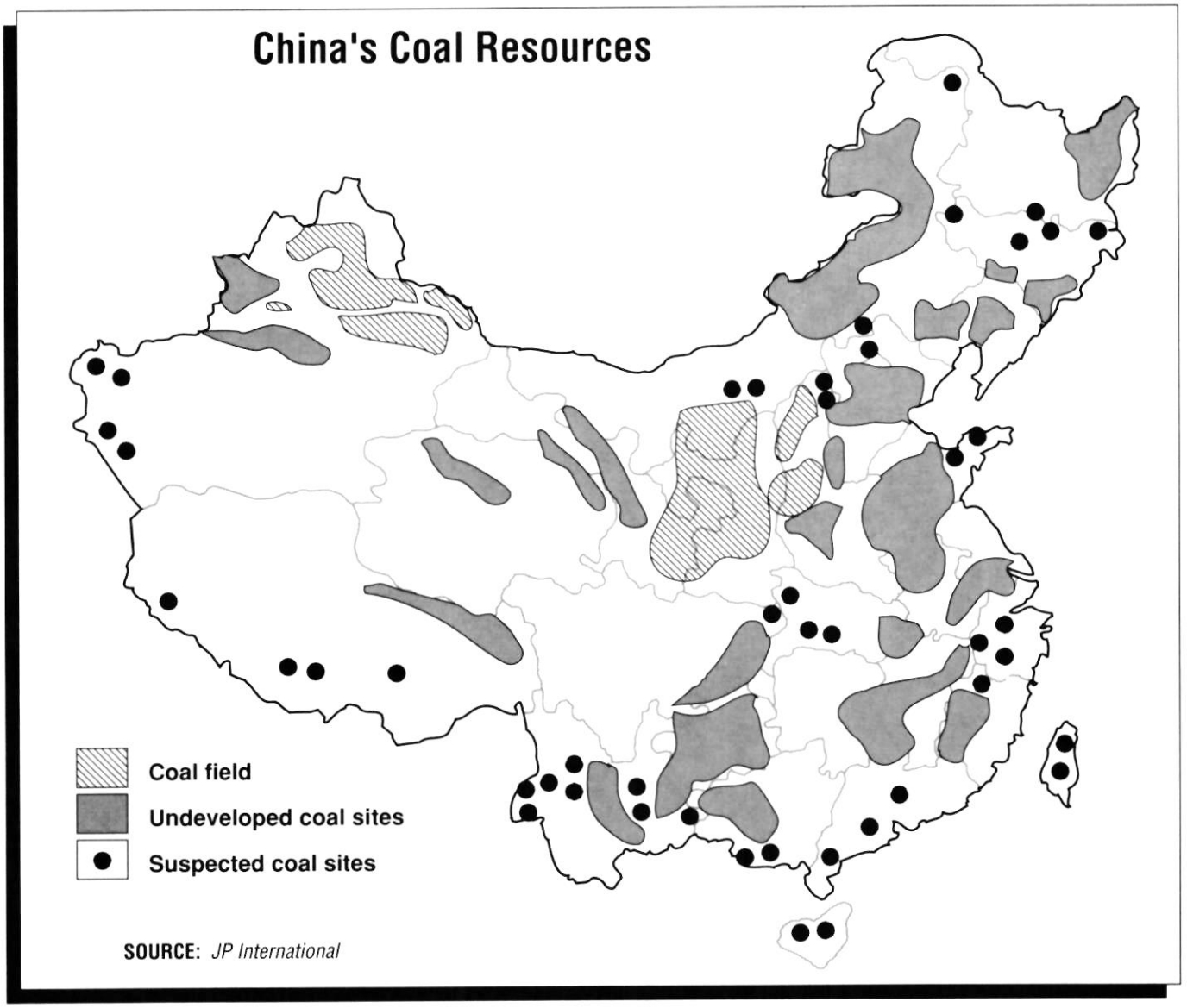
This situation has resulted in significant strain on the coal-carrying capacity of the rail system, much of which is single track and unelectrified. Over half of the locomotives are steam-driven, moreover, and the average load per train is 3,000 tonnes—some 30 percent less than in the West. Though the Ministry of Railroads is working to upgrade the network by electrifying track and constructing new coal lines, in 1988 the volume of coal transported by railroad increased only 3.9 percent—less than the increase in coal output. As a result, while businesses around the country were idled due to lack of electricity, large piles of coal sat unused outside the mines. It is estimated that another 11,000 km of railroad will have to be constructed in order to transport the volume of coal to be produced by the year 2000. At current costs, such construction would require an investment of ¥11 billion; as China is unlikely to be able to generate this sum, transportation bottlenecks can be expected to hinder the coal sector for some time.

From 1983-88, local mines grew far more rapidly than their State counterparts, accounting for 68 percent of the total increase in coal production.

Helping fill the gap

Transport bottlenecks have been alleviated in part by the proliferation of locally owned mines, which generally meet coal needs within their immediate vicinities (*see The CBR*, March-April 1986, p.16). From 1983-88, these 80,000 or so mines, owned by provinces, counties, townships, and individuals, grew far more rapidly than their State-run counterparts, accounting for 68 percent of the total increase in coal production. Currently, they contribute about 55 percent of China's annual production.

Most mining operations in the local mines are unmechanized, and safety conditions are very poor—approximately 80 percent do not meet State standards. The larger of the 1,800 local collective mines can produce 50,000-100,000 tonnes of coal annually, though they use little



or no machine power, with the possible exception of a primitive hoist or transport system. In the smallest of the 79,000 township mines, coal mining is done seasonally with picks and shovels and transported by workers and pack animals. Coal production in these mines averages less than 5,000 tonnes per year.

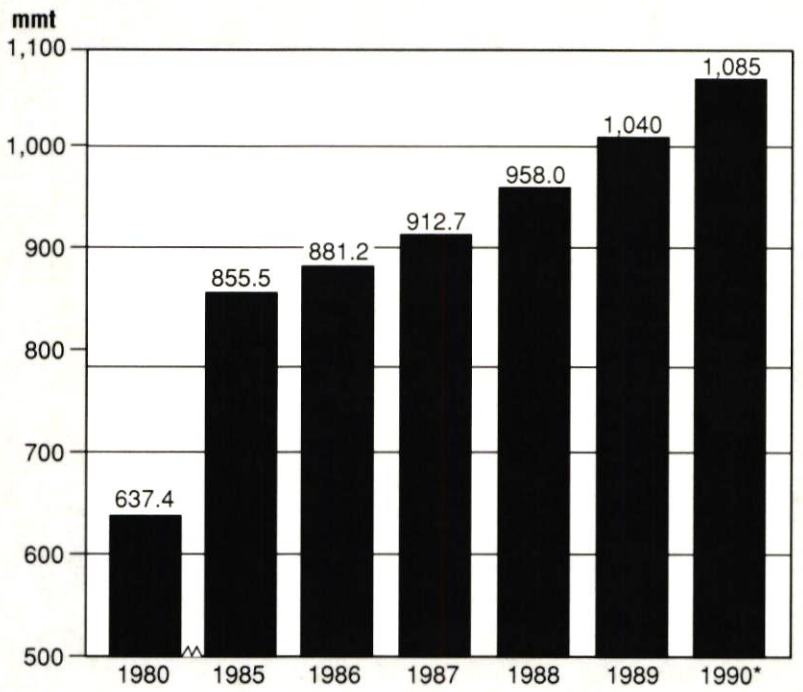
Though cumulatively the local mines play an important role in coal production, they tend to exploit comparatively small, shallow basins with limited scope for expansion. Moreover, they lack the size to support such ancillary activities as screening and washing. Since inadequate State investment in the last decade in centrally owned mines will limit increases in their production capacity, however, local mines will continue to play a crucial role for at least the next five years.

State-owned mines tend to be larger and more highly mechanized than the collective/private mines. They fall under the jurisdiction of the Ministry of Energy (MOE), a combination of the former ministries of coal, petroleum, nuclear industry, and water resources and electric power generation. MOE was formed in 1988 to ensure rational planning in energy production (*see* box).

Almost all State mines are underground operations based on longwall extraction methods. As of 1990, about 61 percent were partly mechanized and 33 percent fully mechanized. (Partly mechanized mines typically include mechanized coal-cutting equipment and hydraulic pumps. Fully mechanized mines have mechanized coal-cutting and loading equipment as well as power roof supports.) Another two dozen mines use hydraulic mining methods, and the remaining mines are unmechanized. In the unmechanized mines, coal cutting is generally done by drilling and blasting or by using pneumatic picks and shovels, while coal loading is performed by hand. Due to the low degree of mechanization, coal production at government mines averages about 1 tonne per shift; in the provincial mines the number is even lower, around .5-.7 tonnes.

All government mines—and many local ones as well—are assigned a production quota under the central plan, and are required to provide in-plan (or in-quota) production to the government at State-set prices. Alto-

China's Coal Production, 1980-90



mmt = million metric tonnes
* estimate
SOURCE: *Energy in China 1989*, J. P. Huang

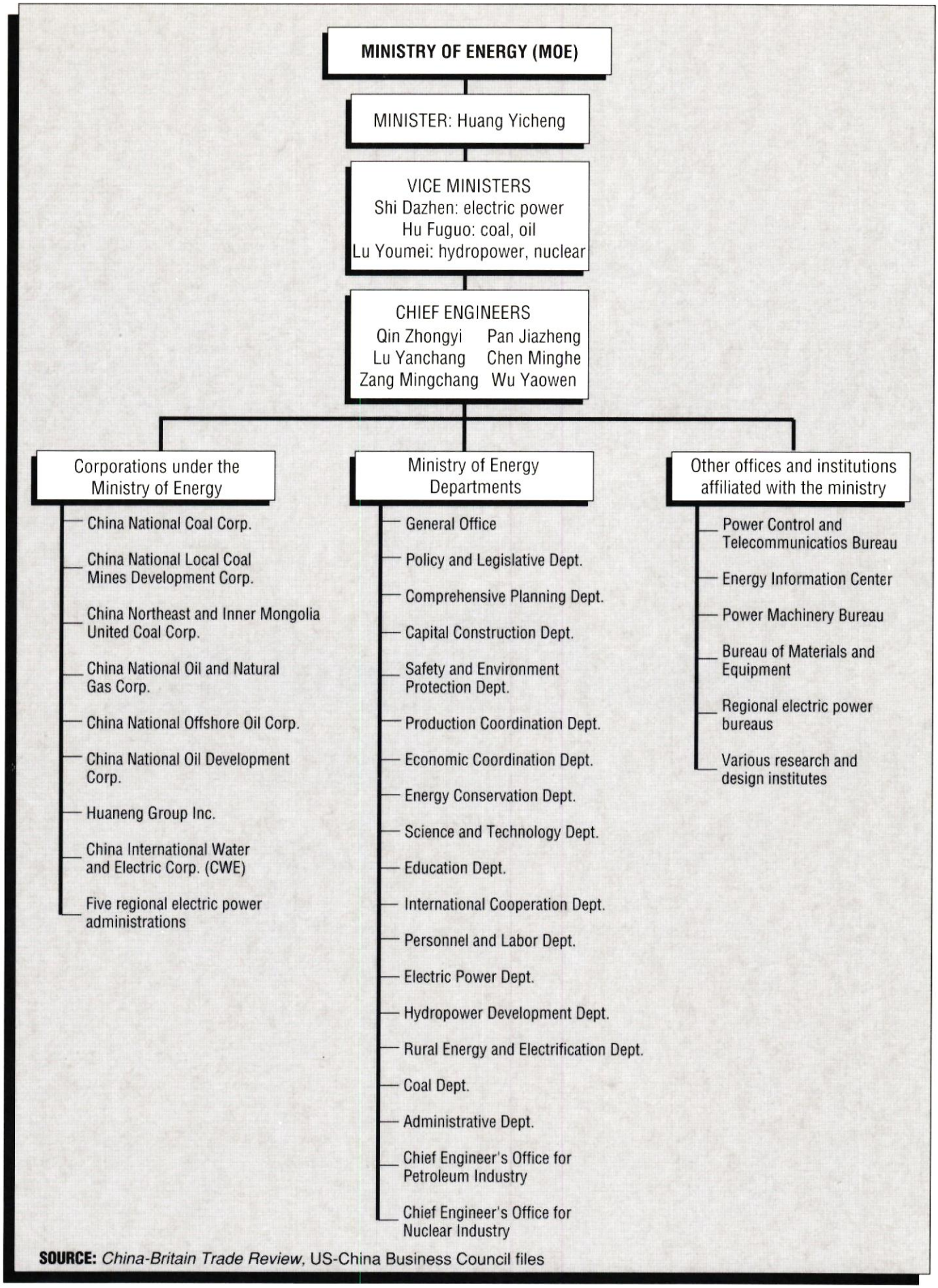
Organization of China's Energy Sector

The activities of China's various energy producers are overseen by the Ministry of Energy (MOE), a "super ministry" created in June 1988 to ensure rational energy planning by bringing the various energy subsectors under one roof. MOE encompasses the jurisdictions of the former ministries of coal industry, nuclear industry, petroleum industry, and water resources and electric power.

Headed by Huang Yicheng, the former deputy director of the State Planning Commission, MOE is responsible for formulating sectoral strategies and policies, but production management responsibilities have been devolved to corporations under MOE's supervision. Responsible for such decisions as allocation of funds and raw materials, each corporation is expected to finance a portion of its investment needs through profits. In the coal sector, the lead corporation is the China National Coal Development Corp. (CNCDC), which essentially embodies the former coal ministry. When CNCDC was created, however, China's northeast and local coal mines corporations were not included under its jurisdiction in order to decentralize the sector and facilitate MOE's leading role.

MOE's goal of coordinating and supervising energy policy has not been fully realized, however. As the corporations have so much management and engineering expertise—they basically contain the staffs of the former ministries—and control such a great amount of investment and material resources, MOE, which does not have a network of provincial counterparts, has not been able to exert much influence over them. To strengthen its authority, MOE has reportedly been trying to further remove certain operations from the corporations, such as the research institutes under CNCDC. Despite such efforts, however, many coal industry analysts believe that CNCDC will eventually regain the authority possessed by the former coal ministry.

J.P. Huang



SOURCE: *China-Britain Trade Review*, US-China Business Council files

gether, about 75 percent of China's coal production is sold to and distributed by the State (about 42 percent comes from the centrally owned mines and is sold at the lowest State price. State prices do vary modestly according to grade, source, and use of coal). The distribution process is complex and requires extensive interface between the producing and consuming centers, the transportation organizations, and the State Planning Commission. Final contracts are discussed and signed in an annual national coal sales conference between the ministry-level coal-producing corporations under MOE and provincial/ministerial-level consumers. Given the complexity of this process, the conference usually has about 600 participants and takes about 100 days.

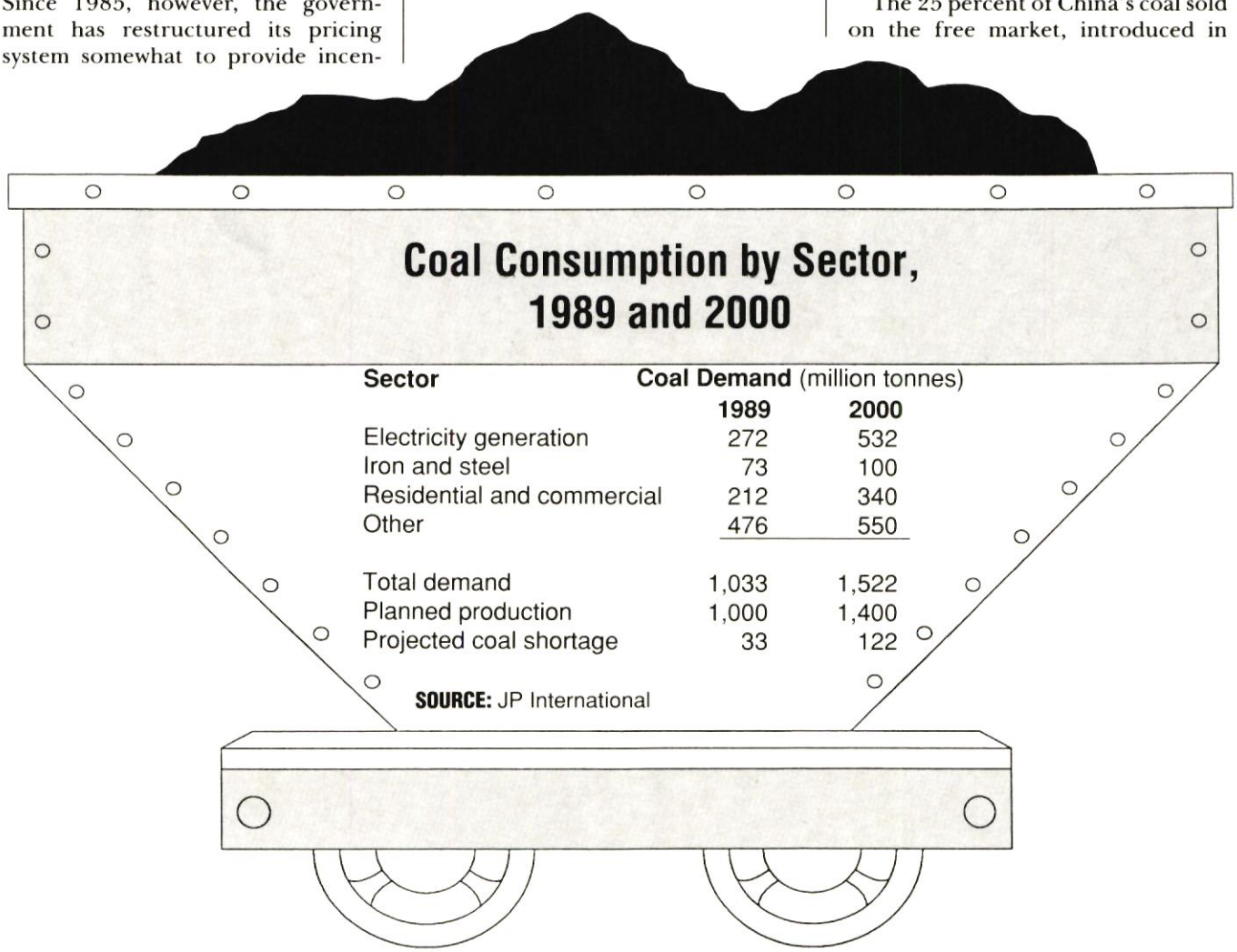
Inadequate pricing reforms

State purchasing prices are not based on production costs or market demand, but are set under the central plan at artificially low levels. Since 1985, however, the government has restructured its pricing system somewhat to provide incentives for additional production. The most important of these changes permitted a 50 percent price increase for coal produced within the production quota but above an agreed-upon base-production level, while coal produced beyond quota requirements (out-of-plan or above-plan production) could be sold at negotiated or free-market prices. Price differences between in-plan and out-of-plan production can be very large; the current State-set price is around ¥35 per tonne, but the free-market price can exceed ¥300 per tonne.

While these adjustments may offer added incentives for coal production, they have been largely offset by more rapid increases in production and transportation costs. For example, between 1985 and 1988, the selling price of coal from government mines increased from ¥31.36 to ¥36.43, but production costs skyrocketed from ¥29.33 to ¥39.97 (or even higher in new mines). For local mines, unit cost per tonne increased from ¥18.32 to ¥35.04, but the State purchasing price only increased from ¥24.18 to ¥35.29 (purchasing prices are lower for coal from local mines because they do not include transport costs).

As a result of this irrational pricing system, government mines consistently operate at a loss and must receive large State subsidies to fund their operations. In 1988 and 1989, for example, subsidies exceeded ¥2 billion annually, but still were insufficient to cover all losses. In 1986, aggregate losses suffered by government mines exceeded the value of subsidies by more than 1000 percent. The China National Coal Development Corp. (CNCDC), which administers 500 centrally owned mines, estimates total losses of ¥7.5 billion in its mining operations in 1990. Most of the larger provincial mines are also operating in the red. The unsubsidized losses must be absorbed by the mines themselves, which typically forego necessary capital expenditures on maintenance and/or expansion to cover them.

The 25 percent of China's coal sold on the free market, introduced in



Coal Consumption by Sector, 1989 and 2000

Sector	Coal Demand (million tonnes) 1989	2000
Electricity generation	272	532
Iron and steel	73	100
Residential and commercial	212	340
Other	476	550
Total demand	1,033	1,522
Planned production	1,000	1,400
Projected coal shortage	33	122

SOURCE: JP International

1980 and expanded in the mid-1980s, can fetch prices above international levels, depending on the location. The majority of the free-market supply comes from Shanxi Province, where most of the private mines are located, and ends up in East China.

The low State-set coal prices have resulted in significant market distortions and will continue to make it difficult for the coal industry to modernize. In particular, while State pricing takes into account some differences in coal quality—such as ash and sulfur content—it does not reflect the more important measure of heat content. Instead, price differences are dictated by type of production (i.e., in- or out-of-plan), thereby creating little incentive for producers to turn out high-quality coal or for consumers to burn coal efficiently.

Increasing conservation by boosting efficiency

Improving efficiency in both the production and utilization of coal may prove the most cost-effective way to increase China's coal resources in the short to medium term. China's industrial use of energy is very inefficient compared to advanced industrial countries: Power generation requires 32 percent more energy, steel production 40 percent more, cement 66 percent more, and synthetic ammonia 83 percent more. These differences are the result of China's irrational pricing, poor quality equipment, and failure to provide inputs that will yield maximum performance.

One way to boost coal savings would be to improve the operating efficiency of conventional industrial boilers by upgrading the facilities of small- and medium-size enterprises and by supplying coal that matches boiler design and industry requirements. Currently, coal consumers tend to use whatever coal they can get their hands on, regardless of whether it is appropriate. Much of China's steam coal, for instance, is very poor, resulting in lost electricity generation. Ash content of much of the coking coal provided to the steel industry is so high that some enterprises have received permission to import better quality supplies from Australia. Increasing the number of coal-washing plants—only 15 percent of total annual production is washed—would improve boiler efficiency by reducing ash content, which in turn would reduce wasted transport space and harmful pollutants released during combustion. Increasing the use of natural gas, such as the methane released from coal mining, would also help conserve coal and decrease pollution (*see* p. 30).

Cutting back State funding

Though increasing efficiency of coal production and utilization could conceivably save millions of tonnes of coal, ultimately State and local investment must increase as well. Since low in-plan prices reduce the profitability of mining operations and make the accumulation of capital for invest-

Foreign Involvement in the Coal Industry, 1986-90

USSR
Received an order in April 1986 to provide plans for construction of an 800,000 tonne-per-year coal-preparation works site in Zanyang, Shanxi.

Czechoslovakia
Signed contract to supply coal gasification technology and equipment to factory in Lanzhou, Gansu Province, in June 1986.

Powerscreen International Ltd. (UK)
Signed a $750,000 contract with the Shanxi Province Coal Import/Export Bureau to supply a coal preparation plant in December 1986.

Progetti International Technical Co. and Texaco SpA (Italy), subsidiary of Texaco Inc. (US)
Signed a contract with the Capital Iron and Steel Co. of Beijing to supply technology to convert coal into cooking gas in December 1986.

Le Gaz Integral Entreprise (France)
Signed contract for coal gasification plant to power Zhengzhou Glass Factory in Henan Province in January 1987.

KRW Energy System, subsidiary of The Signal Companies Inc. (US)
Signed $25 million contract to supply coal gasification equipment to First Heavy Machinery Works of Fulaji, Heilongjiang Province, in April 1987.

Mine and Dressing Factory Design Institute (USSR)
Agreed to supply new coal dressing factory to Qixing, Heilongjiang Province, in June 1987.

