The China Business Review

March-April 1982

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The China Business Review

The Magazine of the National Council for US–China Trade

March–April 1982 Volume 9, Number 2

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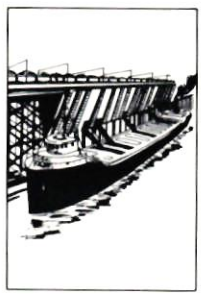

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摘要

BAOSHAN PAYS ITS BILLS

Now that the furor over the so-called "canceled contracts" has died down, it has become clear that China met all of its payment obligations for complete plants last year. In fact, the consortium responsible for the cold rolling mill at the Baoshan Steel Plant received its second payment on time in December, 1981—after the project had been suspended, but *before* the two sides had agreed to alter the contract. Under the amended agreement signed on March 1 by TECHIMPORT and the consortium (led by Schloemann-Siemag of West Germany and including Wean United of Pittsburgh), the final delivery of the equipment will be postponed for at least three years.

ARCO's DRILLING PLANS

Atlantic Richfield's offshore oil agreement with the Ministry of Petroleum, announced in June 1982, has not yet led to actual exploration. Although the agreement is believed to have settled the major issues, including the crude split, important details still have to be worked out before an operating agreement is signed.

With bidding now under way, ARCO is the bellweather 24 American companies are watching as they attempt to negotiate their own offshore exploration contracts with China.

ARCO hopes that its drill ships will begin work in the South China Sea this fall—right after the typhoon season, and still six months before any other exploration company is expected to arrive on the scene.

CHINA BUYS LANDSAT STATION

Even more significant than its $10 million price tag are the implications of the recent Landsat ground station sale to the Chinese Academy of Sciences. The sale is the first sign that China intends to adhere to the Understanding on Cooperation in Space Technology signed between NASA and China on January 31, 1979. China agreed to purchase, "under suitable conditions," a US-designed and launched communications satellite and a Landsat ground station. Since that time, Chinese overtures to foreign suppliers have caused NASA serious concern.

The intense competition for the deal pitted MacDonald Dittwiler of Canada against Land Resources Management Corp. of California, the ultimate winner. The question now is whether the sale will survive the export licensing process.

FOREIGN AID SNAGS

Using foreign aid may be harder than getting it. Thus far only $40 million of the approximately $500 million made available to China by the Japanese government's Overseas Economic Cooperation Fund has actually been drawn down. The generous 30-year loan at 3 percent interest was to finance six infrastructure projects. At least one of them, a hydroelectric dam, has been suspended due in part to disagreements over how to handle the displaced farmers. Four other projects—two coal ports and two rail lines—are running considerably behind schedule.

Pilferage at one of the ports has impaired construction. One rail line reportedly is delayed because the Chinese had difficulty deciding on a route. OECF is reluctant to consider financing other projects until these are completed.

The World Bank's own China loan program also has run into bureaucratic obstacles. The $200 million education loan approved by the bank's board in mid-1981 may be delayed until June 1982, owing to disputes over the bidding documents' wording.

INVESTMENT FEVER

Large numbers have crept back into the China trade. Not since the ambitious 10-year plan was unveiled in 1978 (that Vice-Premier Li Xiannian said in 1978 would cost $600 billion) have such large sums been dangled before the noses of Western firms. Fujian Province is counting on $800 million in foreign investment to meet its 1981-85 capital construction plan, and Guangxi recently went knocking on doors in Hong Kong for $4 billion. In addition, a major part of the estimated $220 billion needed to renovate China's 400,000 enterprises during the current decade will have to come from abroad, one top PRC official recently announced.

Many of these expenditures, however, are "investments outside the state plan," as the Chinese call them. This means that limited funds, if any, have been earmarked in China's state budget to provide the labor and infrastructure that in years past were offered by the Chinese side. Not only is Beijing not willing to fund these projects itself, but in many cases it has not allowed local officials to offer the favorable terms that could attract the large sums needed.

FIRST SISTERS, NOW PARTNERS

Ohio and Hubei Province, arguably the most entrepreneurial of "sisters," have added their first joint venture to the fold. Cleveland's Parker Hannifin Corp. and the Hubei Automotive Industrial Corp. have just incorporated the Hubei Parker Seals Company, Ltd., a 49/51 joint venture that the Americans call "a direct result" of Ohio's state-to-province protocol.

Before year's end, the company should be turning out its line of air, water, and oil seals for automobiles, trains, ships, and various types of industrial machinery. Parker Hannifin is supplying the design and initial equipment for the Hubei factory, as well as 49 percent of the venture's $990,000 capital. Current plans are to export 65 percent of output.

Barney Barnd, president of Parker Hannifin's international division, says the agreement fell into place on the company's third visit to Hubei. The

Chinese were particularly interested in the firm's o-ring sealers, developed to combat the leaking of hydraulic fluids, a major problem affecting Chinese machinery.

STREAMLINING THE BUREAUCRACY

The drive to make government organs "small but highly capable," took a spectacular turn on March 8 when the Standing Committee of the Fifth National People's Congress decided to reduce China's 98 ministries, commissions, and agencies under the State Council to only 52. The 10 most important changes, already implemented or planned:

1. The State Planning Commission (in charge of long-range planning) will be strengthened, as will the already powerful State Economic Commission (in charge of annual plans). The SEC will take up the duties of the abolished State Agricultural Commission, State Capital Construction Commission, State Energy Commission, and the State Machine Building Industry Commission.