USSR
Conducted feasibility study for coal slurry pipeline from Bingxian County, Shanxi, to Weihe Power Plant in Heilongjiang Province in December 1989. USSR also agreed to provide valves, control systems, and pumps.

ICF (US) and CMT (US)
Agreed to drill for coalbed methane at Shenyang Nanjiao Coalfield in January 1990.

Japan
Loaned $1.13 billion for equipment sales and construction of coal projects at Junggar, Inner Mongolia, and Dongqu, Shanxi Province in April 1990.

Conspec Control Co. (Canada)
Established with three Chinese partners the $2 million Fushen Conspec Control Co. Ltd. joint venture in Tianjin Economic and Technological Development Zone to produce Senturion monitoring and control systems and other coal mining equipment in May 1990.

Toyo Menka Kaisha Ltd. (Japan)
Agreed to sell $75 million worth of coal-handling machinery for use in Qianwan Harbor in Qingdao, Shandong Province, in August 1990.

The above list is not intended to be comprehensive and details have not been independently verified by The CBR.

ment next to impossible, centrally owned mines rely heavily on government funding. Other funding agencies—such as industrial banks and local governments—are generally reluctant to invest in coal projects because of their limited profitability.

State investment in the industry, however, has been decreasing. During the Seventh FYP the government planned to invest ¥32 billion but actually invested only ¥30 billion. As a result, only 115 million tonnes was added to China's coal production capacity instead of the 180 million tonnes called for in the Plan. This will negatively affect China's ability to achieve its production targets under the Eighth Five-Year Plan (1991-95); only 87 million tonnes of new coal production can be expected, compared to the 150 million tonnes called for. If China is to meet the Eighth FYP's 1.23 billion tonne total production goal, it will have to rely more heavily on local mines.

The delay in construction of new mines—which generally take 10 years to meet production targets—has forced existing mines to operate above their planned production capacity; some operate at as high as 140 percent of capacity. This pace, combined with limited funding for maintenance and repair, has resulted in a growing number of "malfunctioning" mines (mines unable to reach capacity production due to lack of proper upkeep). In 1982, CNCC had only 21 malfunctioning mines, with an aggregate capacity of 23 million tonnes; estimates for 1990 are around 80 mines with total capacity of 60 million tonnes. In addition, another 60 mines with 34 million tonnes' capacity are considered to be in danger of malfunctioning. Mining equipment purchased in 1983, when the industry was overhauled, is also beginning to wear out.

The situation in provincial and local mines is not much better. In order to meet their production target of 700 million tonnes by the year 2000, they must increase total annual production by 35 million tonnes—20 million tonnes to make up for previous production from abandoned mines plus a 15 million tonne increase. Local government investment in local mines has decreased, however, from around ¥2 billion to ¥1 billion annually. This drop in investment can be translated into a loss of 40 million tonnes in added production capacity. But since these mines can sell coal at higher prices, they are generally more profitable than government mines and can more easily borrow to finance capital improvements.

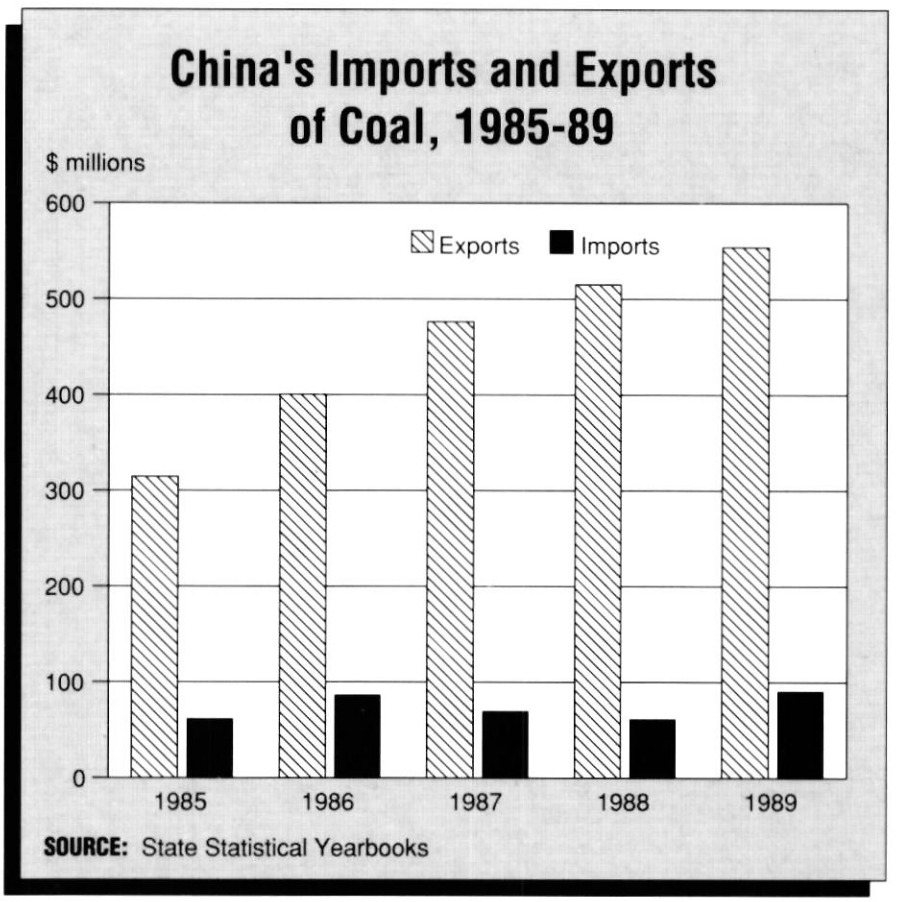
Government mines consistently operate at a loss and must receive large State subsidies. In 1988 and 1989 subsidies exceeded ¥2 billion annually, but still were insufficient to cover all losses.

To help offset the decrease in government investment, at the height of the coal squeeze in 1989 the State introduced a new investment policy known as "divide the pot and eat." Under this system, major coal consumers, such as provinces and large enterprises, were to invest in coal production in order to secure future supplies. However, as the current trend is to recentralize coal production, this system may be phased out.

A limited role for foreigners

The decline in State investment in the coal industry has not been offset by an increase in foreign capital. Private direct equity investment is relatively rare because the government is reluctant to relinquish control over the sector and profit-generating potential under current conditions is limited. Major foreign activity to date has been in two open-pit mines: the Japanese in 1989 extended an $800 million concessional loan to help develop the Junggar project in Inner Mongolia, while Occidental Petroleum Corp. began production at its Antaibao joint venture in Shanxi Province in 1987. However, recent publicity that Occidental is seeking to sell its share of the troubled joint venture is not likely to have a positive impact on foreign perception of the industry (*see* p.38).

The coal industry does play a major role in China's trade picture, however. Coal imports are relatively minimal, in part because they are subject to 40 percent duties and



require import licenses (*see* chart). Most purchases come from Australia and the Soviet Union, while North Korea supplies 1.5 million tonnes of bituminous/brown coal annually under a barter agreement. Given China's severe transport bottlenecks, coastal provinces may be permitted to increase imports slightly during the Eighth FYP.

Imports of coal equipment are much more significant, though they have declined rapidly in the last few years. From 1982-90 China imported about $2 billion worth of continuous miners, hydropic supports, carriers, rock entry driving equipment, and safety mining equipment from the United States, France, Germany, the United Kingdom, Japan, Poland, and the Soviet Union. Equipment imports peaked in 1985-86; since 1987 most imports have come from barter trade with Eastern Europe (*see* list). The largest bilateral agreement during the Seventh FYP was with Poland.

China will likely increase purchases during the Eighth FYP, however, and US equipment exporters should carefully monitor foreign-financed projects and participate in the bidding process. According to some Chinese coal experts, US-made heavy trucks should be especially competitive. About 35 percent of the equipment for the Junggar project will supposedly be procured through international bidding—possibly providing an opening for US firms—even though financing will come from the Japanese Import-Export Bank.

On the export side coal is one of China's top 10 export commodities, and China's exports account for about 15 percent of total international trade in coal. Export earnings rose modestly but consistently throughout the 1980s, although difficulties in meeting export commitments culminated in several million dollars' worth of fines being levied against Chinese parties in 1988. Since then, Beijing has recentralized trading authority for coal—the China National Coal Import and Export Corp. now handles about 90 percent of all exports—and striven to ease port congestion to ensure that China can fulfill its export contracts in a timely fashion. The bulk of China's exports go to Asian buyers, notably Japan, the Philippines, Taiwan, and South Korea.

Currently, China's exports amount to less than 2 percent of total coal production. The Ministry of Foreign Economic Relations and Trade (MOFERT) would like to see exports increase—especially to Asia—as it believes such an increase would enhance its leverage in other activities in the region. MOE, however, is against increasing exports, as China itself suffers from coal shortages, its transport network is already strained, and coal is not a value-added product. Given these factors, aggregate coal exports will likely continue to increase, though the percentage of total production exported will probably stay fairly constant.

An uncertain future

Chinese planners have set an annual growth rate of 6 percent for the economy for the next five years. In order to meet this goal, investment in the coal sector will have to increase significantly. Central authorities have stated they will boost spending to develop new, large-scale mines, and have also implied they will seek additional funding from outside sources.

Obstacles to meeting Eighth FYP targets are formidable, however. Since development of large new mines takes years, much of the investment slated for the Plan will not directly help mines meet their targets under the Plan. Moreover, CNCDC has been very reluctant to continue with the government its responsibility contract—in which it guarantees a certain rate of investment and production in return for State guarantees of transportation, foreign capital, and pricing—as Beijing failed to produce the funds it promised during the Seventh FYP. In a compromise, the contract has been extended for only two years rather than the normal five. It is not known what will happen when this contract expires in 1993.

Another factor clouding the future of the industry includes the trend toward recentralization. The State Planning Commission has been promoting the idea of "unity" in coal production, sales, investment, and growth, for example, which does not bode well for local mines. The future of the coal industry is thus very unclear—only the continued shortage of China's key energy source seems certain. 完

Tapping China's Coalbed Methane

Recovery and utilization of this abundant energy source barely scratch the surface

Jessica Poppele

Although energy-short China constantly strives to increase production of coal (*see* p. 22), little attention has been paid to the energy-generating potential of an estimated 4 trillion m^3 of methane stored within China's abundant coal reserves. Other coal-producing countries are increasingly capturing and using coalbed methane (CBM), thereby enhancing mine safety, adding new energy resources, and gaining numerous environmental benefits. In China, however, CBM recovery and utilization has yet to measure up to its potential.

But this situation may soon change. Beijing appears to be gaining interest in methane recovery as a means to protect the environment and increase energy options. This interest comes at a propitious time, for growing concerns over environmental hazards and global warming are leading Western governments and multilateral institutions to help developing countries find cleaner energy sources and reduce greenhouse gas emissions. The US Environmental Protection Agency (EPA), in particular, is working with the Chinese government to support new policies that would encourage more efficient energy use and decrease emissions to the atmosphere of methane, one of the more damaging greenhouse gases. As a result, Western companies that manufacture the equipment to recover and use CBM may find potential markets in China's many coal mines.

Beijing appears to be gaining interest in methane recovery as a means to protect the environment and increase energy options.

Making mining safer

As coal forms deep under the earth's surface, methane is produced and trapped in the internal surfaces of the coal. High pressure in the coal seams holds the methane in until mining or pre-mine recovery techniques release the gas. As methane is explosive in air at low concentrations, the liberated methane poses serious risks of fire and explosion as it enters the mine through pathways in the coal. To lessen the danger of mining disasters, underground coal mines around the world commonly employ large-scale ventilation systems to prevent methane concentrations from reaching hazardous levels. In mines where methane concentrations are particularly high, ventilation alone many not adequately ensure safety and advanced recovery methods must be used. The methane recovered using these advanced techniques typically can be used for cooking, heating, and electricity generation.

In their rush to increase coal production to meet the needs of China's burgeoning population and economic growth, Chinese miners are going deeper underground, where coal beds typically contain more methane. In China, nearly half of all coal mines are classified as "gassy"—mines where there are more than 10 m^3 of methane per tonne of coal—or "outburst"—mines where high-pressure gases in the coal cause the coal seam to blow out. Mining is also becoming increasingly mechanized to speed up recovery, which often means faster methane buildup. In 1988, for example, some 250 serious mining accidents occurred in China; over 87 percent of the accidents with 10 or more deaths were the result of methane explosions or outbursts. Better methane recovery systems, which must be set up in advance of deep mining to ensure safe mining operations, are therefore increasingly in demand. At the Tiefa mine in Liaoning Province, for example, advanced methane-recovery systems in place since 1983

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have resulted in seven accident-free years, while coal production has increased by 100,000 tonnes each year.

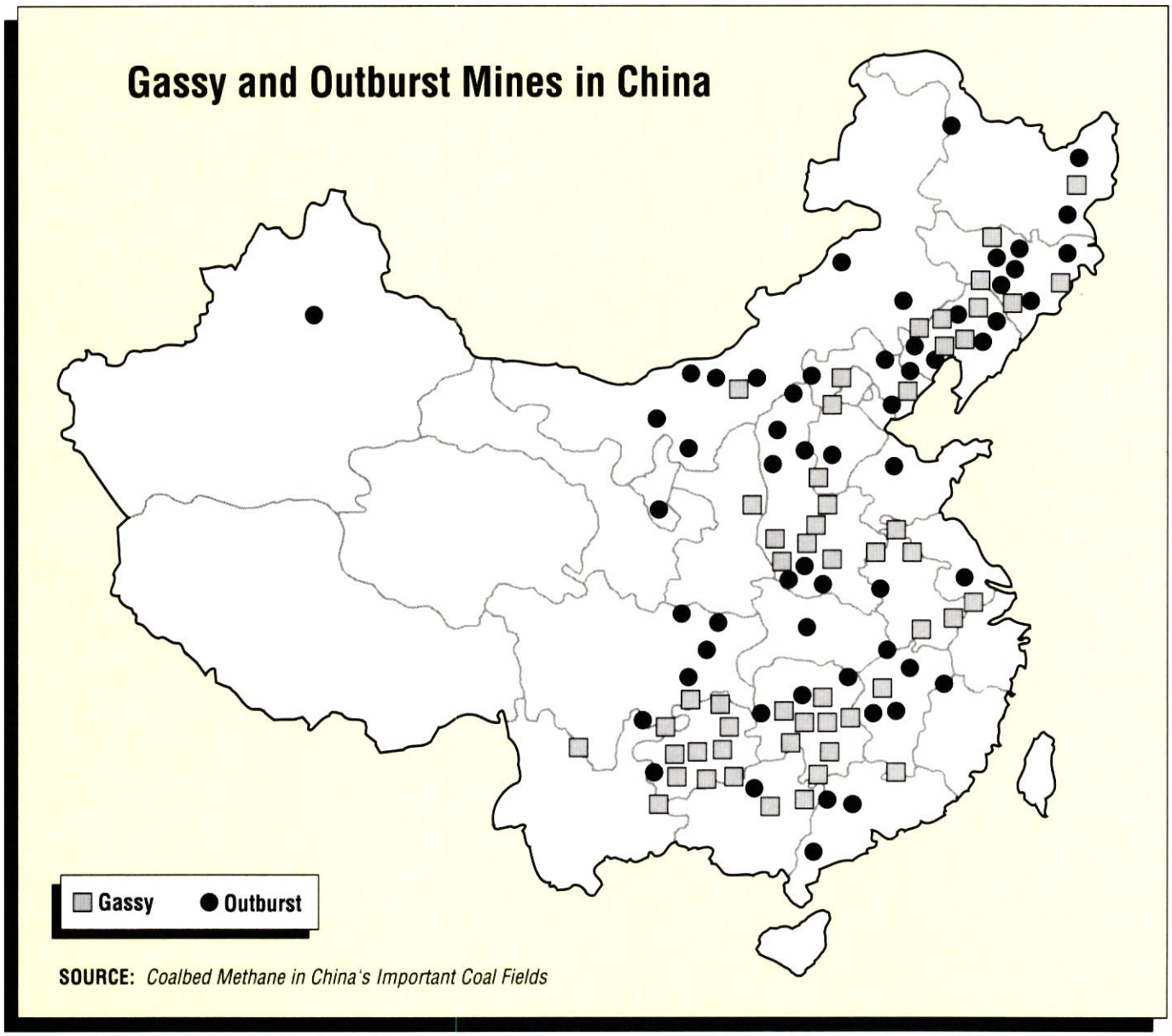
An untapped resource

Aside from its importance in mine safety, CBM has great potential as an energy resource in China. Currently, however, very little of the valuable gas is recovered using advanced techniques and not all of the recovered gas is put to use. In 1989, for example, a total of 380 million m^3 of methane was recovered using advanced techniques in over 100 Chinese coal mines, a fraction of the estimated 24 billion m^3 released in China each year through mine ventilation. Total recovered CBM was roughly equal to the amount recovered by a handful of mines in the United States. Furthermore, fully one-third of China's recovered gas was emitted into the atmosphere instead of used.

Most of the CBM recovered in China comes from underground mines in three mining administrations using domestically developed techniques, though some imported drilling equipment is also used. These mining administrations—each representing several mines—claim to capture about 40-60 percent of the CBM released in the mines, comparable to US rates. Over half the remaining Chinese mines with recovery systems, however, capture less than 10 percent of the methane released in their mines. Investment in methane recovery systems has been small, with only about ¥23 million—around 16 percent of total coal utilization and processing funds—allocated from 1981-85.

In 1986, the comprehensive utilization department of the former Ministry of Coal Industry completed an assessment of China's CBM resources. The study surveyed China's 290 centrally controlled gassy and outburst mines and concluded that CBM recovery grew 7 percent annually between 1977-84. Based on these figures, central planners predicted that CBM recovery would increase by 12 percent annually during the Seventh Five-Year Plan (FYP, 1986-90).

The study also cited a number of barriers to methane recovery efforts. From a policy standpoint, the greatest obstacle to CBM recovery was its treatment as a safety issue instead of an energy issue. At the mine level, CBM recovery had been impeded because it was not well integrated into mine development planning, leaving recovery efforts to be made at



SOURCE: *Coalbed Methane in China's Important Coal Fields*

the last minute before mining. As a result, there often was inadequate time to recover the CBM within the coal. In addition, few attempts had been made to adapt recovery techniques to local geological conditions, and some of the recovery equipment was outmoded.

While the report focused on successful efforts at a small number of mines, there was no assessment of the economics of a large-scale increase in CBM recovery, nor did it identify regional and national steps needed to create the institutional and policy framework for large-scale development of CBM resources. The study recommended that CBM be included as an energy resource in national development plans, but there was little follow-up on this course of action.

Lack of incentive

The government's projection of 12 percent growth proved unrealistic—CBM recovery increased only an average of 2.4 percent per year during the Seventh FYP. This low figure can be attributed primarily to the failure of central planners to create any incentives for mines to recover and utilize CBM. All coal mines were under enormous pressure throughout the Plan to meet the State Planning Commission's growing coal quotas, to which CBM recovery was not applied. There was thus no incentive for mines to spend limited investment allocations to develop CBM as an energy resource. Centrally controlled coal mines, which account for about half of all Chinese coal production, were eligible for funds to construct mine recovery systems for safety reasons only, while provincial and locally run mines had to rely on local funding sources. Because of heavily subsidized coal and gas prices, moreover, it was difficult for CBM projects to compete on purely economic grounds.

Though many types of CBM recovery technologies, such as short-hole drills (100 m range), are produced domestically, more sophisticated recovery equipment, such as long-hole drills (300 m range) and strong pumps, must be imported from abroad. Only limited funds were available for mines to buy the more advanced foreign technologies, and growing restrictions on foreign purchases by the end of the Plan made it difficult for non-centrally controlled mines to buy foreign technologies.

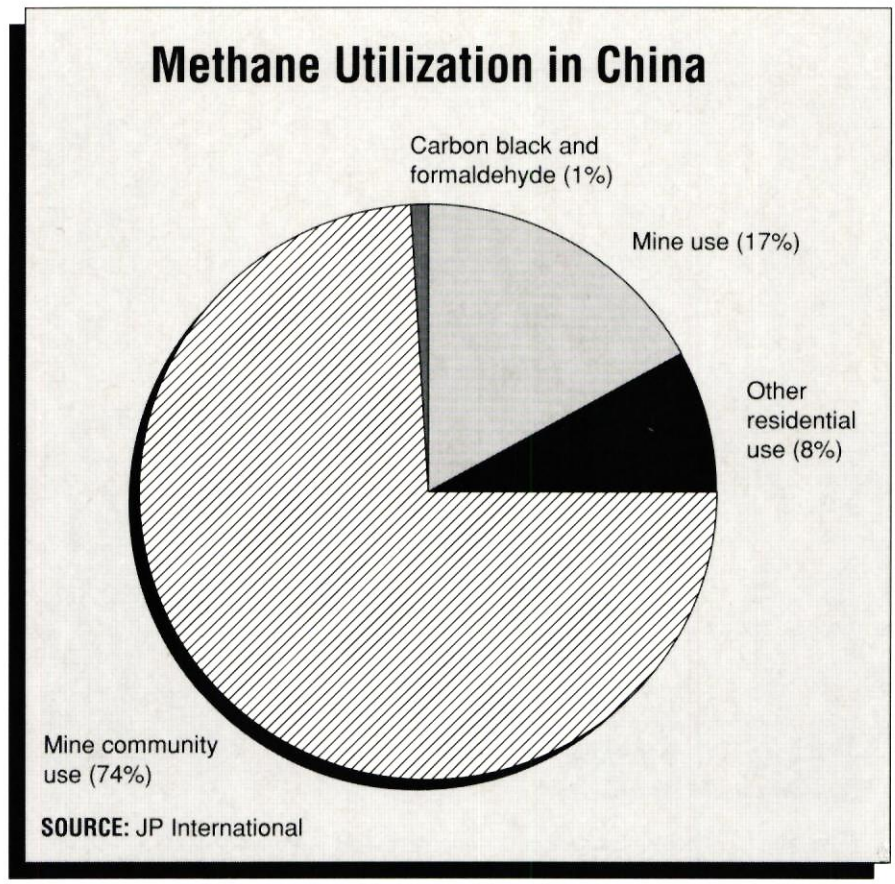
CBM recovery increased only an average of 2.4 percent per year during the Seventh FYP. This low figure can be attributed primarily to the failure of central planners to create any incentives for mines to recover and utilize CBM.

Other obstacles included China's underdeveloped gas utilization infrastructure and little awareness—in the mines, the planning centers, and general populace—of the potential value and uses of CBM. Increasing energy demands within China, coupled with growing global awareness of the benefits of CBM, however, may result in the easing of such barriers to CBM recovery. Ultimately, a significant increase in utilization will result only when CBM is recognized as an energy resource.

A variety of uses

Full-scale utilization, however, will require some changes in technology. CBM in China usually is collected in lower concentrations than in the United States, where high concentration levels allow for direct addition of CBM to existing natural gas supplies. Though Chinese techniques currently produce lower concentrations of CBM that may not be suitable for all applications, there are a number of strong potential markets for the recovered methane.

Currently, about 74 percent of recovered CBM is used by mining communities and their neighbors for heating and cooking (*see* chart). The mines of Fushun, Yangquan, Hebei, and Zhongliangshan, for example, each sell recovered CBM to neighboring city gas companies for an average annual profit of several hundred thousand yuan. Better storage facilities, pipelines, compressors, meters, and other equipment—along with efficient technologies for cookstoves and central heating—would help get more methane to these and other potential users.