2. A new Ministry of Foreign Trade and Economic Relations has been established under Chen Muhua. It consolidates the functions of the abolished Ministry of Foreign Trade, Ministry of Economic Relations with Foreign Countries (China's foreign aid arm), and the Import-Export Commission (the former top planning agency in charge of foreign economic relations).

3. The ministries of Water Conservancy and Electric Power, split apart in 1979, are to be merged into the Ministry of Water Conservancy and Electric Power. This will bring all hydroelectric and dam work under the authority of Qian Zhengying.

4. The Ministry of Food will be merged into an expanded Ministry of Commerce, as will the All-China Federation of Supply and Marketing Cooperatives.

5. A new State Council Standing Committee consisting of the premier, two vice-premiers, a secretary-general, and an unspecified number of "state councilors," will be set up to coordinate the remaining commissions and ministries. The state councilors will have the same rank as vice-premiers, and may head commissions or ministries.

6. The total staff of the State Council and its subordinate commissions and ministries will be cut by one-third, from 49,000 to 32,000. The number of vice-premiers will be reduced from 13 to 2. (Though neither has been named yet, one designate is apt to be Planning Commission Chairman Yao Yilin.) The number of ministers and vice-ministers will be cut from 117 to 27. This will lower the average age of each official from 64 to 57. In order to make leaders "younger, better educated, and professionally more competent," a mandatory retirement age of 65 has been set for ministers, and an age limit of 60 for vice-ministers and department directors.

7. Major personnel changes in ministries are taking place: Chemical Industry Minister Sun Jingwen is being replaced by Vice-Minister Qin Zhongda in a move that is probably related to the disastrous chemical plant import program of the late 1970s. Commerce Minister Wang Lei, who had earlier been accused of using his power to obtain personal privileges, has been relieved of his duties. And all vice-ministers in the coal and textile ministries have been replaced.

8. A new state commission headed by Premier Zhao will be created to implement these and other reforms.

9. China's provinces will be required to carry out similar organizational reforms sometime next year. Altogether, it is rumored that 200,000 out of 600,000 government officials at all levels might lose their jobs, although not necessarily their pay or perquisites.

10. There are hints that a number of new mergers have yet to be carried out. The areas ripe for consolidation include cultural affairs (currently handled by two ministries, one of them just established last year), machine building (handled by eight ministries and several bureaus), and agriculture (now handled by three ministries).

NEW BANK CREATED

The People's Bank of China will become a central bank, and turn its commercial banking functions over to a new Industrial and Commercial Bank, a top Bank of China official recently told the National Council. The new bank will operate independently of all pre-existing financial institutions, such as the Construction Bank, Agricultural Bank, and the new China Investment Bank, established last December. Significantly, this is the only change that will take place in the banking sector resulting from the economic shakeup now being implemented in China, the official said.

MAGAZINE STAFF

Nicholas H. Ludlow
director of publications, research, and planning

James B. Stepanek
editor

Carol S. Goldsmith
managing editor

Chris Brown
Martin Weil
staff writers

Lori K. Starrs
production assistant

Christopher M. Clarke
research associate

Jennifer Little
research assistant

Judy Bourke
manager, publications sales and advertising

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TRADEMARK REGISTRATION IN THE PRC

A newly revised and updated publication, **Trademark Registration in the PRC**, is now available from the National Council for US-China Trade. The 1981 edition is a practical guide to all the procedures, fees, and documents required for filing, authenticating, renewing, changing, reassigning, and cancelling marks in China.

The publication features a special section of answers to the most frequently asked questions about trademark registration in China:

- Can more than one trademark application be filed by a single party using only one power of attorney?
- Are trademarks renewable in the PRC?
- What is the procedure for application and/or registration of a trademark in China?
- Can fees be paid in US currency?
- Is it necessary to prove use of a foreign trademark in China?
- What words are prohibited in a trademark registered in China?
- How long does it take to process a trademark application in the PRC?

Trademark Registration in the PRC includes copies of all application forms for registration, power of attorney, renewal, assignment, and alteration. These can be used for actual applications.

The book also features the complete list of 78 classes of goods in China; all of China's trademark regulations and implementation rules; and actual correspondence with the CCPIT's Trademark Registration Agency, through May 4, 1981. Updates will be included with every copy.

This how-to book should be on the shelf of every company's legal department and of every lawyer dealing with technology transfer to the People's Republic of China.

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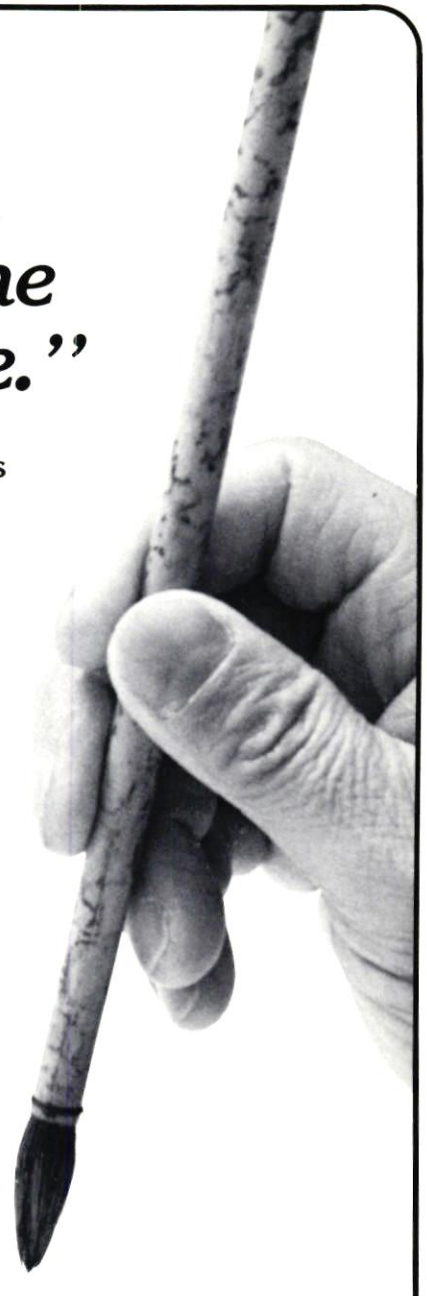
William Butler Yeats