Methane Recovery Technologies

Though most coalbed methane (CBM) recovery techniques in the United States involve drilling from the ground surface, such methods have only been tested on a small scale in China. Chinese recovery efforts instead concentrate on removing CBM from within the mine through a variety of horizontal drilling techniques. Three main underground techniques for recovering CBM are used:

• **Working seam recovery** In this method a tunnel is excavated beneath the coal seam and a pipeline inserted to drain methane, usually before any mining activity begins. Drilling stations at 30-meter intervals along the pipeline tap into the seam to collect the methane. Though the technology is fairly well developed, the recovery rate is sometimes slow because of the low permeability of the coal seams. Some mines have experimented with hydraulic fracturing or long-hole drilling to improve flow rates.

• **Adjacent seam recovery** When more than one coal seam is being mined, methane may be emitted into the working seam from adjacent coal seams. To minimize the risks of outbursts, workers tunnel into the working seam or rock strata and drill holes into the adjacent seams. Pipes in the tunnels remove methane to surface pumping stations. More than half of all methane recovery in China involves adjacent seam recovery techniques, which can yield high-quality methane at fast rates. Improved pumps could boost recovery rates even further.

• **In-mine gob recovery** This technique is employed in longwall mines, where rock and coal strata above the mined-out area fracture and collapse to form the "gob" area. Methane then flows freely into the gob from surrounding coal seems, posing potentially serious ventilation problems. Chinese miners construct gob recovery systems prior to mining, and after formation of the gob, build ventilation separating walls at intervals in the gob. Constant monitoring is required to prevent spontaneous combustion and maintain sufficient pumping pressure to remove the methane to the surface. Gob recovery methods at times also interfere with mining operations.

—Jessica Poppele

Because mines are often in remote regions, residential needs may be limited, however. In these areas, recovered methane—even at medium concentrations—could be used to generate electricity at the mine site. This use could prove appealing to many mines because electricity shortages in China often slow mining efforts. Mines located at the outer edges of the electricity grid should be particularly interested in developing their own generating capacity, for voltage fluctuations on the main grid can make it difficult to restart mining equipment once there has been a power outage. Only one mine in China, the Laohutai mine near Fushun, has so far been allocated funds to import the turbines needed to generate electricity from recovered CBM.

Turning a profit on CBM may be the ultimate attraction to recovering it. Though industrial users currently account for only 1 percent of CBM use, there are a number of industrial uses for methane, and enterprises in the fertilizer and petrochemical sectors in particular could become important consumers.

Methane is a key feedstock for several petrochemical processes, for example, and could be used at one of China's five methane-based formaldehyde factories. With better monitoring and storage capability, mines could also translate CBM into ready cash through sales to domestic producers of nitrogen fertilizer. Another application is in the production of carbon black, which is used in the manufacture of tires and other products. The Longfeng mine in Fushun, Liaoning Province, has been producing carbon black from CBM since 1952. All industrial and commercial CBM applications would require careful feasibility studies prior to any capital investment, however, for such users generally need a constant supply of a certain quality of gas and a guaranteed market to justify the capital investment.

Global concern

While China has a number of financial incentives to explore CBM options, it also has an interest in minimizing methane emissions. Based on the methane molecule's characteristics in the upper atmosphere, global methane emissions are likely to contribute 15-20 percent of the expected global warming from greenhouse gases. Thus methane is the second most serious greenhouse gas after carbon dioxide (CO_2). On a molecule for molecule basis, however, methane is much more potent than CO_2 because it is more effective at trapping heat—though it's atmospheric lifetime is much shorter. This means that stabilizing atmospheric concentrations of methane could delay the effects of global warming for at least a decade, and could be achieved by reducing current global methane emissions by only 10-20 percent.

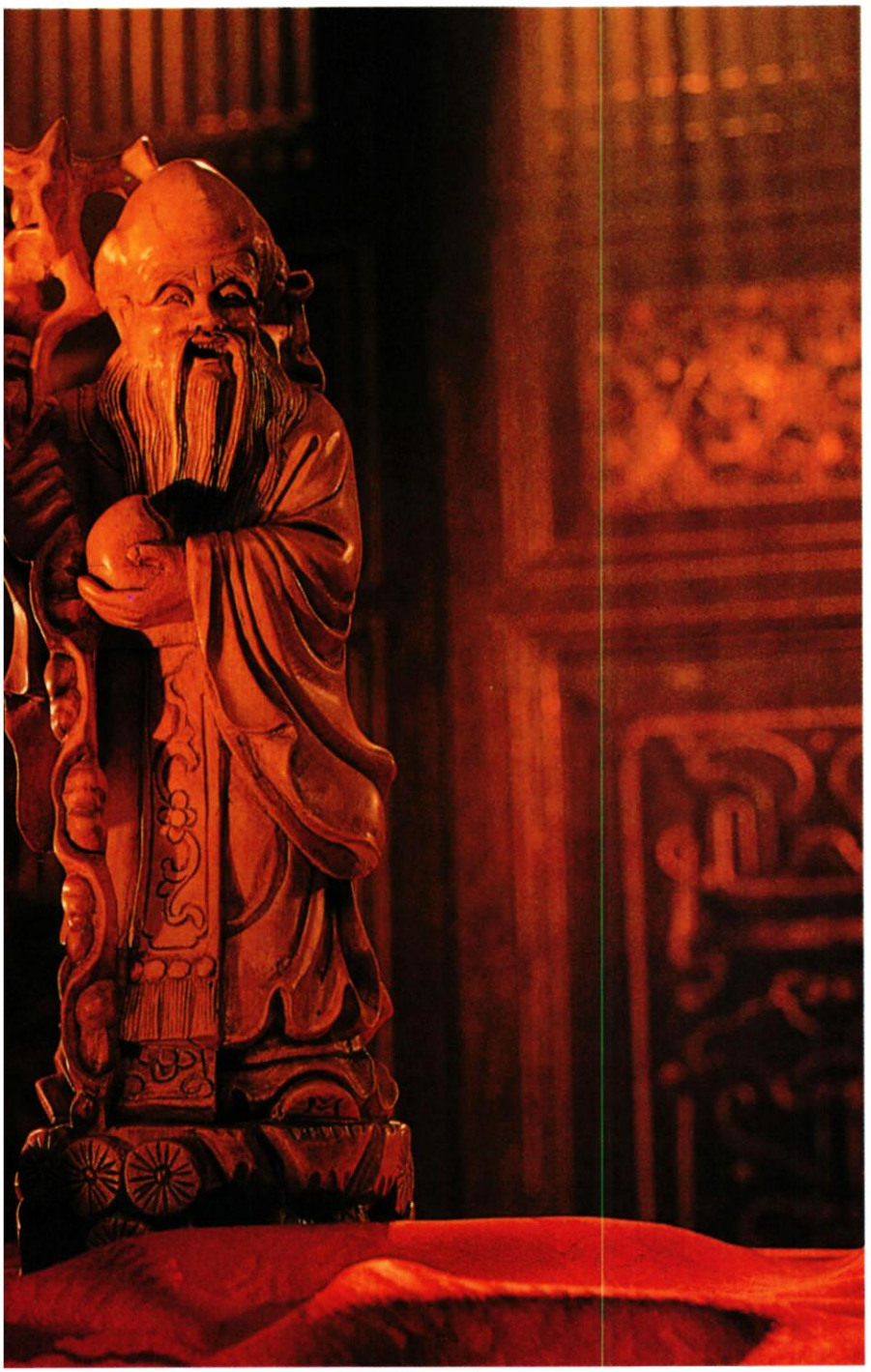
According to a recent report by the Intergovernmental Panel on Climate Change, "Stabilizing methane concentrations at or below approximately current levels may be achievable with identified emissions control options that are profitable or low cost." To achieve stabilization of methane concentrations, the panel recommended that global methane emissions from coal—about 10 percent of emissions resulting from human activity—should be reduced by 6-10 billion m^3 annually. By conservative estimates, if only 40 percent of the estimated CBM reserves found less than 2,000 m deep in China's centrally controlled gassy and outburst mines were recovered and utilized, China alone could reduce methane released into the atmosphere by more than 2 billion m^3 per year.

Three mines in China are already recovering methane at good rates: Fushun recovers 50-60 percent, and Yangquan and Zhongliangshan each capture between 40-50 percent. If most of the centrally controlled gassy and outburst mines in China recovered CBM at this rate, between one-

China World Hotel
Beijing

Traders Hotel
Beijing

Shangri-La Hotel
Beijing



Where would three wise men stay in China?

In Shangri-La's three city locations, of course!

In **Beijing**, Prosperity ("Fu") has the choice of **China World Hotel**, **Traders Hotel** or the **Shangri-La**.

In **Hangzhou**, Clever Fortune ("Lu") would choose the **Shangri-La Hotel**.

And in **Shanghai**, Longevity ("Shou") rests his weary brow at **The Portman Hotel**.

But rest assured, whichever hotel the wise men select, the God of wisdom will applaud their choice.

SHANGRI-LA INTERNATIONAL
HOTELS *and* RESORTS

Shangri-La Hotel
Hangzhou

The Portman Hotel
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quarter and one-third of recommended reductions in CBM emissions worldwide could be achieved. Given adequate technology and incentives, other mines in China should be able to harness this energy resource and effectively control methane emissions.

A nod from Beijing

The potential benefits of using CBM have not gone unrecognized by China's Ministry of Energy (MOE), which has expressed its intention to consider adopting a nationwide policy that would allow mines to count methane in their production quotas at an equivalency rate of 250 m^3 to one tonne of coal—a ratio based on the relative combustion efficiency of each fuel. Since methane recovery is currently supported only for mine safety reasons, recognition of CBM as an energy resource would make more funds available for recovery efforts. The State Planning Commission has also indicated its interest in encouraging CBM recovery efforts on a case-by-case basis, in order to compare the experiences of individual mines before adopting the policy nationwide. Central funding to the centrally controlled mines would then be allocated for energy recovery, which would allow CBM to count toward overall coal quotas.

Increased foreign aid for CBM recovery may also be on the way. After a year of visits and a US study tour, MOE, EPA, and China's National Environmental Protection Agency (NEPA) have agreed to cooperate in the development of projects to encourage expanded recovery and use of CBM in China. In the fall of 1990, an EPA fact-finding mission composed of CBM experts in the areas of geology, in-mine recovery, electricity generation, and chemical feedstock applications visited a number of mines that have already pursued aggressive CBM recovery efforts. The mission identified projects that could promote the merits of turning coalbed methane into a resource. Three possible projects are currently being developed: a comprehensive assessment of CBM potential in China; establishment of a clearinghouse to disseminate CBM information and relevant publications in China; and an effort to design and assess the feasibility of model projects.

Proving CBM's potential

The combination of these three project components could lead to a rapid turnaround in the development of CBM in China. The use of assessments would help identify the best sites for CBM recovery, while detailed project feasibility studies would guide the selection of pilot demonstration projects that would be effective in convincing Chinese leaders of the value of CBM recovery. Establishment of a clearinghouse network would encourage the sharing of information among planners and mine directors.

The need for assessments and feasibility studies is underscored by the experience of previous Chinese CBM recovery efforts, which sometimes fell short of expectations. Fushun, for instance, was selected in 1986 by the former Ministry of Coal Industry to demonstrate CBM's electricity generating potential because the mine historically had produced a large amount of coalbed methane. However, three years after the equipment package—which included US and European components—was purchased through a Singapore firm, the generator has yet to produce electricity from methane. Chinese and American experts suspect that the compressor was designed to use a concentration of methane that the mine is no longer able to achieve.

The problem may lie elsewhere in the system, but the failure of the generator to produce electricity probably could have been avoided through the purchase of a full service and training package—and more careful planning. A comprehensive assessment could have indicated whether Fushun was the most promising area for CBM recovery and use. Feasibility studies would have indicated if the mine had long-term gas availability and if the project was appropriately designed; a clearinghouse would have transferred the lessons learned at Fushun throughout China to facilitate better results in future projects. These three components ultimately may prove key in convincing Chinese planners at both the national and local levels of CBM's potential.

Photo courtesy of Jessica Poppele

An EPA coalbed methane fact-finding mission visited several mines last fall, including Zhongliangshan mine in Sichuan Province.

Seeking foreign technologies

Though the extent to which China will seek to recover and use coalbed methane depends on MOE and the State Council, foreign companies with CBM expertise may well discover business opportunities opening up over the next decade. Surface methane-recovery techniques, though less commonly used in China than in other countries, may have potential applications in Chinese mines; current Chinese methods include recovering methane from inside the mine in working seams, adjacent seams, and gob areas (*see* box). Some of the foreign services and technologies likely to be needed include:

- Geological assessments to charac-

The Global Environment Facility, a $1.5 billion multilateral fund to be administered by UNEP, UNDP, and the World Bank, will provide Bank-eligible countries (including China) with funds for a variety of projects, including mitigation of greenhouse emissions.

terize recovery sites and determine optimal recovery methods;
- Consulting services to prepare economic feasibility and market assessments;
- Underground prospecting equipment to survey the layout of coal seams;
- Software to model CBM reservoirs and optimize recovery operations;
- Portable monitoring equipment to measure accurately underground gas quality and quantity;
- Drilling technologies to improve recovery efficiency, particularly for long-hole drilling, multiple holes, and "down-in-hole" drilling;
- Hydraulic fracturing technologies to increase permeability in coal seams;
- Improved recovery systems, including high-efficiency pumps, pumping stations, steel or cased pipelines, and storage tanks; and
- Efficient natural gas appliances to use in surrounding communities, including stoves and heating systems.

Financing purchases of these services and technologies will require some flexibility on both the Chinese and foreign sides. The few foreign companies that have been active in CBM recovery in China to date have found central and local authorities very interested in their services (*see* box). Other companies report that barter trade of imported foreign equipment for coal and other Chinese exports is also possible.

Funding from bilateral and multilateral aid organizations may also play an important role in the near future. The World Bank, Japan's Overseas Economic Cooperation Fund (OECF), the United Nations Environment Programme (UNEP), and the United Nations Development Programme (UNDP) are all reportedly exploring options for CBM projects in China.

International interest in the problems and potential of CBM, in fact, could be instrumental in developing China's CBM resources. The international community is deeply concerned over the threat of global warming, and keenly aware that developing countries, because of their limited energy choices and rapid economic growth, will find it increasingly difficult to balance energy and environmental needs. Technical assistance and funding to developing countries will be provided to help them conserve energy, convert to cleaner fuels, and reduce greenhouse gas emissions. The Global Environment Facility, a $1.5 billion multilateral fund to be administered by UNEP, UNDP, and the World Bank, over the next three years will provide Bank-eligible countries (including China) with funds for a variety of projects, including mitigation of greenhouse emissions. With such assistance for equipment purchases, institution building, and training, Chinese recovery of CBM will likely hit double-digit growth rates over the next decade. 完

Drilling for Gold?

Seamgas, a joint venture between USX Engineers & Consultants, Inc. and Australian-based BHP Engineering, is one of a handful of foreign companies to explore CBM prospects in China. Phil Malone, president of GeoMet, Inc., an Alabama-based company working with Seamgas in China, recently spoke with Associate Editor Vanessa Lide about the potential for CBM recovery in China.

CBR: *What prompted Seamgas to look to China?*

Malone: Seamgas became interested in China because we felt there was a real need there for the technology being developed in the United States to produce methane from coal seams. After an initial visit in 1988, a trip last June revealed that the Chinese were very enthusiastic about our services. At both the national and local levels, there was great interest in using methane from coal mining operations, particularly in using vertical wells which would drain the coal prior to mining. Discussions are continuing and we hope to finalize arrangements for initial geologic evaluations in the very near future.

CBR: *What are the biggest barriers to your operations?*

Malone: Though interest in our equipment and services is great, arranging financing remains a problem. At times, we've considered barter arrangements to cover our costs—our Chinese counterparts have even offered to trade us rugs and coal for technology. We're still optimistic that the financial details can be worked out.

CBR: *Based on your visits to China, do you feel there is great potential for CBM recovery?*

Malone: Though there may be far greater logistical and political problems in China than in other places we work, such as Australia, Europe, and the United States, the growth of the coalbed methane industry in China will almost certainly be phenomenal. Future growth, however, may be constrained until China's infrastructure is developed enough to move energy where it is needed most. But we've seen a lot of interest in producing methane from non-mining areas, and there are large areas in China where the coal is too deep to mine—but not so deep that we can't get at the methane.

The Rise—and Fall—of Antaibao

Occidental Petroleum is looking for a way out of the troubled venture

Martin Weil

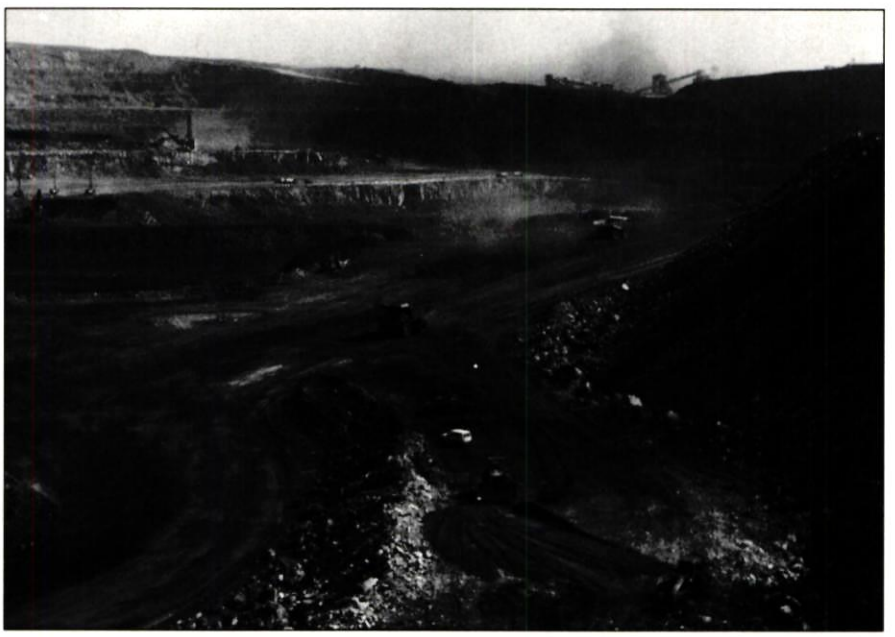
The recent death of longtime Occidental Petroleum Corp. Chairman Armand Hammer brings the troubled story of the Antaibao open-pit coal mine to a climax. The $700 million joint venture between Occidental and a host of Chinese partners—led by the China National Coal Development Corp. (CNCDC)—has been plagued by economic, technical, and bureaucratic problems almost from the time the contract was signed in 1985. But the personal commitment of Hammer and Chinese supreme leader Deng Xiaoping, which elevated the project into a symbol of China's open door, kept the project going while Hammer was still alive.

Occidental may find withdrawing from the project almost as tortuous as setting it up.

Hammer's successor Ray Irani clearly lacks this political commitment, and has publicly announced his intention to withdraw Occidental from the unprofitable project. Given the economic and political complexities of Antaibao, however, Occidental may find withdrawing from the project almost as tortuous as setting it up.

Counting on clout

Politics have been instrumental in Occidental's participation in Antaibao (part of the larger Pingshuo coalfield in northern Shanxi Province) ever since Hammer first entered the bidding to become part of the project in 1979. According to Chinese sources, Occidental beat out two US competitors largely due to Hammer's assiduous personal cultivation of Deng Xiaoping and previous contacts with leaders throughout the communist world. Occidental also made extravagant promises on a number of issues, ranging from the scale of the mine to Chinese workers' salaries to the amount of coal it could export.



Antaibao, one of the largest open-pit coal mines in the world, has been controversial since its inception in 1982.

By the time the feasibility study began in 1982, however, the economics of the project had become shaky in light of falling world coal prices. Occidental was forced to hedge a number of its earlier promises and began to pressure the Chinese side to grant it various concessions. On several occasions during the negotiations, disputes at the working level came close to derailing the project, but Hammer and the Chinese political leadership always intervened to enforce a solution. Numerous public ceremonies throughout the negotiation stage bound the prestige of Hammer and the Chinese leadership ever more tightly to the consummation of the project.

The two sides eventually reached a complex final agreement following two key Chinese concessions. The

Martin Weil, manager of the Council's Business Advisory Services, has written frequently on China's coal industry.

most significant involved reducing Occidental's share of the venture from 50 to 25 percent, with the Bank of China (BOC) assuming the other 25 percent. BOC thus took on half the risk of the $475 million loan—syndicated by 39 banks—that ultimately financed the foreign exchange costs of the project. However, under the financing agreement, Occidental and BOC were responsible for the loan only until project "completion," defined as the time when the project achieved a variety of technical and economic targets related to production volume, coal quality, and export pricing. After completion, Occidental and the BOC were to be liable for only $100 million of the loan, with banks depending on the cash flow of the project itself for the remaining $375 million. The Chinese consortium holding the remaining 50 percent of the venture—CNCDC, China International Trust and Investment Corp. (CITIC), and Shanxi Province—was to bear no responsibility for the foreign exchange loan.

The other important concession was the China National Coal Import/Export Corp. (CNIEC)'s agreement to buy Occidental's share of the export coal at prevailing international prices, a complete retreat from Occidental's earlier promise to market the coal itself.

The glamor fades

The operational phase of Antaibao has proven even more problematic than the negotiation phase. Although getting the mine—one of the largest open pits in the world—up and running was undeniably a major accomplishment, the project has not yet been certified as "complete" despite being operational for three years. In 1990, its best year in terms of production, it only produced at about three-quarters of its 12 million tonne capacity and reportedly suffered a $31 million loss. Exports were probably less than half of the 8-9 million tonnes originally anticipated by Occidental.

Some of the problems contributing to the mine's lackluster performance have been technical, such as failure of the coal-washing plant to operate properly due to defective equipment (primarily from China) and lower-than-expected coal quality, with high sulfur content in one seam and high ash content in another. Another problem has been continuing low world coal prices, which have prevented the venture from earning the foreign exchange necessary to break even.

Other problems plaguing the venture stem from the lack of cooperation among the joint venture partners and between the venture and the Chinese bureaucracy. For instance, disagreements among the partners over mining strategy resulted in a 1989 decision to increase output of high-sulfur coal, which can only be sold on the domestic market for local currency. Disputes over marketing and pricing have also been common; Occidental sources claim that CNIEC at times has failed either to live up to its promise to buy coal at the agreed-upon minimum price or to aggressively market the coal abroad. The venture has also been hampered by its inability to obtain adequate supplies of necessary raw materials or an allocation of rail cars sufficient to ship enough coal to the coast to meet export targets, despite contractual promises. Many Occidental officials believe that their Chinese partners have deliberately exacerbated these problems in spite of the political pressures that forced them to make the contractual concessions to Occidental in the first place.

Minimizing the loss

These well-publicized problems will probably dampen the interest of potential foreign buyers in Occidental's share of the project. There has been some speculation that Shell (UK), which has periodically purchased Chinese coal and previously explored investment in the Chinese coal industry, may be approached. Japanese companies may also be considered in light of Japan's interest in securing coal resources and the heavy participation of Japanese banks in the Antaibao loan syndication.

Occidental's first option, however, will undoubtedly be to sell its share to its Chinese partners under a complex formula outlined in the contract. As the negotiations—which began in earnest in early February—proceed, however, China can be expected to drive a hard bargain on such issues as asset valuation. The two sides are also likely to clash over whether the circumstances of Occidental's departure merit some compensation to the Chinese side. The contract itself, despite detailed discussion of different buyout scenarios, may be ambiguous on this issue.

Certainly, the lukewarm attitude of potential foreign investors will not strengthen Occidental's hand with the Chinese. But China may again find itself at least partly constrained by the same factor that has driven Antaibao all along—the desire to save the political face of its leadership and avert the failure of a flagship project. If the alternative is default on the syndicated loan or extensive public airing of Antaibao's problems in a way damaging to China's prestige—not to mention BOC's credibility abroad—the leadership could find itself inclined to reach some kind of compromise with Occidental or with a future buyer. In which case China will have to consider how to pacify 39 nervous banks, as well as how to operate the mine in the absence of its present expatriate managers and technicians, who appear to be making plans to find other employment.

No matter how the practical details work out, however, the project is likely to become a metaphor for the disillusionment of Chinese and foreigners alike in the twilight of the Deng era. Political patronage created Antaibao—but not only was it unable to ensure the ultimate success of the project, it appears to have contributed significantly to its failure. 完

会员动态 Project Notebook

Door-to-Door in Guangzhou

Avon is calling on Chinese consumers

Kelly Nelson

On November 14, 1990, Avon Products Inc., the world's largest cosmetics company, began knocking on doors in China. With more women than the United States and Europe combined, China offers a vast market for the purveyor of beauty products. Though the company's initial foray into the China market has been modest, Avon has hopes of turning China into a top customer.

Avon in Asia

Perceiving tremendous economic potential in Asia—by the year 2000 the region is expected to have two-thirds of the world's population and a GNP exceeding that of North America and Europe combined—Avon first entered the Asian cosmetics market in 1985. Since then, the company has become the leading seller of cosmetics in the region in terms of rate of growth and earnings. Sales in 1989 topped $400 million—13 percent of the company's total revenue—marking an increase of over 60 percent since 1985. Avon's recent move into China is part of the company's strategy to position itself to capitalize on the region's future growth; Avon predicts Asia eventually will become its most profitable region of operations—and that China will become its sales leader.

This calculation is based on growing Chinese interest in consumer goods, purchases of which have grown in recent years as the buying power of the population has increased. Imports of cosmetics, including perfumes and toiletries, have risen dramatically, and domestic production has increased as well. In 1987, for example, Chinese cosmetics imports from Hong Kong stood at $5.4 million; by 1989 they had more than doubled. Avon, hoping to cash in on this trend, has made conservative 1991 sales estimates of $1.5 million for its new China line. The company believes that eventually the market may yield annual sales of $500 million to $1 billion.

Avon predicts Asia will become its most profitable region of operations and that China will become its sales leader.

Finding the right partner

After six years of searching for the appropriate opportunity to enter China, Avon entered into an equity joint venture with the Guangzhou Cosmetics Factory, a local factory that had several years' experience manufacturing its own line of skin care products for local retail sale. Other partners from various parts of China were considered, according to George Gustin, consultant to Avon's Hong Kong/Pacific regional office's new markets department, but the Guangzhou Cosmetics Factory "simply seemed to be the best fit" in terms of sales and manufacturing experience, knowledge of government and industry procedures, and facilities. The Guangzhou Cosmetics Factory also agreed to adopt Avon's traditional sales strategies and marketing systems.

Avon holds 60 percent of the Avon Guangzhou venture, while the remaining 40 percent is held by the Guangzhou Cosmetics Factory. The joint-venture contract was signed in January 1989 after a little over a year of negotiation, making China the ninth Asian country in which Avon has manufacturing facilities. Avon has invested about $1 million in the venture, primarily in new equipment to upgrade the local partner's factory, and has also provided cosmetics formulas and technical expertise. Future investment to expand production is expected since the facility may well hit capacity by mid-year.

Though Avon was granted rights to sell nationally, it thus far has centered its operations on Guangdong Province, and the city of Guangzhou in particular. The company believes Guangdong consumers are more likely to buy luxury items such as beauty products because of the high per capita income enjoyed in the province—around $700 annually, double the national average. Guangdong Province is also highly populated; over 60 million people live within 100 miles of the newly opened Avon venture. After a couple of years of selling in South China, the venture plans to expand to other regions.

Though the size and scope of the Avon joint venture are fairly standard, the company apparently had to receive special permission to employ

Kelly Nelson regularly reports on foreign operations in China for The CBR.

its traditional door-to-door sales strategy. Avon claims to be the first company of any kind—foreign or domestic—authorized to sell directly to the Chinese consumer. Approval was granted by the Ministry of Foreign Economic Relations and Trade and the Ministry of Light Industry following several months of discussions.

"Ya fang dao fang"

The 60,000 sq ft Avon Guangzhou venture has a general manager from Hong Kong and 104 Chinese employees, of which 25 are sales managers. Local management and staff were recruited and trained at a newly established training center utilizing Avon marketing and sales programs and materials. The venture utilizes recruiting methods Avon employs in other markets around the world, relying primarily on newspaper advertising, initiatives by local sales managers, and personal recommendations. Initial plans set a goal of training approximately 4,000 sales representatives in the Guangzhou area by the end of 1991—this number will likely be exceeded. Eventually, Avon hopes to have 2 million sales representatives around the country; in comparison, it employs 500,000 representatives in the United States.

Avon Guangzhou sales representatives, as independent contractors, receive a commission on each product they sell. Avon estimates the representatives will earn between $1.50-2.00 per hour—approximately twice the average Chinese worker's hourly wage—based on an overall hourly sales volume of $5-8. The representatives sell from sales brochures, similar to methods employed in the United States, and pick up orders from local service centers, one of which has been established in downtown Guangzhou. A second center is expected to open this spring. The representatives receive payment for goods—which average around $3 each, midway between locally produced products and foreign imports—upon delivery to the customer.

Market research has identified the "typical" Avon customer as an urban resident between 20-35 years of age. She may use cosmetics on either a regular or occasional basis, but is willing to spend more to purchase foreign products. After gaining a better understanding of the Chinese market, Avon Guangzhou expects to adapt and expand its line to better meet the demands of the Chinese consumer. The 85 makeup and skin care products currently sold by Avon Guangzhou already represent the largest cosmetics line available in China, locally or foreign-produced. Skin care products have been the most popular items offered so far.

Avon Guangzhou manufactures the largest cosmetics line in China.

The average cost of Avon products is $3, placing them midway between locally produced goods and foreign imports.

Wendy Lam, China's first Avon lady, goes door-to-door Chinese style.

Photos courtesy of Avon Products, Inc.

Balancing foreign exchange

Sourcing locally for Avon products has proven difficult in China. Currently, the entire China line is manufactured domestically with imported ingredients and packaging. Avon expects to begin sourcing some items locally this year and says that eventually all materials will be localized.

Though Avon Guangzhou's contract apparently does not require the venture to export a specific percentage of production, it does plan to export some of its output to help offset the cost of imported raw materials. In addition, *renminbi* will be used to purchase Chinese products such as gift baskets for use in Avon promotions—in 1989 the company purchased some $50 million worth. Thus for the time being the venture has comparatively few concerns about balancing foreign exchange.

In for the long term

According to James E. Preston, chief executive officer of Avon Products Inc., "it is inevitable" that China will someday be Avon's largest market. Though there likely will be an increase in foreign investment—and therefore competition—in the beauty industry as other companies follow Avon's lead, Avon is prepared to meet the challenge. Preston states that Avon's goals in China are to "build carefully and patiently" and prepare for the long term—to "be in China for the next 100 years." By getting in early, Avon will certainly have an advantage in name recognition and may benefit from the novelty of its door-to-door approach.

The company's success thus far—sales are running well ahead of initial projections—reflects the pent-up demand of the Chinese populace for consumer goods and underscores the difficulty Chinese officials will continue to face in luring foreign firms away from the domestic consumer market to such strategic sectors as infrastructure development. While the priority sectors may face difficult times ahead, it looks like China's beauty industry—and Avon's future—have pretty prospects.

Expanding Sino-Soviet Trade

The action is along the border

Sharon E. Ruwart

Since economic relations were formally renewed in 1983—after nearly 15 years of being held hostage to political differences—Sino-Soviet trade has remained small, as both countries are concentrating on developing sources of hard currency and advanced technology which neither can offer the other. Central government-to-government agreements are still the mainstay of trade, though measures introduced in both countries in mid-1988 authorized provincial and local organizations on both sides to conduct direct trade as well as establish cooperative projects and joint ventures. These developments have led to rapid growth in provincial and border trade and the creation of dozens of joint ventures in the border areas.

Significant problems hamper the further development of Sino-Soviet commercial relations, however, in particular the inadequate financial and transportation infrastructures in both countries. Political strains could also limit commercial expansion. The growing contrast between the policies of Beijing and Moscow has been a cause of concern to Chinese leaders, who are fearful of the pervasive effects of *glasnost* and *perestroika*—especially since Tiananmen. Nevertheless, Sino-Soviet trade has grown increasingly dynamic at the local level, where political pressures have less impact. Thus for the foreseeable future, pragmatism will continue to prevail over politics in trade relations, as both sides prioritize the search for profits.

Despite the expansion in trade volume, the types of commodities exchanged remain much the same today as in the 1950s.

How much cement for a bolt of silk?

The bulk of Sino-Soviet trade is still conducted according to annual government-signed protocols, as it has been since the two countries were close comrades in the 1950s (*see The CBR*, May-June 1987, p. 12). Since neither the Soviet ruble nor the Chinese yuan can be converted to hard currency, trade is typically conducted by barter, with commodities roughly valued in neutral Swiss francs according to world market prices.

Each year, Beijing and Moscow sign an agreement setting an aggregate figure and outlining approximate amounts of the main commodities to change hands. For example, the 1989 protocol set total trade at $3.1 billion. China was to export tungsten ore, agricultural products, knitwear, thermos flasks, handicrafts, and machinery in exchange for steel products, nonferrous metals, wood, fertilizer, generators, electric locomotives, cars, airplanes, and refrigerators.

The 1990 bilateral trade agreement totalled $3.3 billion—some 13 times greater than the 1981 total, according to China's State Statistical Bureau (*see* graph). By Chinese measures, the USSR now ranks as China's fifth-largest trading partner, though it accounts for just 3 percent of China's overall foreign trade, lagging far behind Hong Kong/Macao, Japan, the United States, and Germany.

Despite the expansion in trade volume, the types of commodities exchanged remain much the same today as in the 1950s. China mainly exports foodstuffs, light industrial goods, and production materials in exchange for power-plant equipment, steel, and transport machinery. Thus far, exchanging cement for silk and timber for textiles has generally worked to both sides' advantage, especially in terms of meeting local needs in the border areas. The lack of convertible currencies, however, places fundamental constraints on Sino-Soviet trade, for decentralization of both countries' trade regimes has made provincial organizations (and even some factories in China) responsible for their own profits and losses. Now, rather than trade with

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cash-poor neighbors for the sake of fulfilling centrally mandated trade targets, they have both greater authority and greater incentive to sell their products to hard-currency purchasers. As a result, actual government-to-government trade has declined in real terms over the past two years, even as the totals set by annual protocols have increased.

With both countries saving their best products for hard-currency customers, quality is also a chronic problem. As a Chinese economist once noted about barter trade, "We only sell each other things that we can't sell for foreign exchange. They send us low-quality wood, and we send them second-class canned food." With reputations for shoddy goods, neither country is in a good position to withstand competition in each other's markets, as evidenced by the growing popularity in both countries of higher-priced Western and Japanese goods.

Localizing trade links

Though government-to-government trade may be static, lower-level commercial links along the 7,500 km Sino-Soviet border have expanded rapidly in recent years. While reliable trade statistics are virtually impossible to come by given the small size of most border transactions—which are typically conducted by barter—and the fact that most take place outside official trade channels, both sides agree that border trade grew faster than overall trade throughout the 1980s. Statistical measures of the phenomenon vary greatly: China's *Jingji Ribao* asserted, for example, that border trade totalled roughly $10.6 million in 1983 and leapt to about $1 billion in 1989, while another Chinese source claimed that 1988 border trade hit only $274 million. (Differences in statistics may reflect differences in definitions).

Both sides agree that border trade grew faster than overall trade thoughout the 1980s.

Part of the reason border trade is so difficult to track stems from the nature and amounts of the trade. Exchanges are often measured in units and truckloads, while the commodities—though similar to those traded under official protocols—tend to be sourced locally and targeted to meet specific local needs. One of the first reported transactions of the new trade era was a 1983 shipment of Harbin watermelons sent across the Amur River in exchange for Soviet fertilizer. In another instance, a harried Soviet official from the Amur region reportedly pleaded with the head of China's Heihe Trading Co. in Heilongjiang Province to send a shipment of 30,000 colored scarves in time for sale to local Soviet citizens for Women's Day. The scarves were duly procured and reportedly sold out in two days.

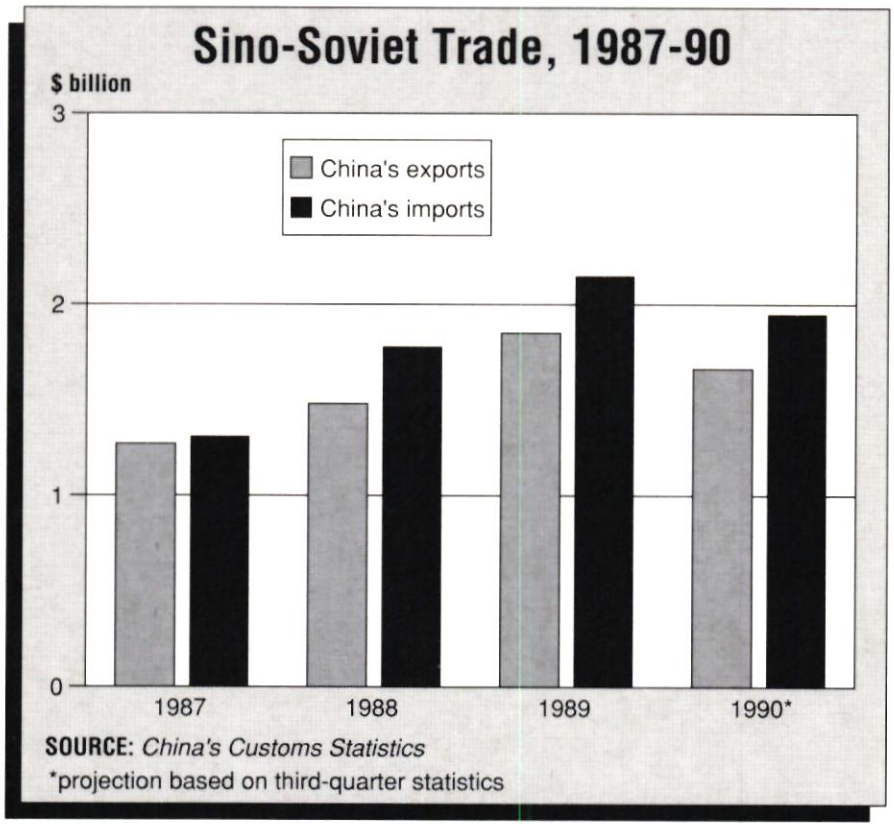
Privileged by proximity

Trading across the border is hardly a new phenomenon. For centuries, trade has taken place across the Ussuri and Amur rivers as well as across the long land border to the west. Not surprisingly, China's northern provinces account for most local trade with the USSR, with Heilongjiang Province taking a leading role. Nearly 100 towns and villages there face Soviet settlements directly across the Amur and Ussuri rivers, making for natural trade links (*see* map).

Vladivostok and Khabarovsk, the two largest cities in the Soviet Far East, are the principal ports for Sino-Soviet trade, and both are linked by waterways to Heilongjiang's capital city, Harbin. Formally reopened to Soviet trade in July 1989—months after small shipments had actually resumed—Harbin is the largest inland transshipment port in northeast China and is connected with seven large Soviet cities via the Amur and Songhua rivers. Sailing time from Harbin to Khabarovsk is approximately five days. A twice-weekly air route between the two cities also opened in late 1989.

Another successful Heilongjiang trade port is Heihe, which faces Blagoveshchensk across the Amur River; the two cities are the largest in the region after Khabarovsk, Vladivostok, and Harbin. Blagoveshchensk is connected by a 109-km railway to the main trans-Siberian line across the USSR, which allows imported goods to be shipped further inland. Heihe's 1989 trade with the USSR was reportedly valued at $100 million.

Other major trading ports in Heilongjiang include Suifenhe, a port city linked with Vladivostok by waterway and a new highway as well as the site of a new 10 sq km ETDZ to



attract Soviet investment; and Tongjiang, Fujin, and Jiamusi, all located on the Songhua River.

Following in Heilongjiang's footsteps are Xinjiang, Inner Mongolia, and Jilin Province, all of which have aggressively pursued border trade. Inner Mongolia, for example, reported roughly $119 million in trade with the USSR in 1989, while Xinjiang established the first frontier phone link to the Soviet Union, hooking up the neighboring Kazakh Republic in November 1990.

Bullish on the bear

While geography has given China's northern provinces an edge in Sino-Soviet trade, growing opportunities have attracted other provinces to trade as well. As part of the efforts to boost Chinese exports, Beijing in 1988 abolished restrictions limiting border trade to small volumes of locally sourced commodities and eased bureaucratic procedures for transporting goods between provinces. As a result, an ever-increasing percentage of goods exported through China's northern provinces to the USSR comes from further south. Recognizing the new markets across the border, South China has also begun developing Soviet contacts by attending and hosting trade fairs for Soviet businesspeople and hiring Heilongjiang companies to act as agents.

Some provincial organizations are cutting out northern middlemen and establishing direct links with the Soviets. In March 1989, for instance, a delegation from Fujian Province held direct trade talks and completed barter agreements with Soviet traders, who ranged from the Ministry of Chemical Industry to the Vladivostok Fruit and Vegetable Co. Numerous other provincial organizations have since opened negotiations on their own. Over 10 large corporations in Shenzhen are reportedly doing business directly with the USSR, chiefly exporting electrical goods. Shenzhen companies have sold home electrical appliances, ground satellite receiving systems, mini-computers, clothing, and cars.

A new export: Manpower

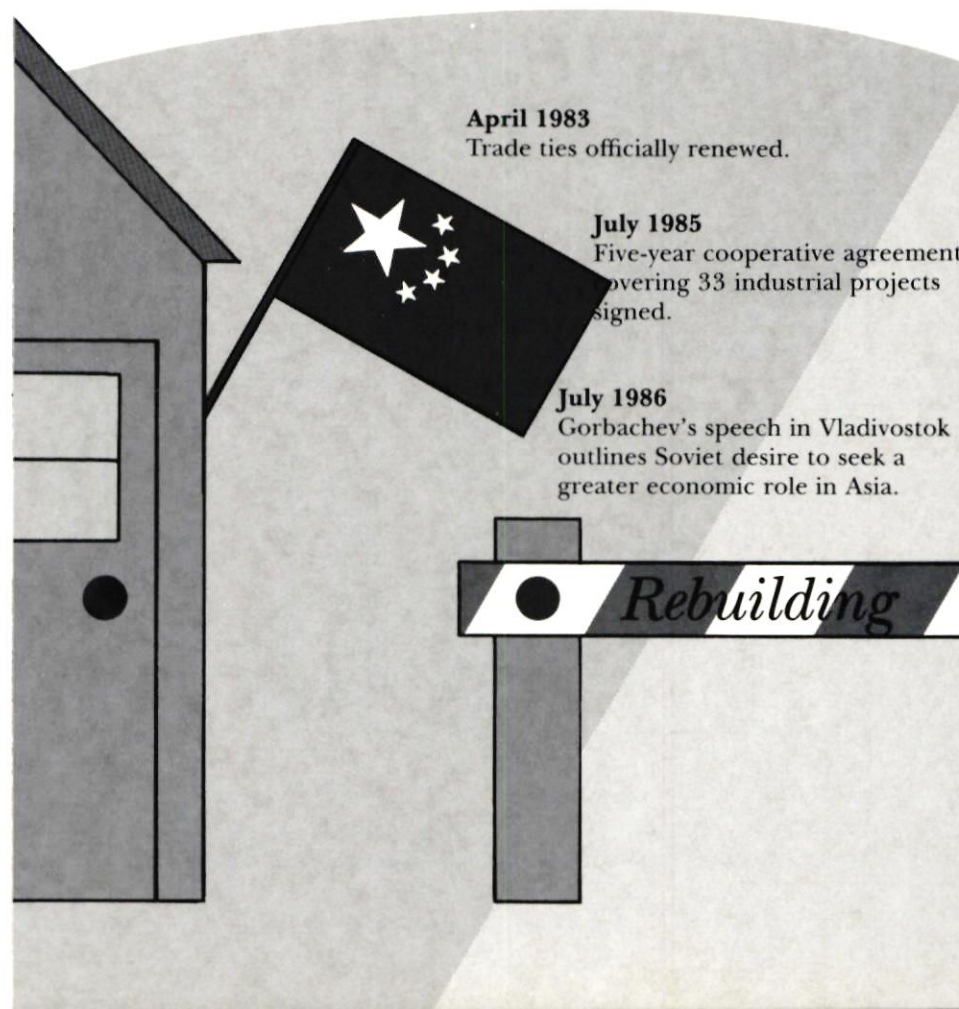
Although southern provinces may be increasing sales to the Soviets, the northern provinces have one commodity the others cannot realistically offer: labor. Local-level organizations in the north have begun contracting out construction workers, lumberjacks, vegetable growers, and railroad repairmen to work on projects in sparsely populated Siberia. With only 30 million people in the vast region, the USSR desperately needs manpower to tap Siberia's wealth of natural resources. In past years the USSR has imported laborers from North Korea, Vietnam, Cuba, and East Europe, but China's proximity and abundance of underemployed workers makes it a more attractive source of manpower.

Though reports are sketchy, it appears that Chinese contract laborers are generally paid as much as—or more than—Soviet workers or their compatriots back home; since the ruble is nonconvertible, however, they are often paid in kind. Work units, too, prosper from such arrangements. A Harbin company that sent 300 Chinese workers to the Khabarovsk diesel plant in 1989-90, for example, was compensated in diesel engines. Earnings from the sale of the engines were presumably distributed to the workers in Chinese currency. Another agreement called for the city of Suifenhe to send 54 mechanics to a Soviet refrigerator assembly plant. For one year's work each Chinese was to receive a salary immense by Chinese standards—and a new refrigerator.

While precise figures are unavailable, over 10,000 Chinese workers were reportedly sent to the USSR in 1988, 15,000 in 1989, and up to 20,000 in 1990. A central-level Sino-Soviet agricultural cooperation committee has even discussed the idea of sending Chinese farm workers all the way to the Soviet Ukraine.

The long arms of Beijing . . .

One main reason that border trade has flourished is the decentralization of China's trade regime. While in 1983 only a single organization in northeast China was permitted to trade with the USSR, today roughly 190 organizations throughout the country are permitted to do so. In the rush to do business over the border, however, many Chinese organizations contracted to supply goods that ultimately could not be obtained from interior provinces, leaving agreements unfulfilled. In addition, many traders sought a



Artwork by Elizabeth Stewart

competitive edge by lowering the prices of Chinese exports, and then jacked up the prices of imported Soviet goods.

Beijing sought to eradicate such speculative trade activity by embarking on a "rectification" program in 1989, similar to the central clampdown on aggressive southern provinces earlier in the decade. While few Chinese enterprises lost their trading privileges as a result, each was assigned to one of roughly 20 trading groups allotted loose import and export targets in an effort to keep trade monitored and balanced. This essentially administrative move appears to have done little to stem the growth in regional trade with the USSR, though it may make it easier for Beijing to monitor.

Another problem with southern precedents is rivalry between the northeastern border provinces and those of the coast and interior. Since 1988, when all provinces were authorized to trade with the USSR, some southern provinces have come to resent the natural advantages of proximity enjoyed by those in the north. Shanghai in particular, as a major producer of the kinds of light industrial goods in demand in the USSR, resents Heilongjiang's dominant position in border trade.