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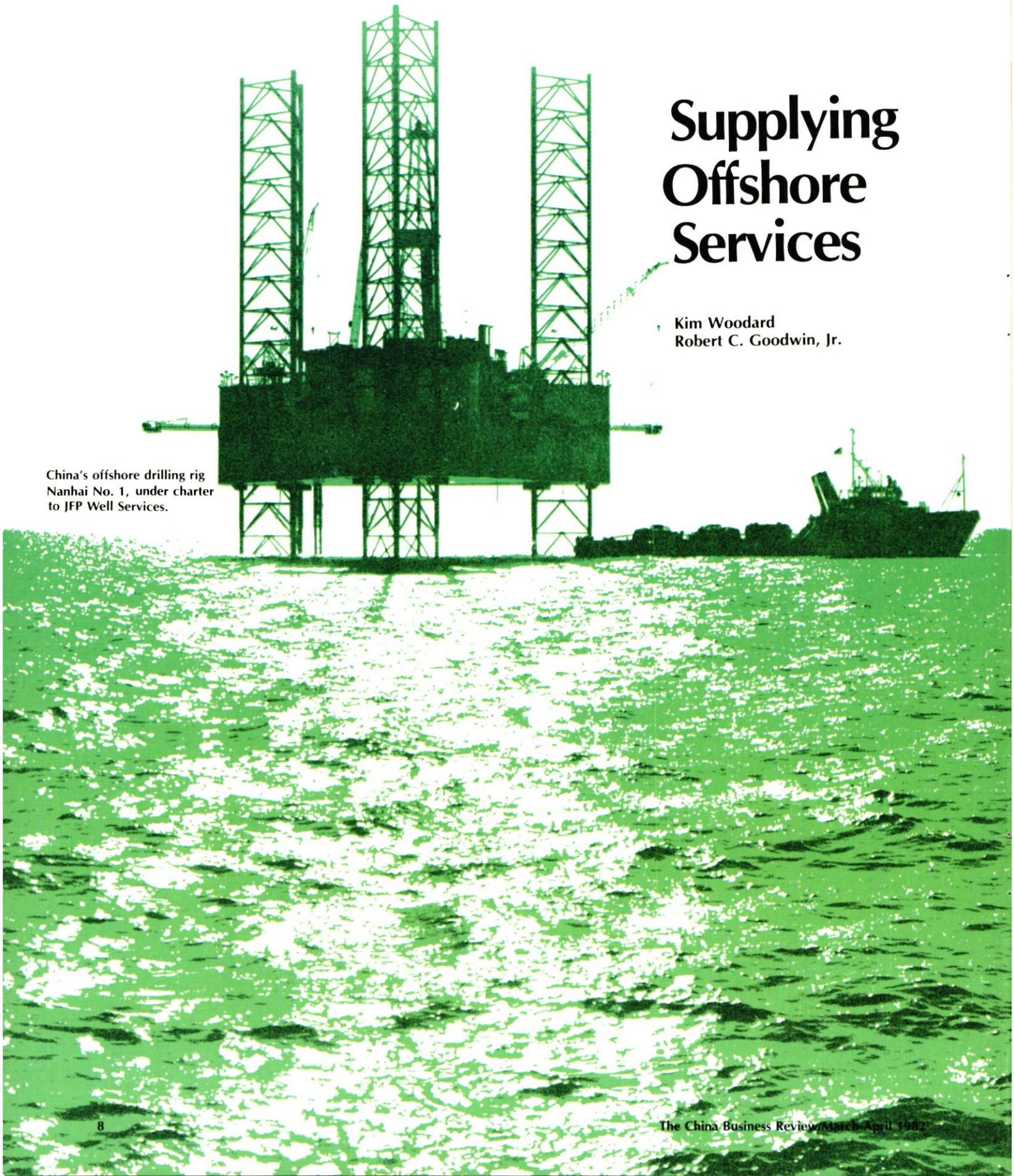

China's offshore drilling rig Nanhai No. 1, under charter to JFP Well Services.

Rising excitement is now centered on the development of China's offshore oil resources. Within a single week in February, Beijing announced the long-awaited Offshore Petroleum Regulations, invited bids on 100,000 square kilometers of the shelf, announced the formation of the China National Offshore Oil Corporation, and issued detailed regulations implementing the Foreign Enterprise Income Tax Law. Interest is focused on the South China Sea, where US exploration companies carried out seismic surveys during 1979 and 1980 at an estimated cost of $200 million—free to the Chinese—and thereby won the right to bid in the first round. The companies guard the evaluations of their seismic data very closely, but concur in the judgment that the shelf may contain substantial commercial petroleum resources.