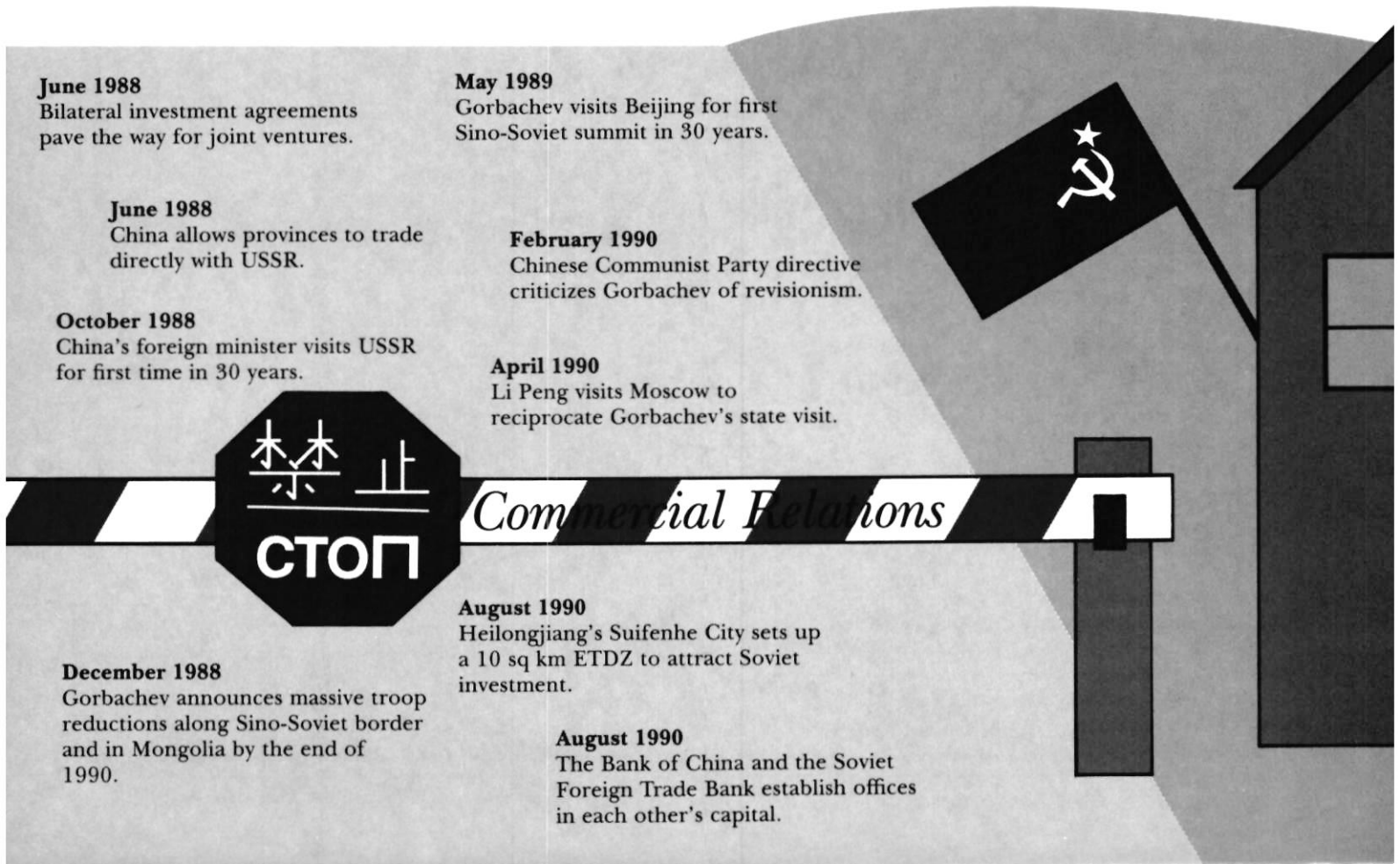
These feelings boiled over during a large trade fair held in Harbin in June 1990. After the first four days of the two-week fair, the Northeastern Trading Group, consisting of companies from the three northeast border provinces, had concluded $175 million worth of contracts, with Heilongjiang firms alone claiming $83 million. The East China Trading Group, representing companies from Jiangsu and Zhejiang provinces and Shanghai, had signed contracts worth just $16 million—Shanghai's total was a mere $80,000. Shortly after these figures were announced, Shanghai authorities publicly accused Heilongjiang traders and officials of actively blocking access by other Chinese to the 2,000 Soviet businesspeople at the fair. The gravity of the situation was underscored when the Heilongjiang provincial governor made a public apology to the Shanghai delegation.

The uneven regional distribution of Sino-Soviet trade highlights the larger question of how to balance foreign trade benefits among Chinese provinces. As a result, organizations on the border may be vulnerable to stricter controls in the future, as Chinese authorities attempt to distribute foreign trade benefits evenly on a national level.

. . . and Moscow

Trade restrictions have also been adopted by the Soviets. To stabilize the domestic supply of key materials in the face of a dramatic drop in national productivity and breakdown of internal distribution networks, the USSR in 1989 implemented a licensing system to restrict exports of nearly 200 types of goods, including cement, timber, fuels, metals, and fertilizer. This Soviet "rectification" drive also slashed the number of organizations authorized to trade abroad from 189 to 26.

In response to the Soviet move, China's Ministry of Foreign Economic Relations and Trade (MOFERT) is considering reducing the number of companies authorized to trade with the USSR and instituting a permit system for the export of "essential" items. Earlier tightening measures already had some impact on border trade in 1990; if enforced

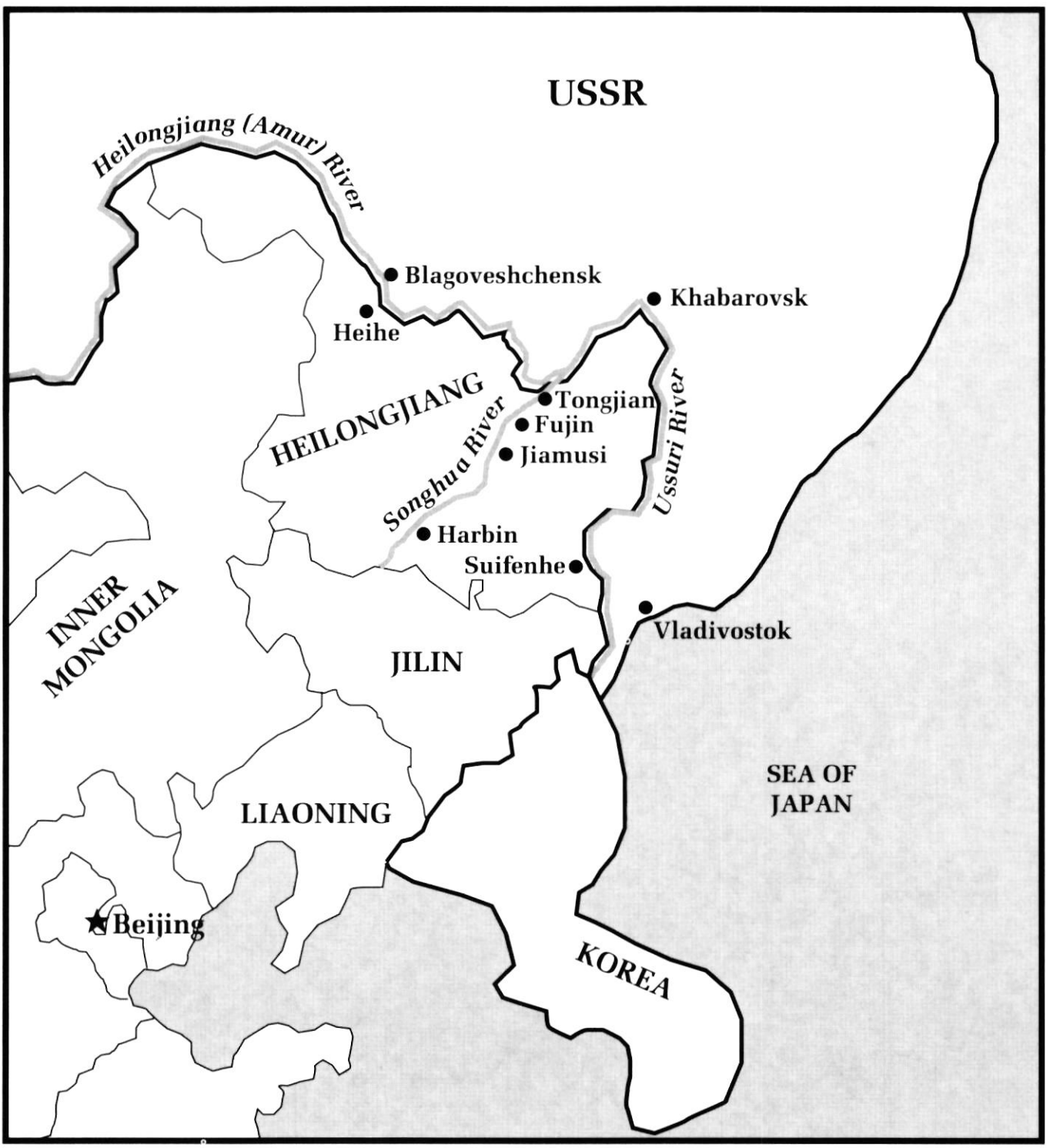


more strictly or added to, they may have greater impact in the future.

Road, river, and rail blocks

A longer-term barrier to contract fulfillment is the inadequacy of transport links between the two countries. Trade between border settlements thrives in winter, when trucks can be driven across the frozen rivers, but two-thirds of bilateral trade is transported by rail over longer distances, and facilities at the principal northern trading ports have not been renovated since the 1950s. Ports on both sides lack mechanized loading equipment, containerization facilities, and warehouses. Incidents of goods being damaged during shipping or spoiled by rain or snow while sitting on docks and in railyards are common. The six-inch difference in width between the Soviet and Chinese rail gauges also contributes to delays and damage, since all goods have to be reloaded upon reaching the border. Water transport links between the two countries are rapidly expanding, but without concurrent infrastructure improvements in the ports themselves, the increased number of cargo vessels will only worsen the congestion.

To address these problems, in 1986 the two countries revived a central-level transport working group, first created during the 1950s to improve transport links. One major accomplishment is the joining of the



Chinese and Soviet railways at the Xinjiang border, which creates a link of 10,800 km stretching from Lianyungang in Jiangsu Province across the USSR and Europe all the way to Rotterdam in the Netherlands. Expected to open this year, it may alleviate some of the bottlenecks hampering trade.

The recent changes in both the Soviet and Chinese trade systems, along with serious transportation problems, have contributed to a slowdown in border trade growth in 1989-90, and will likely constrain trade for at least several years—but this may not be such a bad thing. Raising the rate of contract fulfillment by first making sure that appropriate licenses can be obtained and transportation can be arranged will do more to increase trade volume than racking up on paper new records of contracted deals impossible to realize.

Going beyond trade

Although still the mainstay of the economic relationship, trade is not the only area where Sino-Soviet commerce is expanding. Cooperative agreements and investments have increased in number and scale over the last few years, adding a new dimension to Sino-Soviet economic ties. In July 1985, for example, the two countries signed a five-year economic and technical cooperation agreement outlining plans for joint construction of 33 major industrial projects in China. Though roughly half the projects were later cancelled, some—mainly renovations of old, Soviet-built facilities—are being completed, and Premiers Li Peng and Nikolai Ryzhkov signed a second protocol covering the period 1990-2000 during Li Peng's April 1990 Moscow visit. This protocol encourages cooperation in the nonferrous metals, petrochemicals, natural gas, agriculture, transportation, and public health fields, though it does not specify individual projects.

In addition to this agreement, Li and Ryzhkov signed five other accords further broadening and defining the Sino-Soviet economic relationship, including an agreement calling for the USSR to extend commodity loans (involving rails, timber, trucks, and diesel oil) to China to finance the construction of the Xinjiang-Kaza[illegible]n railway

A Sampling of Sino-Soviet Trade and Investment

JOINT VENTURES

The **USSR** and the **Hainan Provincial Reclamation Corp.** agreed to finance jointly the establishment of coffee and tea production bases in Hainan Province in April 1989.

Ministry for Production of Inorganic Fertilizer (USSR) and the **Xinjiang Organic Chemical Plant** signed an agreement to establish a $4.9 million paint factory joint venture in Alma Ata, Kazakh Republic, June 1989.

USSR and the **Shihezi Bayi Woolen Mill** in Xinjiang established the $6.9 million Double Pigeon Woolen Textile Co. Ltd., a 50-50 joint venture to produce woolen material, in November 1989.

USSR and **Suifenhe City, Heilongjiang Province**, established a $2.83 million, 26-kiln mechanized brick factory joint venture in December 1989.

USSR and the **Wuxi Washing Machine Plant** agreed to establish a washing machine plant in Kuibyshev, USSR, in January 1990.

Gulistan City, USSR and the **Dalian Foreign Economic and Trade Corp.** agreed to jointly establish and operate a 1.5 million ruble hospital in Gulistan City in February 1990.

USSR and the **Huating Group, Shanghai,** established the Shanghai-Leningrad Co. Ltd. joint venture to produce foodstuffs, beverages, and other commodities in April 1990.

USSR and the **Nanjing Plant No. 528** established a color photo enlarging and developing center joint venture in Leningrad in June 1990.

Soviet Far East Cold Storage Transport Fleet, Olympic Sports Center of Vladivostok City, and Soviet Far East Academy of Sciences and the **International Technological and Trading General Co., Heilongjiang Province** established the Xingan Restaurant joint venture in Vladivostok in June 1990.

USSR established a shipping line joint venture in Harbin to sail on the Songhua and Heilongjiang rivers in August 1990.

BARTER DEALS

United Technology and Industry Exports Corp., USSR and the **Huaneng International Power Development Corp.** signed a barter trade agreement to exchange two thermal generating units for ship repair work and light industrial goods in December 1988.

USSR and **Fujian Province** traded agricultural plastic film for floor tiles in March 1989.

USSR and **Fujian** traded gasoline and diesel oil for filling station equipment and building ceramics in March 1989.

USSR and **Xinjiang** traded 400 goats, 38 oxen, 38 horses, and 20 foxes for 160 camels in November 1989.

Soviet Aviation Import/Export Corp. and **the Land Economic Group, Hainan** exchanged three Tupolev-154 and three Yak-42 airplanes for $92 million in garments and electric appliances in November 1989.

USSR Ministry of Electronics Industry and **Shenzhen Electronics** bartered $10 million worth of Chinese televisions, radios, and video cassette recorders for Soviet television picture tubes.

Sakhalin Oblast and **Shenyang City** bartered Chinese acupuncture needles and ice-making equipment for Soviet mineral fertilizer.

The above list is not intended to be comprehensive and has not been independently verified by The CBR.

(with China to repay the loan through exports of food and industrial products); a memorandum on loans allowing China to import Soviet power equipment and formalizing plans to build jointly a new nuclear power plant; and an agreement that China will offer credit toward the Soviet purchase of Chinese consumer goods. The consumer-goods credit is to be repaid in hard currency, which, according to Li Peng, should result in the trade of higher-quality goods and provide more incentive to local-level organizations to participate in cross-border trade.

The credit theoretically paves the way for all Sino-Soviet trade transactions to be conducted on a cash basis. But Li's announcement last April that cash would replace barter as of January 1, 1991 met with a cool reception; a senior Heilongjiang official publicly termed the idea "unworkable" given the shortage of foreign exchange among trading organizations on both sides of the border. Likewise, a MOFERT official claimed the directive would cause trade to decline, at least in the short term. Given such resistance, implementation of this directive likely will be derailed; moreover, the absence of follow-up discussions or directives and the lack of cash on both sides will likely keep Sino-Soviet trade on a barter basis for the forseeable future.

Economic issues are likely to dictate the course of Sino-Soviet commercial relations for years to come, despite growing strains in political ties.

Investment initivatives

Accompanying government-to-government cooperative projects have been a host of smaller initiatives that have sprouted up over the past two years at the provincial and local levels. Over 100 agreements have been signed for cooperative projects, along with over 20 joint venture agreements valued at $240 million—17 in the USSR and three in China. MOFERT estimates that 95 percent of the agreements are concentrated in border areas and managed directly by enterprises. Passage of a double taxation treaty and bilateral investment agreement in July 1990 may encourage such projects.

Virtually all of the joint ventures established so far are small-scale manufacturing projects or service enterprises. The Soviet partners tend to be provinces or cities, while the Chinese players are often large local factories. The Chinese generally obtain a cut of production or sales in exchange for materials and know-how. Most ventures are jointly run, with terms typically lasting 10 years.

As might be expected, Heilongjiang's Heihe City took an early lead in establishing joint projects with Soviet partners. Heihe has reportedly concluded 49 cooperative agreements, all to be set up in Blagoveshchensk. Highlighting the Soviet craving for consumer electronic goods, several projects involve radio and video cassette recorder production. The Yancheng Radio Plant in Jiangsu Province and Kazakhstan's Kargan Oblast, for example, will jointly construct a radio-cassette recorder plant using Chinese technology. The entire output, eventually planned for 100,000 units per year, is destined for the Soviet market.

An agreement for what was described in a Chinese journal as "the most technologically advanced Sino-Soviet joint venture" to date was signed in August 1990. The 10-year, $3.4 million venture, to be based in Tyumen, USSR, will produce Russian and English electric typewriters using Chinese production equipment and parts. The Chinese partners are the Beijing Qidi Computer Technique Developing Corp. and the Harbin Foreign Trade Corp.; their Soviet counterparts are the Commercial Center of Tyumen and the Tobolsk Oil & Chemical Co. All output, planned at 20,000-30,000 typewriters per year, will be sold in the USSR and Eastern Europe.

Problems in partnership

For the same reasons bilateral trade is destined to play only a tiny role in each country's economic development, joint investment projects are likely to remain limited in scope. It will not take long for each side to acquire from the other the fairly basic technology and expertise

Weaving closer links

Cooperation in textile production has proven an ideal match for China and the USSR. Chinese expertise in processing, particularly of silk and cotton, is far beyond Soviet capabilities, while the Soviets excel in flax and wool manufacturing. China lacks sufficient raw materials to fulfill production capacity; the USSR is the world's second largest cotton producer and also boasts enormous supplies of wool, flax, chemical fiber pulp, and even some silkworms. Yet due to inadequate domestic processing capacity, the Soviet market is starving for textile goods of all types.

According to a Chinese source, China's textile exports to the USSR totaled $441 million in 1986, comprising 30 percent of Soviet imports from China. This total has sagged in recent years—falling to $250 million in 1988 and about $220 million in 1989. China is counting on joint cooperation to help boost textile exports to previous levels. By helping the Soviets, the Chinese obtain part of the production in return.

Though the textile industry is highly centralized in both countries, some local cooperation has been achieved. For example, Xinjiang's Shihezi Bayi Woolen Mill and a mill in Soviet Kazakhstan reportedly established a 5,000-spindle mill in Xinjiang in November 1989. The ¥26 million joint venture will utilize Soviet machinery and raw materials and Chinese labor and technology. A similar deal was struck in July 1990, when a $16.9 million project was set up in Baotou, Inner Mongolia. Another project under consideration is a jointly built, Chinese-run silk reeling factory to be set up in the USSR. The two sides have also agreed to set up a large joint venture in Harbin to process Soviet flax into linen for resale to the USSR. China is also interested in importing Soviet chemical fiber pulp for processing into rayon viscose, to be sold back to the USSR.

—Sharon E. Ruwart

The Soviets' China Broker

As China and the Soviet Union both seek to maximize foreign exchange earnings to help modernize their economies, there is less incentive for individual enterprises to conduct trade on a purely barter basis. Given their limited experience in international trade and rigid bureaucratic structures, however, Soviet firms in particular are ill-equipped to successfully transform barter trade into countertrade deals yielding foreign exchange. They therefore have begun working with foreign trading companies, which in effect act as middlemen in Sino-Soviet trade. One such company, San Francisco-based Pacific Rim Resources, has been helping Soviet clients conduct trade with China since October 1989. Managing Director Julie Reinganum shared with Editor Pamela Baldinger her experiences in working with the two Communist giants.

CBR: *How did you first become involved in Sino-Soviet trade?*

Reinganum: About a year and a half ago we received a call from the representative of a major Soviet equipment manufacturer, who wanted us to help him set up a countertrade deal. Although that particular deal didn't work out, we've worked on two more since then.

CBR: *Why did the Soviets seek you out? Why didn't they go through a Soviet trading organization?*

Reinganum: Economic policy changes in the USSR under *perestroika* allowed certain Soviet manufacturers to manage 15 percent of their exports directly, instead of going through the government's foreign trade corporations (FTCs). Our client was one such manufacturer. The company wanted to earn hard currency to purchase products outside the Soviet Union, but, like many Soviet manufacturers, lacked the trained staff to manage foreign trade negotiations. Our role was not to supplant the FTCs, but to complement their efforts by helping the manufacturer earn hard currency.

Initially, we were asked simply to sell Chinese products abroad and turn over the foreign exchange. Our client was to supply the goods either FOB at a Chinese port or by rail at the Sino-Soviet border. We quickly realized, however, that in order to ensure successful deals, we had to become much more involved in the commercial negotiations to help the Soviets qualify the Chinese products. Now, once we know which province the Soviets are trying to sell to, we identify the manufacturers who produce goods that we think we can sell on the world market.

CBR: *How well do the Soviets and Chinese work with each other?*

Reinganum: Though we've worked with only a few Soviet manufacturers, it has been clear that most Soviet representatives lack understanding of the Chinese decisionmaking process and China-based personnel to verify information provided by the Chinese.

Communication barriers are also a real problem. Though many Chinese speak Russian, few of the Soviet representatives speak Chinese with any fluency, which has made it difficult for them to develop the *guanxi* necessary to succeed in China. These problems are also compounded by a historical legacy of suspicion on both sides.

CBR: *Most foreign companies find it difficult enough to deal with either China or the Soviet Union alone—what is it like to work with both of them together?*

Reinganum: The biggest challenge is to find common ground for communication and negotiation. The concept of profit is new to both sides, and it isn't always easy to explain the realities of a market economy to either partner. Both tend to view trade as a zero-sum game; every time we sit down to discuss a particular transaction, there always seems to be the fear that if the deal is profitable to the Chinese, the Soviets lose out—or vice versa.

The biggest problem for us, however, is that neither side is willing to trust us completely. The Soviets are skeptical of our role, and the Chinese are worried that the Soviets are charging inflated prices to cover our commission.

CBR: *Didn't the Chinese and Soviets announce that they would begin trading on a cash basis in 1991? If this is the case, why do they need your services?*

Reinganum: Both sides would clearly prefer to be negotiating contracts denominated in dollars or Swiss francs, but countertrade is likely to continue for some time. Frankly, the Chinese are only interested in purchasing Soviet products if they can pay in goods rather than hard currency. And since Soviet manufacturers want to sell equipment, they are willing to learn how to barter with the Chinese.

CBR: *Do you think there will be a continuing role for companies like yours to play in Sino-Soviet commerce?*

Reinganum: Much depends on Soviet economic policy. If Soviet economic reforms continue to give increased authority to manufacturers to conduct their own business deals, the role for intermediaries will grow as more Soviet manufacturing companies will need assistance to conclude trans-border business deals. But if retrenchment sets in and trading authority reverts to the official trading companies, then the role of intermediaries will be very short-lived.