In terms of the commercial prospects for American business, the exploration contracts themselves are only the tip of the pyramid. Each of the successful exploration companies, or operators, requires a vast array of support activities, including contract drilling, transportation and communication networks, specialized services (such as well logging, engineering, mud and cement services, and testing), and equipment supply lines that inevitably reach all the way back to Houston.

Support activities for offshore exploration and development represent an equally enticing prospect for the Chinese. Following the advice of Norway's Statoil, the principal foreign consultant to China's Ministry of Petroleum, Beijing is seeking to monopolize the spin-off value of offshore activities. The Chinese are asserting this control by requiring preferential use of Chinese supplies and equipment in the model contract, and by creating the infrastructure to ensure that such requirements can be met. Chinese efforts in this regard include: establishing support bases along the coast of Guangdong Province; setting up new offshore service corporations; giving preferential treatment to Chinese suppliers through the enforcement of maritime, communications, and customs regulations; and pushing US companies toward cooperative training and technology transfer programs.

Mitigating the competition between US and Chinese suppliers will be the need to cooperate in laying down supply lines quickly so that US exploration companies can begin drilling in 1983. (Atlantic Richfield may begin this year.)

China is also under pressure to supplement its onshore oil output, which has been at a plateau for three years. In the coming year, Beijing will have to make every effort to facilitate normal support activities for a fleet of at least 10–20 mobile drilling rigs. In view of the time pressure, the requirements are staggering, and the premium on cooperation from both sides is very high.

Actual oil production may be a long way off, but oil supply and service companies look forward to business opportunities as the exploration of China's continental shelf begins over the next few years. The only major worry is the preference clause in China's February petroleum law, which requires oil companies to "give preference to procuring and using equipment and materials manufactured and supplied by the PRC, provided that these are competitive."

The Best Locations

The principal consideration in selecting a supply base is its proximity to the sedimentary basins to be explored. Basin location determines rig location, and rigs in turn require convenient land-based helicopter service. China's small fleet of Bell 212 helicopters can each carry 10 passengers and a pilot within a radius of 200 kilometers, or 8 passengers and an extra 40-gallon fuel tank as far as 400 kilometers.

Assuming refueling or topping capabilities on the rigs, helicopter services could be provided within a 400-kilometer radius of three principal offshore supply bases, which would cover most of the continental shelf to be explored. But this alternative would double both the per-passenger kilometer cost of personnel transportation and the time spent getting back and forth. It is more likely that the exploration companies will push for satellite bases within 200 kilometers of each theater of operation.

To date, only Zhanjiang has been officially designated a South Sea base. But Chinese petroleum officials and Guangdong provincial authorities have given strong indications that major bases will be established in Nantou or Shekou, just across the Hong Kong border, and in Shantou (Swatow), at the extreme eastern end of the South China Sea portion of the continental shelf. In addition, Sanya (Yaxian) at the southern tip of Hainan Island will likely be designated a satellite base for operations in Atlantic Richfield's contract area south of Hainan.

Zhanjiang was chosen as the first base because of its excellent harbor, the existing sea and rail links, the availability of an ancient colonial housing compound for expatriates, and for its proximity to the Total Chine contract area (*see* map). Total spudded its first well just west of the Leizhou Peninsula in January 1981, at a point about 110 kilometers from the airstrip at Zhanjiang. Total is leasing two Chinese-owned jackup rigs (Nanhai III and IV), serviced by air and sea from Zhanjiang.

Conditions at the Zhanjiang base are typical of those likely to be encountered at the new supply bases. It consists of a 300-meter wharf, a Control Data computer center for well-logging data analysis, a small fleet of workboats and other vessels, a pipe and casing yard, and the housing compound. The wharf and computer center are located on the eastern side of a large estuary, and the housing compound is on the western side, which means that bus and ferry connections are required between the living quarters and the main work areas. An outlying airstrip is used for fixed-wing flights via CAAC to Guangzhou and Haikou (Hainan), as well as the helicopter base for the Total operation. Boeing recently flew a 737 into Zhanjiang on a demonstration flight, and CAAC now reportedly wants to purchase three 737s for the Zhanjiang routes.

The wharf at Zhanjiang lacks warehouses and heavy lifting equipment. (There is a warehouse at a separate

location, but not at dockside.) A base of this type would normally have at least two warehouses, fuel tanks for bunkers, several workshops, a power plant, office space, a canteen, and three or four truck-mounted cranes. None of these facilities have been installed, although there is a vast open area directly behind the wharf that is evidently intended for the construction of additional facilities. Mud, chemicals, and cement are stored in bags on pallets, and are covered only by plastic or canvas. There are no bulk tanks or blowers for the dry storage of mud and cement. In short, the wharf area is only about half completed.

On the other hand, the floating equipment at the Zhanjiang base is more than sufficient to meet current needs, and is ample for the first three or four rigs. There are eight supply boats, water and oil tankers, three 8,000-hp workboats with tail rollers for anchor handling, two 6,000-hp workboats, three 3,800-hp workboats, as well as a very heavy floating crane and pile driver, a modern seismic vessel, and a new coring vessel with 200-meter water depth and 2,000-meter drill depth capability. Every vessel in this fleet was imported and is owned by the South Sea Branch of the China National Oil and Gas Exploration and Development Corporation, which operates the base.

The service fleet, worth at least $50 million, is currently idle, with the exception of two 3,800-hp workboats that service Nanhai III for Total. The crew members are all Chinese.

The drill pipe and casing yard is as impressive as the service fleet. Located 25 kilometers from the wharf, it has sufficient drill pipe for eight rigs, as well as an extensive stock of casing of various diameters, and a supply of risers of standard dimension. The yard has a workshop with drill pipe inspection gear, and machine tools to recut drill collar connections. Facilities are underutilized, but that problem could vanish as the number of rigs increases in 1983.

Typical Offshore Operating Requirements

Drilling contractor

Rig crew labor
Repair and maintenance
Helicopter service
Work boats
Replacement supplies
Food and catering
Insurance
Shore offices
Radio communications
Navigation aids

Specialized contractor

Labor contractor
Work boats
Helicopter services
Electric logging
Mud logging
Mud engineering
Cementing
Diving services
Testing services
Casing crews
Fishing
Perforation
Seismic
Specialty services

Consumables

Bits
Downhole gear
Casing
  Wellheads
  Seals
  Liners
  Hangers
Muds
  Bentonite
  Barite
Cememt
  Class G
  Class H
Chemicals
Testing equipment
  Slim hole gear
  Tubing
  Packers
Water
Fuel

Shore base

Loading
  Quay
  Cranes
  Trucks
  Forklifts
  Hooks
  Line
Storage
  Warehouses
  Muds
  Chemicals
  Cement
  Water
  Fuel
  Pipe racks
Workshops
  Repair
  Maintenance
  Fabrication
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  Radio
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  Telephone
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Housing
  Schools
  Hospitals
  Hotels
  Recreation
  Banking

Rear base

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  Legal
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  Agents
  Storage
  Terminals
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  Visa
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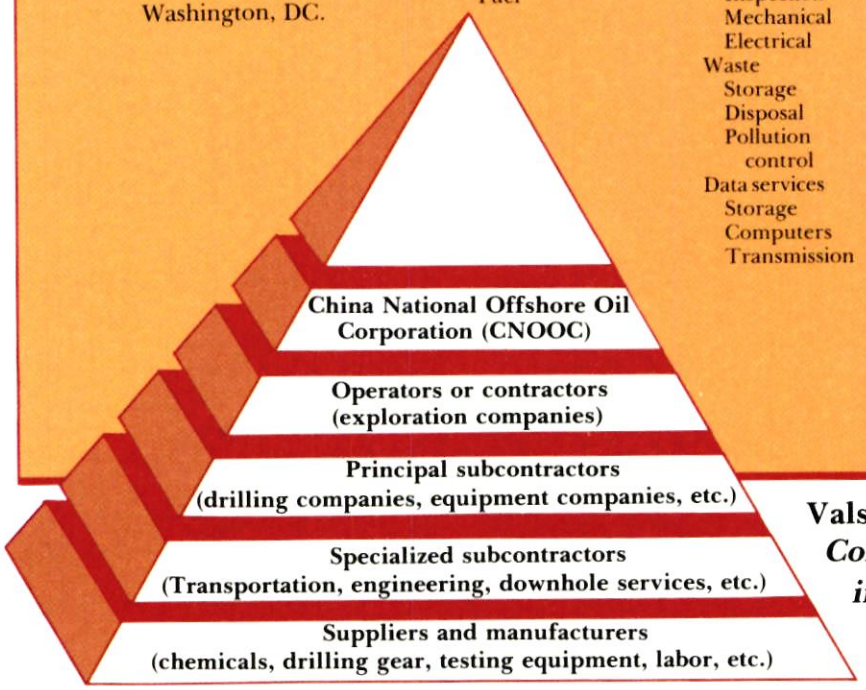


Valsvig's Pyramid
Contractual Relations in Offshore Exploration

China's planners are aware of the need to upgrade support and logistical facilities *before* large-scale exploration activities begin next year. A nine-member Offshore Supply Base Investigation Group led by Zhang Zhenguo (vice-president of the Petroleum Institute of Planning and Engineering) visited Houston in December. Hosted by the National Council and such industry giants as Dresser, NL Industries, Brown and Root, and Baker Tools, the delegation spent a week at the supply base at Morgan City, Louisiana, and examined the entire logistical network, from equipment manufacture to the operation of a jackup rig and a production platform in the Gulf of Mexico. The delegation learned much about the sophisticated infrastructure needed to keep rigs operating efficiently, and expressed particular interest in the "wareship" concept of floating supply base technology.

It must be stressed, however, that the difference between the support required for one or two rigs, and that needed for a rapidly expanding offshore drilling operation is more than a matter of scale. Communication, transportation, storage, labor, housing, and other basic requirements increase exponentially as new rigs are added. The variety and sophistication of equipment needs and specialized technical services will also multiply rapidly as the giant American operators move onto their contract areas next year.

There is simply no way that China can develop the services required within such a short time frame. Although there are established facilities at Zhanjiang, the supply bases at Nantou, Shantou, and Sanya are entirely undeveloped. The sections that follow examine the company requirements for efficient supply and support services, and what must be done to meet those requirements in the short months ahead.

Capital Requirements

In projecting capital requirements for offshore oil and gas projects, careful distinctions must be drawn between the exploration phase, the development phase, and the production phase. William Lear, vice-president of First National Bank of Chicago, recently placed the total capital requirement for the exploration and development of the South China Sea on the order of $20 billion by the early 1990s. A similar figure has been suggested by other sources and is supported by experience in the North Sea, where each million barrels per day of production capacity has entailed a capital expenditure of roughly $10 billion (in 1980 dollars). Assuming a resource endowment comparable to that in the Gulf of Campeche in Mexico and a production plateau of 2 million barrels per day, the $20 billion total capital requirement is a reasonable estimate for the South China Sea.