CBR: *What words of advice would you offer to other companies considering working with the Soviets?*

Reinganum: You'll need patience—and payment up front. All the deals we've worked on seemed to take forever. And if a Soviet company contacts you and is only willing to work on a commission basis, you can be fairly certain that they've contacted many other companies. You should insist on some compensation up front to ensure their commitment. But even with payment up front, the profitability of these transactions varies. To date, our major earnings have been intellectual. Setting up these deals is fascinating, but straight China business is more profitable.

they seek in such areas as consumer goods production. Furthermore, investors will face the same bureaucratic obstacles, energy and transport bottlenecks, and shortages of quality raw materials that have plagued other foreign investors in China—without the comparable experience or finances to cope with them. Perhaps most important, the chief obstacle to profitable investment—nonconvertible currencies—is no closer to being resolved than it was 10 years ago. Many of the reported Sino-Soviet joint-venture agreements thus may not make it past the paper stage.

Nevertheless, given the small size and local scope of most Sino-Soviet ventures, they represent a low-risk way for each side to experiment with the opportunities and obstacles of international commerce. Learning to assess the viability and profitability of projects and coming up with creative ways to source materials and repatriate profits is essential if both countries are to modernize their economies.

Mounting political barriers

Such economic issues are likely to dictate the course of Sino-Soviet commercial relations for years to come, despite growing strains in political ties. In the last few years, the Chinese have begun to fear that Soviet reform policies would result in the USSR gaining Western technology and resources at China's expense. The international popularity of Mikhail Gorbachev and acclaim for *perestroika* has also stirred resentment in Beijing. Worries that the USSR's standard of living will increase dramatically relative to China's and exacerbate Chinese popular discontent have also led the leadership to make extensive criticism of the Soviet Union a top priority of the official propaganda machine. A February 1990 official party directive went so far as to accuse the Soviets of revisionism. However, the current economic and political turmoil in the Soviet Union may cause China's concern to diminish.

A decade of doing business with the West has taught the Chinese to allow for a more flexible relationship between politics and trade.

But even if Chinese fears over economic competition and social instability do persist, they are unlikely to interfere with the pace of bilateral commercial development, particularly on the border. Chinese leaders recognize the various benefits of Sino-Soviet trade ties, and will encourage them to expand in a controlled way—by means of government-to-government accords, cooperative infrastructure development, and investment in local projects that transfer needed technology and raw materials to China. A decade of doing business with the West has taught the Chinese to allow for a more flexible relationship between politics and trade; leaders in Beijing realize that sharp political and ideological differences with Gorbachev's government need not affect mutually beneficial commercial ties between the two countries. This new awareness is the principal reason to expect slow but steady expansion of the Sino-Soviet economic relationship. 完

Counting on Countertrade?

Conducting countertrade is still tough going

Aspy P. Palia and Oded Shenkar

Countertrade arrangements—which involve payment in goods rather than cash—have long been favored by Chinese authorities and avoided by most Western firms wary of the difficulty involved in negotiating and implementing such arrangements. Under the current retrenchment program, Beijing has renewed its efforts to encourage countertrade, publicly declaring that it is to be given high priority as a means of conserving foreign exchange and that provinces and localities should help foreign firms identify countertrade opportunities. Despite the "thumbs up" from Beijing, however, there is little evidence to suggest that foreign companies are finding countertrade operations any easier to arrange now than in the past.

Despite the "thumbs up" from Beijing, there is little evidence to suggest that foreign companies are finding countertrade operations any easier to arrange now than in the past.

A general term covering barter and switch trading as well as clearing, compensation, counterpurchase, and offset agreements (*see The CBR*, May-June 1986, p.33), countertrade is not routinely reported in China's trade statistics, and accurate estimates of the actual amount of goods exchanged via countertrade each year are not generally available. Recent interviews indicate that although some foreign companies consider countertrade activities an important part of their China operations, many find the lack of regulations governing such deals an insurmountable obstacle.

Few official guidelines

Over the past decade, China has pursued countertrade deals with a number of trading partners, though the largest share of reported deals has been with US and Japanese companies. Most have involved compensation agreements, through which China's trading partners provide technology or equipment in return for the goods manufactured with the foreign technology.

According to a 1988 study of countertrade conducted by the United Nations Conference on Trade and Development (UNCTAD), the lack of clear directives regulating the mechanics of countertrade transactions in China makes such activities difficult, no matter how encouraging provincial or national-level officials may be. Few directives at the national level have been issued to instruct foreign suppliers how to pursue countertrade options, although some vague policies guiding possible types of countertrade have been formulated. For example, while Beijing has yet to issue a list of commodities that can be legally countertraded, central planners have emphasized that goods which are in short domestic supply or easily marketable for foreign currency are not to be countertraded. They instead encourage countertrade of products in abundant domestic supply.

Aspy P. Palia, an associate professor of marketing at the University of Hawaii at Manoa, is the author of a number of papers on countertrade in the Asia-Pacific region. Oded Shenkar is with the Faculty of Management at Tel Aviv University and the College of Business at the University of Hawaii at Manoa. He is the editor of Organization and Management in China (1979-1990), *to be published later this year.*

Pricing obstacles . . .

These priorities significantly reduce the number—and type—of products available for countertrade, a problem cited by some veteran traders as one of the chief obstacles to pursuing countertrade opportunities. In addition, products that are available are often of inferior quality because Chinese companies generally try to sell their top-quality goods themselves. If quality is not a problem, pricing often is. Many traders have found that their Chinese partners demand unrealistic prices—sometimes even exceeding international levels—for their products. Traders dealing in bulk commodities have also found that volatile international markets can leave them stuck with goods worth little at world prices. Even if a trader then voids the deal, he loses the time and energy spent in negotiations.

. . . and bureaucratic barriers

Despite these risks, a number of companies and trading houses continue to pursue countertrade deals with China. The lack of any regulations or firm guidelines, however, results in confusion over which Chi-

nese organizations have authority to negotiate countertrade agreements with foreign companies. A number of foreign firms that have conducted countertrade note that it is difficult to identify the decisionmakers who can push countertrade deals through the proper bureaucratic channels. Though any party in China—including the enduser—can seek countertrade arrangements in theory, in reality most countertrade negotiations are initiated by a national ministry, a national investment company, provincial or local authorities, or a provincial investment company. Although the Ministry of Foreign Economic Relations and Trade (MOFERT) in 1985 established a special trade department to help facilitate countertrade negotiations, it was weakened by decentralization and has been unable to provide much assistance to foreign firms.

As a rule, the provinces, municipalities, and autonomous regions approve small- and medium-size undertakings, but the central government takes direct charge if more than $100 million is involved. Regardless of who initiates the countertrade proceedings, the final structure of the agreements is subject to approval by MOFERT. The lack of a defined countertrade process, however, causes difficulties when ministerial or provincial boundaries must be crossed. In cases where a product to be traded is under the jurisdiction of another foreign trade corporation or ministry, the Chinese countertrade partner may not be able to obtain its cooperation to allow the product to be traded. Or, even if permission is granted for the product to be exchanged in a countertrade transaction, there is little incentive for the ministry or foreign trade corporation to cooperate on a good price.

Mixed results

Such problems are perhaps best exemplified by the experiences of several foreign companies that have conducted—or attempted—countertrade in China. The Hubei Pig Improvement Co., for example, a 50/50 equity joint venture of the Pig Improvement Co. of Oxford, England, and the Hubei Province Bureau of Animal Husbandry, considered countertrade as a possible solution to ongoing problems in generating foreign exchange from the sale of its genetic seed stocks in China. Working with the Hubei branch of MOFERT and the Ministry of Cereals, Oils, and Foodstuffs, the joint venture approached a Chinese maker of royal jelly and proposed exchanging pigs for the jelly, which would then be sold abroad by the trading arm of the venture's British parent, Dalgerty of London. The deal fell through due to disagreement over the scale of the transaction and on pricing; subsequent discussions, involving sugar beets, peanuts, and other agricultural products, were aborted for similar reasons.

The lack of a defined countertrade process causes difficulties when ministerial or provincial boundaries must be crossed.

Other foreign companies report more successful results. McDonnell Douglas Corp., for example, in 1985 clinched a $600 million deal to provide 25 MD-82 mid-sized passenger aircraft. The contract included an offset provision to shift the manufacture of certain components, such as horizontal stabilizers, main and nose landing-gear doors, nose fuselages, and cargo doors to China. The agreement also specified that 30 percent of the total value of the contract was to be fulfilled by generating Chinese exports, 50 percent of which had to be aviation products.

The offset provisions enabled McDonnell Douglas to continue co-

Sample Countertrade Deals, 1988-89

BARTER

Liuling Cereal Oil & Foodstuffs Import/Export Corp. (Dalian)—Leyland Daf (UK)
Traded 400 tonnes of frozen prawns for 25 trucks valued at £2 million.

Liuling Ceral Oil & Foodstuffs Import/Export Corp. (Hangzhou)—Chen Brothers (UK)
Traded frozen prawns for cold storage equipment valued at £10 million.

CLEARING AGREEMENTS

Colombia
Agreed to trade petroleum, banana trees, and coffee for Chinese jeeps.

Canada
Agreed to trade Canadian mining equipment for Chinese marble.

Iran
Agreed to trade 1 million tonnes of crude oil and other goods for Chinese chemicals and industrial goods, including military supplies.

COMPENSATION AND COUNTERPURCHASE

China Metallurgical Import/Export Corp.—Hammersley Iron (Australia)
Australian company agreed to invest $78.5 million in return for 40 percent of output of iron ore from mine.

Beijing Capital Iron and Steel Co.—Northern Telecom (Canada)
China agreed to import a $12 million, 5,000 port program-controlled telephone switchboard system; the Canadian company will receive Chinese steel products.

SOURCE: Aspy P. Palia and Oded Shenkar

production of passenger aircraft and to guarantee subsequent sales, factors integral to the firm's long-term strategy. To meet the contract terms, the company used its extensive network of suppliers to bring together interested buyers and sellers for a wide range of projects, including commercial safes, industrial batteries used in lift trucks, aerospace rivets, and high-quality crankshafts for use in light commercial aircraft and racing engines. McDonnell Douglas assisted the US companies through all phases of the transactions.

According to a McDonnell Douglas spokesman, the co-production of aircraft in China is going extremely well. Already 19 planes have been assembled in Shanghai, and a complete nose-section assembly facility in Chengdu is expected to come on line in 1992. Last year, a second agreement was signed for the co-production of up to another 20 airplanes, some of which may be sold outside China.

Catching the countertrade train

Other US companies, such as General Electric Co. (GE), have found their deals stymied by rigid ministerial boundaries. Following a cash sale to China of 420 locomotives, GE sought to supply additional locomotives to China's coal-producing regions. Since no foreign exchange was available for further purchases, however, a consortium of mine-site managers and the Ministry of Railways offered to trade coal for locomotives. Through GE's sale of the coal abroad, the Chinese intended to generate sufficient foreign exchange to purchase the additional locomotives.

GE also saw potential in the arrangement. According to one company representative, "The long-term process of setting up an alliance with the Chinese anticipated that there would be a countertrade of production parts for the products delivered; that parts of locomotives would ultimately be countertraded as part of the overall transaction."

However, a decline in the world market price of coal, coupled with unrealistically high price demands by the Chinese, undermined the transaction. GE's efforts were also hurt by the lack of coordination between the ministries involved; the coal authorities had no incentive to cooperate with GE since the ministry had nothing to do with the sale of the locomotives.

As long as the central government continues to restrict imports and allocations of foreign exchange, many companies may find countertrade the only way to break into Chinese markets.

Little change ahead

None of these problems has been systematically addressed by Chinese authorities, despite Beijing's call to give countertrade priority. The State Planning Commission's Institute of Techno-Economics in May 1989 did prepare a policy paper that recommended the establishment of a quasi-governmental organization to coordinate countertrade activities, but no concrete action has yet been taken. MOFERT is reportedly drafting new regulations concerning countertrade, but it appears that little tangible change in the countertrade environment can be expected in the near future.

As long as the central government continues to restrict imports and allocations of foreign exchange, however, many companies may find countertrade the only way to break into Chinese markets. Those creative and flexible enough to seek out countertrade opportunities may realize significant profits. Japanese firms, for instance, have used the expanded network of suppliers and product lines of large Japanese trading houses to successfully conduct countertrade. US firms generally lack such networks, and may wish to work through Japanese and other trading companies to set up deals. Large companies may even wish to develop in-house countertrade capability in order to open up new lines of business. Countertrade may not be easy, but it is likely to remain an option many companies will have to consider. 完

Power Banqueting in Beijing and Shanghai

Getting it right can give a foreigner extra "face"

Dan Reardon

Anyone who has participated in or hosted a business trip to China is familiar with the lavish banquets that characterize foreign business travel there. While banquets provide a place for socializing and more relaxed discussion outside the meeting room, they also provide key opportunities for foreign companies to show their Chinese counterparts they are serious about doing business. Protocol aside, choosing a desirable site is the first step toward impressing your Chinese partner.

Most foreign companies experienced in "power banqueting" agree that location, prestige, quality of food, and price are the deciding factors in determining a banquet site. Some specifically recommend using foreign-managed or joint-venture hotels, as these venues are usually beyond the budgets of most Chinese and thus turn the banquet into a novelty often greatly appreciated.

Other companies, however, recommend using local restaurants in both Beijing and Shanghai, noting that convenient locations and reasonable prices make them attractive alternatives to more expensive foreign sites. An average banquet at a foreign-managed hotel starts at about ¥100 per person, while a banquet at a local restaurant generally starts at about ¥50 per person.

Experienced businesspeople point out that wining and dining should not be overdone, especially at the very beginning of a relationship with Chinese clients. Reasonably priced banquets should be arranged to avoid the appearance of buying goodwill or excessive spending, for the Chinese may fear that the funds for such luxury are coming at their expense—from wide profit margins. In most cases, however, some excess will be expected. For example, while the costs quoted in this article exclude drinks, hosts are expected to keep the cigarettes, soda (about ¥10 each), beer (about ¥10-15 each), wine (about ¥80 per bottle) and *maotai* (about ¥200 per bottle) flowing; hosts should also be generous with libations for making toasts, a required bonding activity at all Chinese banquets. If arrangements have been made carefully, the banquet will allow everyone to concentrate not only on having fun but on cementing personal and business links as well.

Location, prestige, quality of food, and price are the deciding factors in determining a banquet site.

Dan Reardon is an associate editor for The CBR. *He recently spent a year in China where he had his fill of banquets.*

The Beijing banquet circuit

A city growing more and more accustomed to the needs of the foreign business community, Beijing now features an eclectic array of restaurants and dining facilities, making the selection of a banquet site increasingly difficult. If you want sushi for 10 or lasagna for 100, Beijing's numerous hotels can now fit the bill. Based on recent interviews by *The CBR*, the Great Wall Sheraton and the Holiday Inn Lido scored top marks from US companies in Beijing. The Great Wall offers banquet rooms for as many as 250-1,000 or as few as 16. Set dinners begin at ¥100 per person, and can be held outdoors barbecue style for companies seeking a truly Western touch. The Lido Hotel also offers a full range of banqueting facilities for up to 280 people, starting at ¥65 per person.

Asian and European-run hotels also offer a wide array of banquet facilities. Shangri-la International's China World, Traders, and Shangri-la hotels offer facilities in the city center and western district, near many government ministries. The China World Hotel, for example, offers banquet space for groups of 10-650 people; prices range from ¥100-400 per person for Beijing, Cantonese, or Japanese cuisine. Another top choice is the Japanese New

Otani Changfugong Hotel—situated on Beijing's Jianguomen business strip—which can accommodate groups of 60-350 people. The menu features a combination of Chinese, Western, and Japanese food, and hosts should expect to pay between ¥100-150 a head. There is also a Japanese-style room that can seat 16; banquets begin at ¥200 per person.

Also popular in Beijing is the Peninsula Group's Palace Hotel, which can accommodate groups of 20-650, with a typical banquet costing about ¥150 per person. Some of the city's oldest joint-venture hotels, including the Jinglun and Jianguo, also offer banquet facilities.

Going local

Most foreign companies turn to foreign-managed hotels because they are familiar with the facilities and English-speaking staff can help in menu selection. The wonderful service such hotels supply is also a top reason for their popularity. Several companies, however, point out that at local restaurants, great food can be found at prices averaging 30 percent less than foreign or joint-venture hotel fare and the familiar atmosphere may make Chinese guests feel more relaxed.

For those hosts seeking an authentic Chinese atmosphere, a Peking duck banquet is a traditional favorite in the capital. The Qianmen Roast Duck Restaurant—also known as "Big Duck"—is probably the best known place for duck in Beijing although Hongbinlou is another good choice. It serves such Muslim food as mutton hotpot in addition to duck, and banquets begin at ¥50 per person—cheaper than most "official" duck restaurants like Qianmen.

Protocol aside, choosing a desirable site is the first step toward impressing your Chinese partner.

For diners seeking more elaborate settings, the Fang Shan restaurant in Beihai Park offers menus beginning at ¥70 per person in serene natural surroundings that once served as an imperial playground. Rumored to be the favorite of Deng Xiaoping is the Sichuan Restaurant, set in a large courtyard home with several rooms available for private parties. Though considered an old standby, its quality is reportedly slipping. Hosts may also want to consider the Duyiji on Deshengmenwai Street, which features private rooms with thatched roofs and specializes in Shandong cuisine and seafood banquets. Prices start at about ¥50 per person.

Slimmer pickings in Shanghai

As in Beijing, foreign-managed hotels in Shanghai are a reliable bet, and their growing numbers are increasing competition for customers. US hotel chains in Shanghai are well-represented by the Portman, Sheraton, and Hilton hotels.

The Portman has rooms to fit groups of 10-600 and offers Western, Chinese, or mixed menus from ¥100-500 per person. The Sheraton Huating provides 16 Chinese menus to choose from, ranging from ¥45-165 per person, and apparently will also provide waiters in traditional costume as well as Chinese musicians. Function rooms can accommodate anywhere from 10-200 people. The Hilton, 15 minutes from the riverfront, also offers banqueting facilities, as do the new Shanghai JC Mandarin, the Japanese Nikko Longbai, and the Yangtze New World hotels.

Noting Shanghai's fame for its *xiaochi*, or small specialties, foreigners sometimes prefer to host banquets in Chinese restaurants, although few cater to foreigners. Among those that do are the Jiaoting and Men Congzhen, as well as the Jin Jiang Guest House, where banquet menus begin at about ¥40 per person.

Making arrangements

Most restaurants require reservations at least one or two days in advance of the banquet, although arrangements can be made easily over the phone. When making reservations, the host should specify an approximate price per head—the *biaozhun*. The higher this price, the more elaborate the food served. Details of the menu should be left up to the restaurant, although the host may add or omit particular dishes (sea slugs and scorpion are usually a hit with the Chinese, though foreign VIPs may not appreciate camel hump or bear paw). It may also be useful to arrange for a waiter to serve individual portions of each dish, for while Chinese guests will expect to be served—rather than help themselves—foreign hosts often forget this key practice.

Hosts should also be prepared to feed drivers—both their own and their guests'—either by arranging a meal in a separate room, which generally costs around ¥20 per person, or by giving them a dinner allowance ahead of time and letting them spend it as they wish. Most banquets begin early in China, at around 6:00 or 6:30, and typically end a couple of hours later.

Photo courtesy of Dan Reardon

Local Chinese restaurants often prepare much-appreciated delicacies at half the price of joint-venture hotels.

Forecast '91 Sees Year of Contradictions

THE U.S.-CHINA BUSINESS COUNCIL

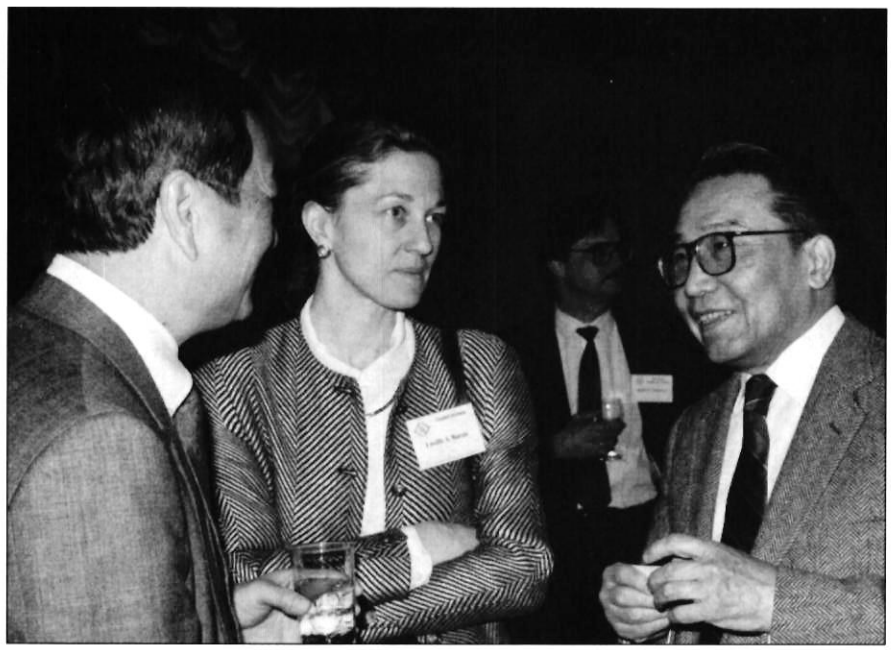
Larry Evans of BP Chemical discussed changes in the business environment based on his 17 years' experience in China.

Contradictory signals and uncertainty about the year ahead were the themes of the Council's annual Forecast meeting, held on January 23 in Washington, DC. Speakers on US-China relations and China's economic, political, and business environments offered a range of predictions as to what the year might hold and how companies should plan.

Council President Roger Sullivan opened the morning's general session with a look at the most important issues in US-China relations for the year ahead: the Middle East, MFN renewal, and the mounting trade deficit. He emphasized that the Council will continue to keep pressure on the Congress in the year ahead, and will provide timely analysis and interpretation of these and other issues as they develop.

Ed Friedman, professor of Chinese politics at the University of Wisconsin, provided an overview of the political climate in China based on interviews and research conducted on a recent visit. He described a China increasingly divided between north and south, and a leadership united only in its desire not to rock the boat. However, he saw little likelihood that China would encounter the type of problems and degree of chaos currently evident in the USSR.

The World Bank's Joseph Battat characterized China's economic performance in 1990 as a "mixed picture," with generally good statistical results masking underlying problems. He projected increasing domestic pressure to boost Chinese imports in 1991, and also provided a detailed summary of obstacles to foreign investment based on a survey he recently conducted for the Foreign Investment Advisory Service at the World Bank.



Lucille Barale of Coudert Brothers chats with Li Chuwen, former adviser to the Shanghai government, and another Council member.

The morning session was closed by BP Chemical Vice President Larry Evans, who reviewed the evolution of China's business climate from the 1970s to the 1990s. He concluded that companies cannot afford to ignore China, but many may shift to a more cautious and risk-averse strategy than in the past.

Companies then broke for a reception and lunch, both of which were attended by a senior-level Chinese delegation. Led by former Vice Premier and Foreign Minister Huang Hua, and including former Agriculture Minister He Kang and senior members of the Ministry of Foreign Affairs, the delegation fielded questions from the audience after lunch. Forecast participants then broke into smaller groups for the rest of the afternoon, attending one of three workshops addressing practical issues in China business.

The workshop on **Selling to China's Domestic Market: Issues for**

Investors featured presentations by three companies marketing directly and indirectly in China. These talks were followed by a roundtable discussion of barriers to domestic market access, including labor and price controls. Companies also shared strategies on securing royalties for licensing agreements and setting product prices.