Exploration costs vary enormously depending on water depth, drilling depth, and rock conditions. Day rates for offshore drilling rigs range from $40,000 to $85,000, according to the type of rig. At $15–$30 million per rig-year, a fleet of 20 rigs in operation by 1985 would cost roughly half a billion dollars per year, not including equipment, services, logistics, or management costs. A total figure for exploration costs of $1–$3 billion between 1983 and 1985 is, therefore, on the conservative side. It should be kept in mind that this exploration-risk capital will be shared by at least 10 to 20 companies, and will not be financed by bank loans.

The capital requirements for shore-based activities pale in comparison to these very large exploration risks. Using the cost of facilities in Norway as a standard of comparison, a fully equipped supply base with a single wharf (similar to Zhanjiang) might entail the following capital costs:

- $50 million for a wharf, warehouses, storage tanks, and cranes,
- $100 million for a service fleet for 7–10 rigs, including workboats, seismic ships, a coring vessel, and rig tenders,
- $10 million for a data processing center,
- $5 million for an office complex,
- $10 million for expatriate housing and medical facilities,
- $10 million for a communications network,
- $10 million for local shipping, rail, and road connections, and
- $20 million for fixed-wing aircraft, helicopters, and airport modernization.

These are rough figures, but they indicate that each major supply base will require $200–$250 million in new capital investments. Satellite bases would require somewhat less. If one includes some upgrading of the broader communication and transportation network (such as building the Hong Kong–Guangzhou highway), shore-based investments for the exploration phase alone could reach $1 billion by 1990.

The supply bases may be tied into the structure of Guangdong's special economic zones in a way that attracts an influx of foreign capital. The proposed Nantou supply base is just north of Shenzhen, an established special economic zone that has attracted more than $400 million of foreign investment in manufacturing and other ventures (see page 38). There is also a special economic zone in Shantou, another proposed supply base in eastern Guangdong, and the idea was floated as early as August 1979 to designate the entire area of Hainan Island, where the proposed Sanya base is located, as a special economic zone.

There are obvious advantages in having special economic zones in close proximity to supply bases. The 15 percent tax rate alone would make the zones attractive, and recent regulations also established favorable customs, travel, and labor conditions. Even if Guangdong decides to exclude the supply bases from the zones, in order to garner higher taxes on petroleum-related investments, the zones will facilitate the flow of capital into the supply bases, and conversely, the supply bases will provide a lucrative market for zone enterprises.

Organizational Requirements

Integrating Chinese and American corporate styles presents a serious obstacle to the rapid deployment of support services. US-based subcontractors and equipment suppliers fear entanglement with the Chinese government bureaucracy, and the exploration companies are skeptical that Chinese supply and service corporations can meet delivery commitments. Modern offshore drilling operations run on a tight 24-hour schedule imposed by high rig rates. Chronic delays caused by organizational constraints would jack up exploration costs.

The newly issued offshore petroleum regulations, as well as the basic Petroleum Law and the model contract, call for "priority of contract" for Chinese petroleum equipment and service suppliers whenever the Chinese supplier offers competitive terms. This broad provision applies to intangibles such as insurance, as well as to all phases of petroleum operations. The Chinese will enforce this preference clause using several devices:

▶ exploration contracts will be combined with operational agreements for each successful bidder, forcing the bidding companies to use Chinese rigs, services, and supplies;

▶ separate third-party agreements may be sought with each foreign subcontractor as a condition of operation;

▶ foreign equipment and chemicals may be denied customs clearance if the Chinese feel they possess or could develop adequate supplies of these materials.

Preference clauses are not uncommon in international practice and were included in Norwegian exploration contracts for North Sea development. But integrating the operational agreement and the basic exploration contract is unusual. In insisting on preference in specific cases, frequent disputes with the exploration companies might ensue, which would slow the pace of exploration.

The preference clause also greatly complicates the relationship between the exploration companies and their customary suppliers and subcontractors. Since the operational agreement is integrated with the basic exploration contracts, foreign subcontractors may be forced to use Chinese equipment, services, labor, and insurance for part or all of their operations in the China theater. When some subcontractors scramble to get into the South China Sea next year, they may subsequently find themselves pushed aside by Chinese supply and service corporations as the corporations grow and profit under the preference clause.

It is still unclear what conditions might be imposed on suppliers and subcontractors if they negotiate directly with the China National Offshore Oil Corporation and its subsidiaries. Many companies are particularly apprehensive about joint venture contracts with their Chinese counterparts, owing to the management headaches many joint ventures have experienced.

Fortunately, the offshore petroleum regulations do not specify a rigid joint venture framework for suppliers or subcontractors, and seem to leave room for wholly owned company subsidiaries working alongside Chinese companies.

In February, Beijing announced the establishment of the China National Offshore Oil Corporation (CNOOC), which is "in full charge of the work of exploiting offshore petroleum resources in the PRC," according to Article 5 of China's February 10 offshore petroleum regulations. The CNOOC will presumably absorb the South China Sea Branch, the Offshore Department of the China National Oil and Gas Exploration and Development Corporation, and other entities that have competed in the past for control of the offshore projects.

The CNOOC will also control a cluster of its own subsidiaries that will provide supplies and services under the preference clause. More specialized companies will probably be announced in the future, but the preliminary list of companies and their services includes the following:

▶ China Ocean Engineering and Service Corporation (rig towing, service boats, diving, and platform construction),

▶ China Shipbuilding Industry Corporation (rig construction and repair),

▶ China Offshore Petroleum Design and Engineering Corporation (engineering and design of production systems), and

▶ Offshore Oil Aviation Service Corporation (helicopter services).

In addition to these subsidiaries, coastal shipping will be monopolized by the existing China Ocean Shipping Corporation (COSCO). Insurance for pollution, blowouts, weather damage, and boat charter will be provided by the People's Insurance Company of China, a subsidiary of the People's Bank of China.

Since Guangdong Province spans the entire South China Sea theater of operations, including Hainan Island, provincial authorities will undoubtedly exert their influence over all coastal operations. If history is any guide, this power will be guarded jealously and exercised independently of the Ministry of Petroleum and other central authorities. The province controls the special economic zones directly, and will have a say over customs and inspection, air transport and communication, coastal shipping, construction licenses, labor contracts, and other items. City governments will certainly get into the act, as well, and the Chinese Navy will ensure that no matters of potential national security significance are overlooked (such as civilian landing rights at Sanya, where a naval base is located).

Photo by New China Pictures

Zhanjiang port on the Leizhou Peninsula.

The Petroleum Regulations

China's February Offshore Petroleum Regulations clearly contemplate production sharing contracts, though the specific system of remuneration is not mentioned. In general, production sharing contracts operate in the fashion the name implies—production is shared between the producing country and the oil company. Most production sharing contracts allocate a set percentage of oil produced (such as 15 percent) to pay for operations. Next, if any royalties are due, they would be paid. Of the remaining available amount, a certain percentage (perhaps 20–30 percent) is paid to reimburse exploration costs, generally on a schedule that provides for complete repayment (with

interest) of exploration costs within a reasonable period, such as five years. The remaining production is shared between the producing country and the company. Typically the company share may vary from more than 40 percent to less than 15 percent. Income taxes, of course, must be paid by the companies on the income earned from the receipt of their share.

The regulations' most important provisions are the explicit promises that the Chinese government will protect investments made by foreign enterprises exploiting offshore petroleum resources and that profits may be repatriated. These provisions, essential for encouraging foreign participation, are written in a straightforward manner without the qualifications and equivocations that make US companies (and their lawyers) nervous. Subcontractors will be reassured by a number of provisions. For example, while assets utilized by the foreign oil companies in offshore exploration and production become the property of CNOOC (after the foreign contractor has fully recovered its investment for those assets), rental equipment provided by any third party is excluded. Thus, the regulations remove any uncertainty that a drilling contractor might have concerning the ultimate fate of its drillship.

Some of the provisions are applicable to both oil companies and service companies (referred to as subcontractors in the regulations). Such provisions cover the payment of all taxes, including personal income taxes for employees; the establishment of "subsidiary or branch or representative offices" in the PRC; preference for PRC equipment, materials, and services; and compliance with environmental and safety requirements.

Article 12 is bound to worry some subcontractors, inasmuch as it requires foreign oil companies to train Chinese personnel. Though the provision does not mention subcontractors, the same stipulation could be applied to them in the negotiations. The cost of training Chinese personnel, especially if the training takes place in the US, could prevent smaller companies from doing business in China. With regard to "on the job training," a service company—whose reputation depends on the quality of its employees—can be faced with a serious dilemma if it must accept a Chinese technician who is not up to the company's standards.

Regarding income taxes, China's December 16, 1981 law imposes a graduated tax that reaches a top level of 40 percent, with a local surcharge of an additional 10 percent.

The most important tax issue for US companies is not tax rate, but whether income taxes paid in China can be credited by such companies against US taxes. If the Chinese tax cannot be credited under the Internal Revenue Service rules, the US companies would only be able to take a deduction rather than a credit for Chinese taxes paid, a fact that would surely cause many US companies to become disinterested in the China theater.

The question of whether China's tax will qualify for foreign tax credit probably will be determined by the IRS this spring, once it has had a chance to study China's corporate income tax law and the recently issued regulations. Under IRS criteria, a foreign tax must truly be an "income tax." Foreign excise taxes, gross receipts taxes, privilege taxes, severance taxes, and taxes on units of production generally do not qualify as income taxes. In order to qualify as an income tax, the foreign tax must be based on net income—gross receipts less expenses and capital expenditures attributable under reasonable principles to such gross receipts.

Fortunately in the Chinese case, the tax is applied to all foreign operations, not just to petroleum companies, and is not a disguised royalty (a payment made in exchange for an economic benefit). These are the most common problem areas that have caused the IRS to deny creditability.

In addition, the regulations resolve a number of questions about the types of deductions that would be allowed in computing net income. Given the amount of care the Chinese have taken to structure their corporate income tax to meet US creditability requirements, its tax regulations will undoubtedly meet US requirements.

Another tax relevant to support companies is the Industrial and Commercial Consolidated Tax, which accounts for over three-fourths of China's total tax revenue. This tax is imposed in addition to the corporate income tax, and would not be creditable against US income taxes.