Integrating Taiwan into Your Company's PRC Strategy focused on how US companies can take advantage of growing PRC-Taiwan commercial ties. Guest speakers T.C. Huang of Huang & Partners law firm in Taipei and Paul C.Y. Chu of Cathay International Group in New York provided the political background to the marked growth in PRC-Taiwan trade and investment over the past three years, and discussed possible future directions for the relationship. A paper submitted by Jon Allen, president of Payless Shoe Source, the largest shoe retailer in the United States, set off a lively discussion on the advantages of utilizing Taiwan manpower and raw materials in China investments.

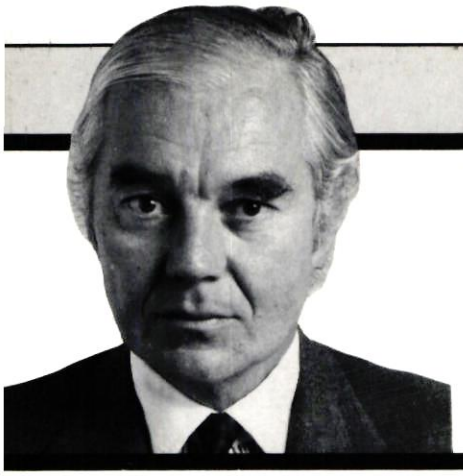
BP Chemical Vice President Larry Evans concluded that companies cannot afford to ignore China, but many may shift to a more cautious and risk-averse strategy than in the past.

A third workshop on **Regional Approaches to the China Market** addressed member company concerns about a number of regional and central developments. David L. Denny, director of research at the Council, provided an overview of provincial growth rates and regional development, while Council President Roger W. Sullivan cautioned companies that the central government still retains a high degree of control over economic affairs within the provinces. Guest speaker Ed Friedman answered member questions about the outlook for Pudong and other special economic zones.

Council President Roger W. Sullivan chaired the question and answer period.

Sullivan and former Foreign Minister Huang Hua discuss recent events in China.

Most Forecast participants, including T. M. Popovich of Corning, Inc., took detailed notes at the morning session.



Interview

John Bond is executive director of banking at the Hong Kong and Shanghai Banking Corp. (HongkongBank), the 26th largest bank worldwide and the dominant player in Hong Kong's local financial market. Editor Pamela Baldinger spoke with him about the bank's decision to establish a holding company in London and its future in Hong Kong and China.

Banking on Hong Kong

Q *HongkongBank has been the most important foreign bank in China since it reopened its doors a decade ago. What does your China portfolio consist of?*

A While the HongkongBank initiated operations in China over 125 years ago, China's economic growth over the past 10 years has brought about tremendous expansion in banking business. Supported by banks in Hong Kong, investors from the colony have been the largest source of investment in China, accounting for over half the total inflow. Of this sum, HongkongBank's share has been significant. Through direct loans to projects or Chinese corporations, or by supporting Hong Kong-based investors, we have helped finance over 1,000 projects in China, mostly in Guangdong Province. These projects range from light industry to the tourism, transportation, communications, and agriculture sectors.

Throughout its history, HongkongBank has specialized in trade finance. Currently, we maintain three branches in China—in Shanghai, Shenzhen, and Xiamen—as well as six representative offices. Our subsidiary Hang Seng Bank also has representative offices in Shenzhen and Xiamen. Through this network, we can offer a wide range of services to Chinese exporters. Similarly, our extensive branch system in Hong Kong helps businesses export to China. This is a significant amount of business, as 30 percent of Hong Kong's output goes to China.

HongkongBank has helped finance over 1,000 projects in China, mostly in Guangdong Province.

Q *How has your China business been affected by Tiananmen and the austerity program?*

A Following June 1989 our lending margins increased, in line with market conditions. But austerity has not, per se, had much impact on our activities in China as foreign banks cannot conduct business in *renminbi*. More damaging was the withdrawal of export credit and concessionary financing.

Q *A number of foreign banks are facing difficulties collecting on loans with provincial- and local-level guarantors. What is the status of your problem loans to China?*

A Evidence that State-owned guarantors are unable or unwilling to honor loan obligations has generated considerable publicity regarding China's problem loans. Delays for allocated funds—in some cases of up to several years—have led foreign banks to tread warily in selecting guarantors; the majority will now only deal directly with national financial institutions. For HongkongBank, problem loans are not a significant percentage of our total China portfolio.

Q *What role is HongkongBank playing in the $800 million Guangdong Highway project?*

A We are a lead underwriter for the syndicated loan, which is being arranged by our merchant banking arm, Wardley. Both HongkongBank and Hang Seng Bank will be participating in the project to the extent of roughly $160 million.

Q *Over the last several years HongkongBank has diversified and internationalized its assets, at considerable expense. This trend, coupled with the recent decision to shift 30 percent of your assets to Britain to establish a holding company there, seems to indicate declining confidence in Hong Kong's prospects. Please comment.*

A In our recent announcement, we made it clear that we would remain domiciled in Hong Kong. We are not turning our back on Hong Kong, and we shall remain headquartered in the territory. With the new arrangement, assets and activities outside Asia will be held directly by the holding company; HongkongBank will focus on Asia to bolster its position as one of the leading commercial banks in the region. HongkongBank has been an international bank since the end of the last century, when we had offices in 16

countries. Our investments overseas simply reflect the growth of a healthy international company.

At the same time, our commitment to retaining our headquarters in Hong Kong will prove good for the territory. What would be harmful to Hong Kong would be the inability of the territory's largest bank to continue growing and expanding as strongly as before.

We are not turning our back on Hong Kong, and we shall remain headquartered in the territory.

Q *How do you anticipate your role in Hong Kong changing after 1997?*

A While Hong Kong will remain a capitalist economy for at least the next 56 years, it would be unrealistic to say there will be no changes in the next few years. But one thing I cannot see changing is HongkongBank's firm commitment to Hong Kong, an important and profitable market for us. We have devoted an enormous amount of investment to our domestic operations over the years, including our current campaign to separate and reorganize our Hong Kong retail and corporate business. This new program includes transferring back-office functions from the branches to a central location and creating separate corporate banking centers. The move should help address the problem of staff shortages, by providing economies of scale and better coordinating departments.

Q *What is your view of the Port and Airport Development Strategy (PADS)? Will HongkongBank play a role in financing the projects even if the Chinese do not offer public support?*

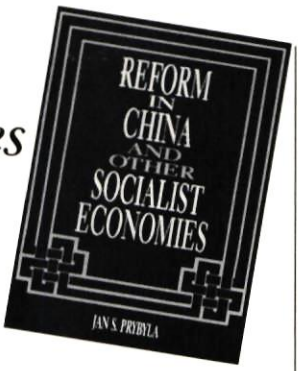
A Wardley has already been appointed as adviser to the government on the airport project. As a leading bank in Hong Kong, we will likely play a role in the financing of the infrastructure projects, but it is too early to say what shape our involvement will take.

Q *How significant will Singapore, Thailand, etc. become as competitors to Hong Kong's financial eminence in the run-up to 1997?*

A There is endless discussion about which city is the Asian region's preeminent center, but as the region continues to develop, so will all its major cities. These cities should prove complementary, providing a constellation of services, facilities, skills, and capital. Yet as a gateway to China, Hong Kong's role in the region cannot be overestimated.

书刊介绍 Bookshelf

Reform in China and Other Socialist Economies



by Jan S. Prybyla. Washington, DC: American Enterprise Institute, 1990. 375 pp. $30.25 hardcover.

An insightful comparison of reform in socialist countries, this book offers an excellent analysis of the measures still needed for economic reforms to succeed completely. The volume is especially strong on China, Prybyla's forte, and should serve as required reading for Chinese leaders mired in indecision over the future course of economic reform.

Prybyla notes that in China—as in other socialist countries—the movement toward reform has instilled the understanding that profit is a truer measure of economic success than output. However, in economies in which the pricing system is only half-reformed, accurately assessing profits is impossible because the pricing system remains irrational. Prybyla argues that rationalized—or "marketized"—prices are the key to any economic reform program, but because reforms permitting fully marketized prices and private property lead to ideological contradictions, reform of Communist political systems is also necessary.

In analyzing the reform movements of China, the USSR, Hungary, and Poland, Prybyla outlines a number of the common problems faced by the leaders of those countries. He notes that Chinese agricultural reforms have been effective in part because the prices of most agricultural commodities have been at least partially marketized, giving producers the ability to sell products at rational prices—and the incentive to increase agricultural output. At the same time, however, the existence of a multi-tiered pricing system for essential raw commodities and most industrial products has stymied reform in other sectors.

Such half-reforms, Prybyla argues, jeopardize the future of all economic reforms. In China, Hungary, and the USSR, leaders have been hestitant to push ahead with economic reforms for fear that popular discontent over rising inflation and unemployment could lead to unrest. Yet in 1956, 1970, and 1981, slow implementation of reforms in Poland prolonged and exacerbated the social problems they raised, prompting the leadership to roll back reforms completely. Prybyla contends that the more quickly reforms are implemented, the more lasting they will prove.

While *Reform in China and Other Socialist Countries* does not forecast the future of reforms in the countries it examines, the examples provided clearly demonstrate that socialist economies must overhaul their political systems if they truly wish to change their economies—and that feat remains the largest obstacle to successful reform. —DR

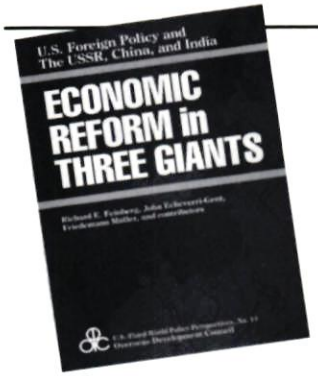
Transformation of Socialism: Perestroika and Reform in the Soviet Union and China

edited by Mel Gurtov. Boulder, CO: Westview Press, 1990. 260 pp. $36.50 softback.

Readers looking strictly for a straightforward explanation and comparison of reform in the Soviet Union and China will not find clear-cut answers in this academic compendium. However, they will find objective, thought-provoking analysis on many important issues. Because the book's Soviet and Chinese contributors are all research scholars, they offer candid and often critical commentary that government and party officials are sometimes unable to provide. The authors also tend to emphasize the difficulties in reform programs in their own countries as compared to successes elsewhere, providing the reader with much perspective. For business readers, the sections on the party-state relationship and economic reforms are most informative.

Novice Russophiles will appreciate political scientist Rolf H. W. Theen's essay, "Party-State Relations Under Gorbachev: From Partocracy to Party State," for its assessment of the basic changes in government and party power that have taken place in the USSR, such as Gorbachev's revamping of the party structure. Unfortunately, Chinese political scientist Yan Jiaqi's similar discussion of China's party-state relationship is weak. It discusses broad theories of the party's role in the state and contains a rambling review of the past 40 years of political struggle in China, but fails to address the more salient issues of the hardliner-reformist dichotomy and current party and government reshuffling.

The section on economic reform discusses the legal and governmental framework of *perestroika* and China's attempts to decentralize and open its economy from 1974-89. The authors acknowledge that the social impact of reform—the dearth of consumer goods in the Soviet Union and increasing income disparity in China—are prompting some to question the benefits of reform. Although overall the book is a bit sketchy on specifics, its strength lies in the conclusions it draws from the comparative process to suggest what obstacles can be expected in any economic reform process. —Lisa Elam



Economic Reform in the Three Giants

by Richard E. Feinberg, John Echeverri-Gent, Friedmann Muller. Washington, DC: Overseas Development Council, 1990. 235 pp. $15.95 softcover.

According to this study, India, the Soviet Union, and China—the "sleeping giants" of the world—will play a key role in the international economic order in the next century because their economies will grow much faster than those of other countries. Classified as giants both on account of their sizeable populations and huge land masses, the three countries together account for over 25 percent of the world's land and nearly half its population.

The authors include some predictions that will likely prove interesting to international traders. Most notable, the authors claim that US trade with the three—about $23 billion in 1988—could leap to $242 billion in the next 20 years. However, there is little discussion of events that could worsen—or even improve—this outlook.

Though the book notes that implementation of economic reforms is key to the future of these countries' foreign trade—and that all three have recognized the need for reforms—it does not detail what reforms have been undertaken or what the prospects for future reform are. The authors simply state that in a few decades China and the USSR will likely reach the level of reforms in India's mixed economy, which has benefitted greatly from a strong private sector and the high priority given to developing scientific and technological capabilities.

What the book does offer is a good political debate about the nature of states, explaining why all three countries were able to maintain policies of self-reliance for so long and why their governments have remained highly centralized. The authors stress that as a country's economy develops, pressure for reform mounts and economic and technological advances necessitate the abandonment of autarkic development policies. Though this analysis may be appreciated by academics, and international traders will likely welcome the optimism on growing trade opportunities with the giants, those looking for detail on how and why these countries started on the road to reforms may be disappointed. —VL

The End of Central Planning?

edited by David M. Kemme and Claire E. Gordon. Boulder, CO: Westview Press, 1990. 110 pp. $12.85 softcover.

A collection of essays on the attempts of Czechoslovakia, Hungary, China, and the USSR to tranform their economies, this book enables China hands to compare China's progress against that of the other countries. The essays provide valuable perspective on the difficulties of turning centrally planned economies into market-driven ones.

Each paper was written by a government or business leader from one of the countries studied and therefore tends to reflect the official line. The introduction attempts to provide a more objective view, however, carefully comparing the state and scope of reform, level of economic integration with the outside world, and level of political support for change in each country.

Based on these factors, the editors assert that Czechoslovakia's pace of reform is quicker than the USSR's or China's because it has a solid legal framework and its new leadership—

popularly elected and respectful of human rights—has the political legitimacy to experiment with risky and sometimes costly reforms. The USSR is depicted as lacking consensus on how—and how far—to implement economic reforms, even though the localities and republics are encouraging change with increasing independence. Hungary and China are seen as more cautious, though the editors point out that China's goal does not appear to be the elimination of central planning, but its integration with market forces.

This theme is clearly underscored in the China chapter, written by Sun Qinghai and Sun Shangqing of the Development Research Center of China's State Council. They outline China's current, wary approach to change, which contrasts sharply with the enthusiasm of the others. For instance, the Czechs write "There is no doubt that the transition toward a genuine market economy is the only way to regain the efficiency in the national economy," while the Hungarians firmly believe that "restructuring the political system is a condition of economic reform." The Chinese, however, make no commitment to change, reiterating instead the need to "rectify the order and deepen reform," though no details as to how this should be accomplished are provided.

Broadening the comparison to include Vietnam would have made the study particularly compelling for readers wishing to compare China to another underdeveloped Asian, as opposed to European, country. As it stands, the book's contents are a bit slim to provide much depth, but the comparisons are skillfully drawn and provide a useful overview. —DR

AMCHAM'S CHINA BOOKS

China Commercial Relations Directory 90/91

A bilingual, English-Chinese directory, published biennially. This year includes over 230 companies — 115 also list China addresses and contacts. List price: HK$160/US$26 (HK$130/US$21 for AmCham members).

PRC Business Firms in Hong Kong and Macau

A guide to over 400 firms compiled by a team of US government staff members and business people active in China.

Banking & Finance, Insurance, Oil Companies, Shipping Agents, Travel Services, Publishing and News Media; *Geographic* listings show company connections to national, provincial, urban and Special Economic Zone corporations of China. Also *Parent/Holdings firms* guide. *Products & Services* index and *Chinese-language* company names appendices: essays surveying nature and history of Chinese corporate presence in Hong Kong and Macau; US Commerce Department and Hong Kong Trade Development Council review economic impact and trends of Hong Kong/Macau/China connection. List Price: HK$260/US$37 (HK$210/US$31 for AmCham members).

Hong Kong Connection — Doing Business in Guangdong Province

Comprehensive introduction to how business works and where to get help on the ground in Guangzhou, Special Economic Zones and so-called "Open Areas" like deltas of the three major rivers in the province — the Pearl, Han and Jian. First book in English to offer a simple, straightforward and inexpensive introduction to business conditions in the province based on first-hand research. List price: HK$210/US$31 (HK$170/US$27 for AmCham members).

AMCHAM'S HONG KONG BOOKS

American Foods and Beverages in Hong Kong

American Foods and Beverages in Hong Kong is a directory of over 200 importers, supplemented with chapters describing the American presence in Hong Kong's food business and giving tips on how best to enter this growing market. Published in cooperation with the US Foreign Agricultural Service (FAS) in Hong Kong.

First edition. List price: HK$160/US$26 (HK$130/US$21 for AmCham members).

Establishing an Office in Hong Kong

1990/91 seventh edition of this annual. Features Hong Kong context reviews of business services as varied as freight forwarding, law and architectural consulting. First-reference book for newcomers. Text material divided into 17 brief chapters intended to raise the right questions and offer the best references supported by six appendices with referrals to key organizations, AmCham business contacts and other sources. Five maps. List price: HK$160/US$26 (HK$130/US$21 for AmCham members).

Living in Hong Kong (1989)

1989 seventh edition guide for newcomers to the region. First published in 1973. Divided into 15 chapters covering topics as Living and Health, Communications Services, Legal Information, Schools, Leisure Activities and even a chapter on the best way to leave. List price: HK$160/US$26 (HK$130/US$23 for AmCham members).

Returning to Hong Kong — A Home Employment Resource Guide for Graduates of Overseas Universities

A guide to jobs for almost 4,000 graduating Hong Kong students returning from overseas. Distributed free to graduating Hong Kong students at American, Australian and Canadian universities in cooperation with the Institute for International Education (IIE) and International Development Program in Australia. List Price: HK$160/US$26 (HK$130/US$21 for AmCham members).

Who's Who in Hong Kong Communications 1990

312-page book with four major categories: "Who's Who in Hong Kong Communications" carries extended paid listings of 115 companies, providing 65 categories of products & services. "Communications in the Hong Kong Context" includes 11 articles reviewing themes in advertising, public relations, publishing, desktop publishing equipment, and printing. "Professional Support in Hong Kong" includes a miscellany of 10 different lists/key documents. "Quick Contact File" is a telephone finders' guide to about 4,400 companies in Hong Kong, divided into 36 categories. List price: HK$210/US$32 (HK$170/US$28 for AmCham members).

AmCham Members Directory 1990/91

Over 500-page book contains four major sections, including a guide to over 600 American private or government organizations concerned with US business development in Asia-Pacific. Lists 2,570 members from 1,079 companies. List price: HK$1160/US$160 (HK$760/US$110 for AmCham members).

Hong Kong Electronics Handbook/Directory

Hong Kong Electronics Handbook/Directory is divided into three major sections. The first introduces the manufacturing side of the industry with articles from people who know it.

"Sourcing guide" directory of 133 electronics companies describes their products and services, indicates if they do original equipment manufacturing (OEM), describes the nature of their manufacturing in China if any, and names their subsidiaries in Hong Kong, China and the region.

The last section of the book is a guide to Hong Kong's electronics services sector. It includes 10 different articles by authors active in each sector covered. List price: HK$210/US$31 (HK$170/US$27 for AmCham members).

Doing Business in Today's Hong Kong

Third edition, a compendium of investment analyses covering the key sectors of Hong Kong's export-led economy, authored by active and successful executives in the territory's commercial life. Written by businessmen for businessmen, the authors of which are drawn from the membership of Hong Kong's largest grouping of foreign investors — The American Chamber of Commerce. List price: HK$180/US$28 (HK$160/US$25 to AmCham members).

(Quoted prices include local/overseas postage)

* * * * * * * * * *

The American Chamber of Commerce in Hong Kong
Room 1030, Swire House, Chater Road, Central, Hong Kong.
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Please send me more information of the following forthcoming title(s):

☐ Guide to Hong Kong's Training Services
☐ Hong Kong Information Technology Handbook
☐ Regional Entrepot — HK/PacRim Trade Directory
☐ Hong Kong/Princeton Review Guide

中外贸易 China Business

David Stifel

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 average rate quoted in *International Financial Statistics (IMF)*.

US-China Business Council member firms can contact the library to obtain a copy of news sources and other available background information concerning the business arrangements appearing below. Moreover, 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 Business Information Center at The US-China Business Council.

中外贸易

SALES AND INVESTMENT THROUGH
January 15, 1991

Foreign party/Chinese party
Arrangement, value, and date reported

Agricultural Commodities

Investments in China

Mindo Vegetable Oil Co. (Indonesia) and Tunas (HK) Ltd. (Hong Kong)/China National Vegetable Oil Corp.
Signed agreement to establish palm oil-based industries in China. 11/90.

United Development Corp. (United States), a subsidiary of Ohbayashi-Gumi Ltd. (Japan)/Jinbeilei Oil Chemical United Co. Ltd.
Established joint venture in Sanya, Hainan Province to produce castor oil. $4.4 million (¥23 million) (US:68%-PRC:32%). 12/90.

Australia/Ministry of Agriculture
Completed construction of Harbin Veterinary Institute in Heilongjiang Province to breed SPF chickens. 10/90.

Other

World Bank/Agricultural Bank of China
Provided loan for rural credit project. $275 million. 11/90.

Abbreviations used throughout text: BOC: Bank of China; CAAC: Civil Aviation Administration of China; CAIEC: China National Automotive Import-Export Corp.; CATIC: China National Aero-Technology Import-Export Corp.; CCTV: China Central Television; CEIEC: China Electronic Import-Export Corp.; CEROILFOODS: China National Cereals, Oil, and Foodstuffs Import-Export Corp.; CHINALIGHT: China National Light Industrial Products Import-Export Corp.; CHINAPACK: China National Packaging Import-Export Corp.; CHINATEX: China National Textiles Import-Export Corp.; CHINATUHSU: China National Native Produce and Byproducts Import-Export Corp.; CITIC: China International Trust and Investment Corp.; CITS: China International Travel Service; CMC: China National Machinery Import-Export Corp.; CNCCC: China National Chemical Construction Co.; CNOOC: China National Offshore Oil Corp.; CTIEC: China National Technical Import-Export Corp.; ETDZ: Economic Technological Development Zone; ICBC: Industrial and Commercial Bank of China; INSTRIMPEX: China National Instruments Import-Export Corp.; MLI: Ministry of Light Industry; MMEI: Ministry of Machinery and Electronics Industry; MOE: Ministry of Energy; MOTI: Ministry of Textile Industry; MPT: Ministry of Posts and Telecommunications; NA: Not Available; NDSTIC: National Defense, Science, Technology, and Industry Commission; NORINCO: China North Industries Corp.; SEZ: Special Economic Zone; SINOCHEM: China National Chemicals Import-Export Corp.; SINOPEC: China National Petrochemical Corp.; SINOTRANS: China National Foreign Trade Transportation Corp.; SITCO: Shanghai Investment and Trust Corp.; SPC: State Planning Commission.

Agricultural Technology

Other

Asian Development Bank
Provided assistance for agricultural, environmental, and forestry projects in Hainan Province. $600,000. 12/90.

United Nations Development Programme (UNDP)
Provided aid for agricultural development management training in the Huang-Huai Hai Plain region. $660,500. 12/90.

Asian Development Bank/Agricultural Bank of China
Approved loan to develop agricultural production facilities in East China. $50 million. 11/90.

Banking and Finance

Investments in China

Crosby Securities (Hong Kong)
Opened representative office in Beijing to research trends in Chinese economy and effects on Hong Kong. 12/90.

The Sanwa Bank Ltd. (Japan) and The Bank of East Asia Ltd. (Hong Kong)/BOC and Bank of Communications
Established Shanghai International Financial Co. Ltd. joint venture. $20 million (JP:25%-HK:25%-PRC:50%). 12/90.

Societe Generale, a subsidiary of Generale S.A., Ste. (France)/People's Construction Bank and SITCO
Established Shanghai Joint Financial Co. in Pudong ETDZ to finance industrial projects. $20 million (FR:50%-PRC:50%). 12/90.

Union Bank of Switzerland (Switzerland)
Opened representative office in China. 12/90.

Other

United Kingdom/MOFERT
Reopened credit line to China. $585 million (£300 million). 12/90.

Asian Development Bank/Agricultural Bank of China
Approved technical assistance grant to improve bank's project lending organizational structure. $480,000. 11/90.

Credito Italiano S.p.A. (Italy)
Extended 10-year commercial credit at 9.2% interest to support Italian sales to China. $25 million. 11/90.

Spain
Extended 10-year soft loan for development and general credit purposes. $32.4 million. 11/90.

Visa International (US)/Industrial and Commercial Bank of China
Offering Visa credit cards to account holders for domestic use. 11/90.

Chemicals and Petrochemicals

China's Imports

Lim Shoemaking Co. Ltd. (Austria)/Zhongli Polyurethane Products Co. Ltd., a joint venture between Lim Shoemaking Co. Ltd. (Austria), Sui Wa Co. Ltd. (Hong Kong), Guangzhou ETDZ International Trust and Investment Corp., and Guangzhou Municipal Leather Co.
Sold equipment and technology to build a polyurethane plant in Guangzhou. $6.2 million (ASch67 million). 12/90.

Hopkinsons PLC (UK)/Taiyuan Chemical Co.
Sold control valves for new chemical processing plant. $487,500 (£250,000). 10/90.

Commodities Trading Corp. (US)/SINOCHEM
Sold diammonium phosphate fertilizer. $24 million. 10/90.

Investments in China

NA (Hong Kong)/NA
Tianma Plastics Co. Ltd. joint venture in Tianjin began production of plastic bags for export. $930,000 (HK:75%-PRC:25%). 12/90.

Imperial Chemical Industrial (ICI) PLC (UK)
Opened representative office in Shanghai. 11/90.

Maya Manufacturing & Trading Co. Ltd. (Singapore)/Shanghai Municipal Produce Co.
Established joint venture to produce polystyrene resin for export. $5 million. 10/90.

Monsanto Far East Ltd. (Hong Kong), a subsidiary of Monsanto Co. (US)
Opened representative office in Shanghai. 10/90.

Other

Dai-Ichi Kangyo Bank Ltd. (Japan), Industrial Bank of Japan Ltd. (Japan), Long Term Credit Bank of Japan Ltd. (Japan), Sanwa Bank Ltd. (Japan), and six other Japanese banks/SINOPEC
Extended loan to build facilities at ethylene project in Shandong Province. 12/90.

Construction Materials and Equipment

Investments in China

Carl Schenck AG, a subsidiary of AG fur Industrie und Verkehrswesen (Germany)/Dezhou City, Shandong Province
Began construction of joint venture to produce shaving boards, decorative boards, and urea resin. $32.70 million (¥170 million) (FRG:65%-PRC:35%). 12/90.

Other

Canada
Provided loan to finance purchase of Canadian and Swiss cement-manufacturing equipment and technology for cement plant in Shanxi Province. $32.70 million (C$37.89 million). 11/90.

Consumer Goods

Investments in China

Taka-Q Co. (Japan)/NA
Established clothing store chain to sell both domestic and imported clothing. 12/90.

Sumitomo Corp. (Japan)/Metals and Minerals Import-Export Corp.
Special Talcum Powder Corp. joint venture was established in Yingkou, Liaoning Province. $2.2 million. 11/90.

China's Investments Abroad

NA (Thailand)/Northeast Blessing Piano Factory
Established Nordiska Piano Co. Ltd. joint venture in Thailand. $700,000 (TH:50%-PRC:50%). 12/90.

Electronics and Computer Software

China's Imports

Silicon Graphics Inc. (US)/MMEI
Sold computer workstations to six design companies. $1.8 million. 12/90.

Adept Technology Inc., a subsidiary of Cummins Engine Co. Inc. (US)/Robot Institute, Shanghai Jiaotong University
Sold technology for use in building experimental robot-operated assembly systems. $120,000. 10/90.

Investments in China

Cheung Yick Investment Co. (Hong Kong)/Zhonghuan Enterprise Group, Color Tube Factory, and Electronic Meters & Instruments Import-Export Joint Co.
Tianjin Zhonghuan-Sanjin Co. joint venture began manufacturing high definition monochrome television tubes. $10.73 million. 12/90.

CONTEC Ltd. (Japan) and Ningxing International Co. Ltd. (Hong Kong)/Shanghai Computer Development Co., a subsidiary of Changjiang Computer Group
Established Shanghai-CONTEC Electronics Technology Co. Ltd. joint venture to develop and manufacture computer products for industry control. 12/90.

Digital Equipment Corp. (DEC) (US)/Taiji Computer Corp.
Established Shenzhen Taiji-DEC Software center to develop software for telecommunications, manufacturing, and networking. $1.15 (¥6 million). 12/90.

Heimann AG, a subsidiary of Siemens AG (Germany), and Wearnes Technology (Pte.) Ltd., a subsidiary of Wearne Brothers Ltd. (Singapore)/Shenzhen Science, Technology, and Industry Park Corp.
Shenzhen Heimann Electro-Optical Co. Ltd. joint venture began manufacturing flashbulbs, light sensitive resistors, and trigger coils. 12/90.

Oracle Corp. (US)
Opened training center in Beijing to support Oracle software. 12/90.

AST Research Far East Ltd. (Hong Kong)/New Technology Development Co.
Opened computer service center in Beijing. 11/90.

CIM Co. (Hong Kong)/Xinchao Computer Industrial Group
Xinxin Software Industry Co. Ltd. joint venture in Shekou, Shenzhen SEZ, began developing software for export. $500,000. 10/90.

Digital World (Hong Kong) Ltd. (US)/Tianjin Industrial Development Co., a subsidiary of CITIC
Tianjin Sunway Information Technology and Engineering Ltd. joint venture began operations developing advanced computers and telecommunications products. $100,000 (US:30%-PRC:70%). 10/90.

Griffith Micro Science International Inc., a subsidiary of Griffith Laboratories, Inc. (US)/Jiannan Machinery Factory
Joint venture in Shekou, Shenzhen SEZ, began trial production of 3.25-inch disk drives. 10/90.

ISC Systems Inc. (US), a subsidiary of International Signal & Control Group PLC (UK)/Zhonghuan Computer Co. and Industrial and Commercial Bank of China, Tianjin branch
CISC Computer Systems Co. Ltd. joint venture in Tianjin began operations manufacturing banking terminals. (US:50%-PRC:50%). 10/90.

SAS Institute Inc. (US)
Opened representative office in Beijing. 10/90.

Engineering and Construction

Investments in China

Trammel Crow International (United States)/Shanghai Hongqiao Development Co.
Agreed to build international trade mart in Shanghai. 11/90.

Other

P.G. Pak-Poy & Kneebone Pty. Ltd. (Australia)
Won World Bank contract to develop transport infrastructure in Yangtze Economic Zone. $3.6 million. 12/90.

NA (Hong Kong)/China Foreign Trade Leasing Co. (CFTL)
Sold remaining shares of Sumlease Group quarrying and construction joint venture to CFTL. 11/90.

Environmental Technology and Equipment

Other

United Nations Environment Program (UNEP)/Shaoxing City, Zhejiang Province
Provided aid for control of water contamination and management of water resources. 12/90.

Food and Food Processing

Investments in China

San Miguel Brewery Ltd. (Hong Kong), a subsidiary of San Miguel Corp. (Philippines)/Guangzhou Brewery
Established Guangzhou San Miguel Brewery joint venture. $5 million (HK:70%-PRC:30%). 11/90.

Seagram Co. Ltd. (Canada)/China Winery
Shanghai Seagram Ltd. joint venture began production of wine and whiskey coolers. $8.5 million. 11/90.

Setco Inc., a subsidiary of McCormick & Co. Inc. (US)/China Qinhuangdao Elunchun Resources Exploitation Co.
Established China Qinhuangdao Summertime Co. Ltd. to produce bottled water in Hebei Province. $1.5 million (US:60%-PRC:40%). 11/90.

NA (South Korea)/Oriental Enterprise Group
Oriental Confectionary Co. Ltd. joint venture in Heilongjiang Province began production of *Jump Jump* candies. $577,000 (¥3 million). 11/90.

Machinery and Machine Tools

China's Imports

De Angeli Industries Corp. (Italy)/Houma Cable Factory, Beijing Machinery & Equipment Tendering Co., China Universal Leasing Co., and Jin Chang Import-Export Co.
Sold machinery to produce all-plastic telephone cables. 11/90.

NA (US)/Petroleum Prospecting Meter Plant
Sold production line for manufacturing digital-controlled well-logging meters in Xian. 11/90.

Investments in China

NA (Australia)/NA
Began construction of joint venture to produce tubes and other components for automobiles, condensers, meters, and dynamos. $5 million. 12/90.

NA (US)/Shanghai No.7 Valve Factory
Established joint venture to produce valves. 12/90.

Medical Supplies and Equipment

Investments in China

Ausonics Pty. Ltd., a subsidiary of Nucleus Ltd. (Australia)/Shanghai Medical Electronics Instrument Factory
Sold technology to co-produce portable diagnostic ultra-sound and probe equipment. $1.6 million (A$2 million). 12/90.

NA (Japan)/NA
Joint venture producing blood products began operations in Shanghai. $26.2 million (¥136 million). 12/90.

Johnson & Johnson (US)/Shanghai Hygienic Supply Works
Shanghai Johnson & Johnson began manufacturing adhesive bandages. $5 million (US:60%-PRC:40%). 11/90.

Other

Japan/Bethune Medical University
Provided interest-free loan to finance purchase of medical equipment, vehicles, and technical services. $20 million (J¥2.6 billion). 12/90.

Metals and Minerals

China's Imports

STT Peabody Corp, a subsidiary of Sale Tilney Group (UK)/Anshan Steel and Iron Complex
Sold electrostatic oiler for use in steel-strip pickle line. 11/90.

Fuller International Inc., a subsidiary of GATX Corp. (US)/China National Nonferrous Metals Import-Export Corp.
Sold grinding system for use in Dexing copper mine, Jiangxi Province. $14.65 million. 10/90.

Other

Fund for Arab Economic Development (Kuwait)
Extended soft loan to modernize aluminum factory in Chengdu. $30 million. 12/90.

Packaging, Pulp and Paper

China's Imports

A. Ahlstrom Corp. (Finland)/Jilin Paper Mill
Sold paper production equipment under Finnish government loan. $4.3 million (FM16 million). 10/90.

Investments in China

J.M. Voith AG (Austria)/Shanghai Paper Machinery Construction & Engineering Co.
Established joint venture to produce paper-making machinery for domestic market. 10/90.

Other

Austria and Sweden/Qingzhou Paper Mill and BOC
Extended government loans to finance wood-pulp technological transformation project in Fujian, Fuzhou Province. $62 million. 12/90.

Petroleum and Natural Gas

Investments in China

Orient Terminal Co. Ltd., a joint venture between Li Feng Industry Co. Ltd. (Hong Kong) and China National Chemicals Import-Export Corp./Shanghai Chemicals Import-Export Co.
Began contruction of petroleum terminal in Pudong ETDZ. 11/90.

Other

Bankers Trust International (Asia) Ltd. (Hong Kong), a subsidiary of Bankers Trust New York Corp. (US)/Fujian Investment and Enterprise Corp.
Extended five-year loan with interest of 0.75% above LIBOR to finance oil refinery in Fujian Province. $20 million. 11/90.

Pharmaceuticals

Investments in China

Abbott International Ltd., a subsidiary of Abbott Laboratories (US)/Shanghai Medicine Industry Research Institute and Ningbo Pharmaceutical Factory
Joint venture to produce reagents for clinical diagnosis went into operation in Ningbo, Jiangsu Province. $4 million (US:50%-PRC:50%). 11/90.

Other

World Bank
Began construction of Central Plains Pharmaceutical Factory in Zhengzhou Province under World Bank Pharmaceuticals Project. $98.2 million. 11/90.

Power Plants

Investments in China

Asea Brown Boveri & Cie. (Switzerland)/Fook Man Development
Established oil-fired power station joint venture in Dongguan, Guangdong Province. $220 million. 11/90.

Pratt & Whitney of China Inc. (US) and Turbo Power & Marine-Systems Inc. (US), both subsidiaries of United Technologies Corp. (US)/China Lightweight Gas Turbine Development Center and Chengdu Engine Co.
Joint venture producing FT8 industrial turbine, derived from Pratt & Whitney JY8D-219 aircraft engine, completed testing stage of operations. 11/90.

Other

Electricite de France (France)
Received grant from European Economic Community (EEC) to fund feasibility study of power station in Neijian, Sichuan Province. $200,000. 12/90.

Property Management and Development

Investments in China

Hopewell Costain Ltd. (Hong Kong), a joint venture between Hopewell Holdings Ltd. (Hong Kong) and Costain Group PLC (UK)/Wealth Earth Development
Constructing Zhuhai International Tourist Resort in Zhuhai SEZ. $128 million (HK$1 billion). 11/90.

Tian An China Investments Co. (Hong Kong)
Leasing land in Xiamen SEZ to develop commercial and residential projects. $7 million (¥37 million). 11/90.

China's Investments Abroad

London Docklands Development Corp. (UK), Olympia & York UK Ltd. (UK), and Imperial Land Group (UK)/Tianjin Docklands Co. Ltd.
Began development of 14 acre "Chinatown" in London's Docklands area. $780 million (*L400 million). 11/90.

Telecommunications

Investments in China

MTC Electronic Technologies Inc. (Canada)/NA
Established joint venture to provide turnkey cellular telephone system. (CN:28%-PRC:72%). 12/90.

China's Imports

L.M. Ericsson (Sweden)/Shijiazhuang City, Hebei Province
Sold two radio bases and 500 mobile telephones. 12/90.

Ericsson Australia Ltd., a subsidiary of Telefon AB L.M. Ericsson (Sweden)/Ningbo City, Zhejiang Province
Sold telecphone exchange equipment under Australian government soft loan. $31.7 million. 11/90.

Farinon Canada Ltd. (Canada), a subsidiary of Harris Corp. (US)/Xinjiang Post and Telecommunications Administration
Sold two digital-radio microwave systems under Canadian Export Development Corp. loan. $6.1 million. 11/90.

PKI AG (Germany) and NEC Corp. (Japan)/NA
Sold fiber-optic cable and electro-optic terminal equipment for Nanjing-Wuhan optical-cable trunk-line system. 11/90.

Textiles

China's Imports

New Zealand Wool Board/San Huan Corp.
Agreed to sell up to 1,500 tonnes of wool in fiscal 1991. 11/90.

Investments in China

Peace Tower Enterprises Ltd. (Hong Kong)/Jiuzhou Weather Coat Factory
Shanxi Jiuzhou Garment Co. joint venture in Taiyuan began production of garments primarily for export. $520,000 (¥2.71 million). 12/90.

Sunlien Co. Ltd. (US)/Jilin Village, Beijing
Established Beijing Jilinchun Garments Co. Ltd. joint venture to manufacture garments for export. $2 million (US:50%-PRC:50%). 11/90.

NA (Japan)/Novel Enterprises Ltd.
Novel Dyeing and Printing Mills Ltd. joint venture began operations in Shenzhen SEZ. $30 million. 11/90.

Transportation

China's Imports

Collins Systems International Inc., a subsidiary of Rockwell International Corp. (US)/Suzhou Aircraft Instruments Factory
Provided technical documents, equipment, and training to produce avionics equipment. $1.5 million. 11/90.

The Boeing Co. (US)/Air China
Delivered 747-200F freighter aircraft. 11/90.

Data General Corp. (US)/Harbin Railway
Sold superminicomputers for administration of cargo transportation and communications. $1 million. 11/90.

Oy Sisu-Auto AB (Finland)/CMC
Sold 34 vehicles to help fight forest fires in northeast China under a Finnish government loan. $4.84 million. 11/90.

Universal Grinding Wheel Co. Ltd. (UK)/Beijing Jeep Co., a joint venture between Chrysler Motors Co. (US) and Beijing Automotive Corp.
Sold grinding wheels. $31,200 (£16,000). 11/90.

Unisys Corp. (US)/Air China and China Eastern Airlines
Sold 2200-series mainframe computer systems. $5.3 million. 11/90.

Fuji Bank (Japan)/Air China
Extended 12-year loan to finance purchase of Boeing 747-200 aircrafts. $115 million. 10/90.

Investments in China

Datacraft Asia Ltd. (Hong Kong), a subsidiary of Datacraft Ltd. (Australia)/CAAC and China Aviation Supplies Corp. (CASC)
Established joint maintenance center in Beijing for data communications products. 12/90.

Hong Kong Air Transportation Group (Hong Kong)/Guangzhou-Kowloon Railway Corp.
Established Shenzhen Xujie Through Transport Service Corp. cargo service joint venture. 12/90.

Volkswagen AG (Germany)/First Automotive Works (FAW)
Established FAW-Volkswagen Automotive Co. joint venture in Changchun, Jilin Province to manufacture Golf and Jetta automobiles. $808 million (¥4.2 billion) (FRG:40%-PRC:60%). 12/90.

Airbus Industrie (France)
Opened representative office in Beijing. 11/90.

France/Dongfeng-Citroen Motor Vehicle Co., a joint venture between Automobiles Citroen SA (France) and No.2 Automobile Works
Extended loan to finance new automobile model to be built in Shiyan, Hubei Province. $392 million (FFr2 billion). 11/90.

Suzuki Motor Corp. (Japan)/Chang An Machine Building Plant
Established joint venture in Chongqing, Sichuan Province to manufacture automobiles. 11/90.

China's Investments Abroad

Tong Djoe (Singapore)/China Travel Service
Established PT Cempaka Travelindo Service joint venture in Singapore to promote tourism and business links between Indonesia and China. $1.2 million. 11/90.

Other

Banque Nationale de Paris (France)/Guangzhou Peugeot Automobile Co. Ltd., a joint venture between Peugeot S.A. (France) and Guangzhou Automobile Factory and BOC
Extended loan to finance expansion project. 11/90.

Japan/Ministry of Railways
Provided government loan for purchase of 720 freight cars from Qiqihar Carriage Works. 12/90.

Singapore Airlines Ltd.
Began an additional weekly flight between Singapore and Guangzhou. 11/90.

Miscellaneous

Investments in China

United States Foreign Commercial Service/Shenyang World Trade Center
Established US-China Business Information Service Center (USCBISC) in Shenyang, Liaoning Province to provide services for US businesses. 11/90.

China's Investments Abroad

Togo
Received Chinese interest-free loan to finance construction of a stadium in Lome. 12/90.

Other

Germany/Investment Bank of China
Extended government loan to upgrade automobile production, light industry, and textiles. $17.8 million (DM27 million). 12/90.

World Bank
Approved loan to support rural industries. $114.3 million. 12/90.

Italy
Donated relief goods to victims of flooding in Hunan. 11/90.

Japan
Provided loans for hydropower station, reservoir, water supply, chemical fertilizer, and highway bridge projects. $281 million (J¥36.5 billion). 11/90.

United Nations Development Programme (UNDP)
Provided funding for Capacity Building for Training Managers of Economic Development of Poor Areas Project. $1.1 million. 11/90

Asian Development Bank
Provided loan to expand and upgrade secondary vocational and technical education systems. 10/90

Australia
Provided loans to finance auto manufacturing in Zhejiang, copper pipe production in Guangdong, hog raising in Shanxi, and an ultra-sound project. $14 million. 10/90.

Germany
Provided financial aid for reconstruction in earthquake-stricken areas in Qinghai Province. $3.3 million (DM5 million). 10/90.

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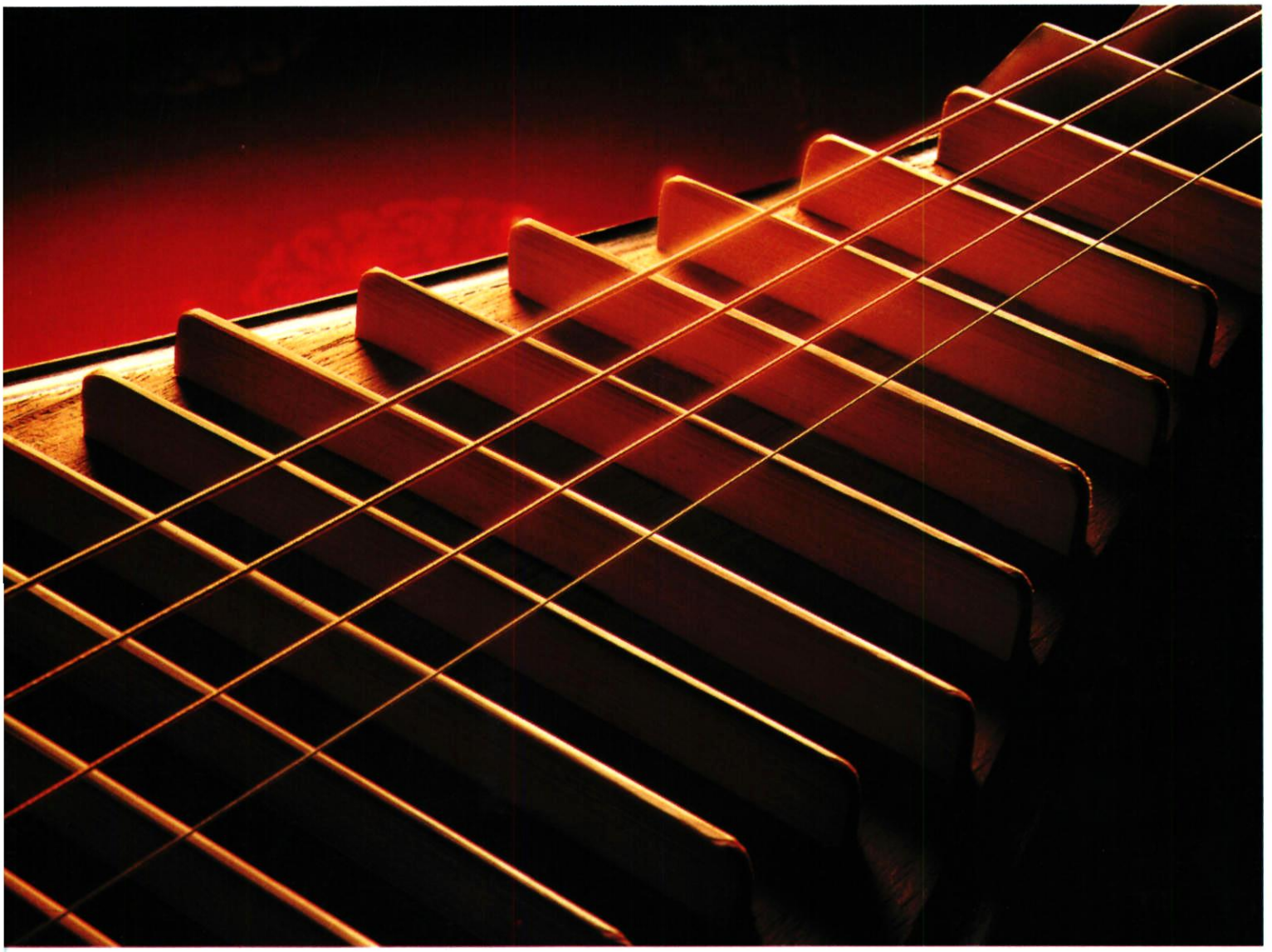

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