The Industrial and Commercial Consolidated Tax is levied at each stage of a commodity's production and distribution until it reaches the final consumer. Unlike the value-added taxes charged in many European countries, no credit is given for the taxes paid at each stage. The tax is applicable to all transactions relating to industrial and agricultural production, retail sales, and services, including transport and communications. The tax also applies to imports and exports. For US service companies that fall into the classification of "service trades," a tax rate of 3 percent of gross receipts is charged. Localities may impose up to a one percent surtax. In addition to the possibility that its own activities might subject it to this tax, foreign businesses should remember that the tax may affect the strategies and decisions of their Chinese partners.

Other relevant taxes include the vehicle and ship license tax, and the Individual Income Tax Law. The latter applies to foreigners who reside either temporarily or permanently in China, and has progressive rates ranging from 5 to 45 percent, with fixed deductions for living expenses.

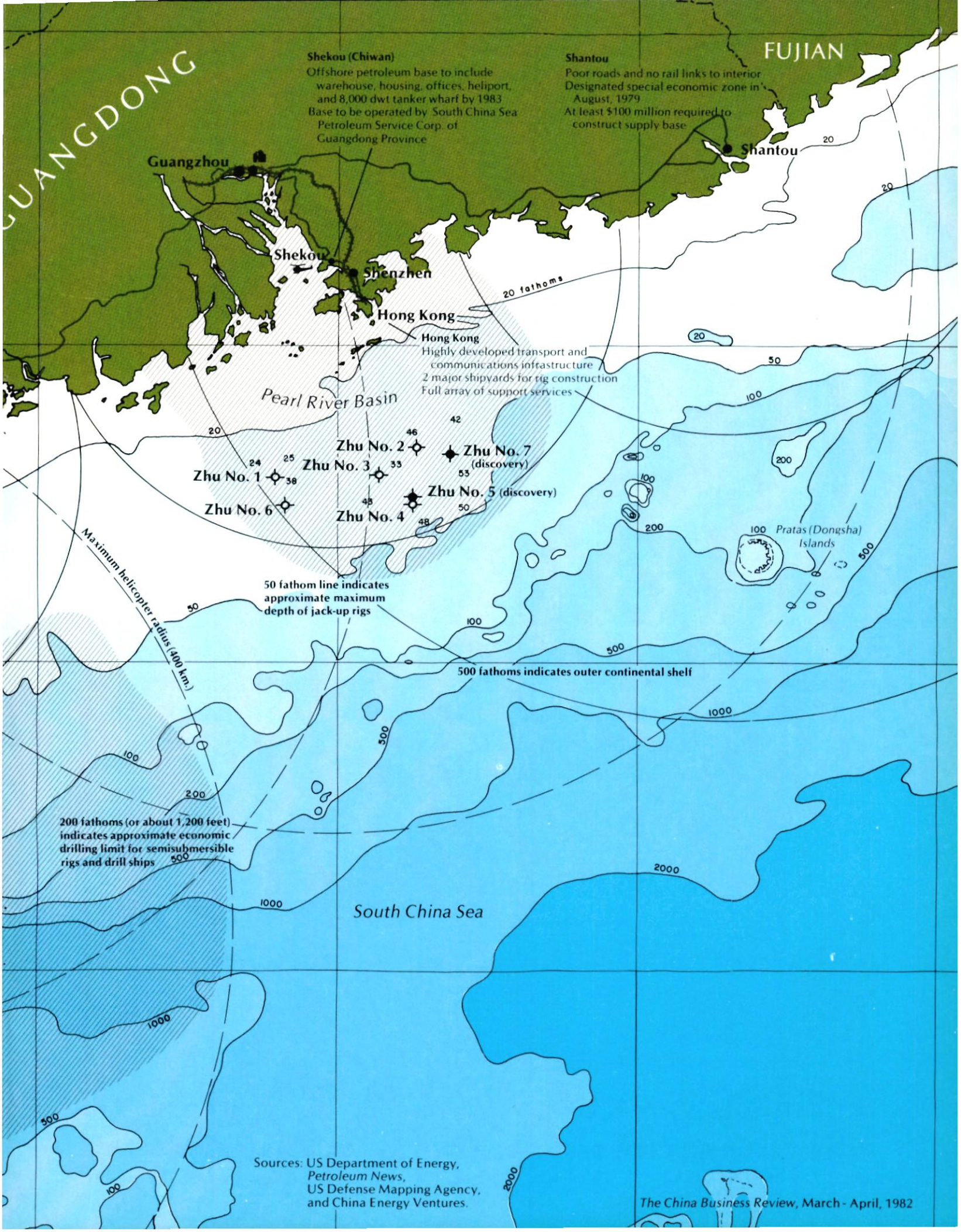
Labor

Labor contracts will have to be handled carefully by US companies. One issue that has been a thorn in the side of companies involved in joint ventures—the inability to fire Chinese workers—apparently has been resolved by promises that companies engaged in offshore work will be able to get rid of unproductive or incompetent workers. Another issue is the shortage of skilled laborers, particularly if the Chinese insist on putting their own people in positions above the level of roughnecks, roustabouts, and general utility laborers.

One final note of caution on the issue of labor. Chinese laborers on rigs will be paid $2 per day (although the Chinese government may charge the US company more than $100 per day per laborer). As a point of comparison, the local labor cost for a roughneck in Singapore for the traditional 12-hour workday is more than $18 per day, and in the Philippines more than $35 per day, with the laborer retaining a considerably higher percentage of the amount paid to the labor contractor than in the Chinese case. The US pay scale is more than $100 per day for roughnecks. These huge disparities between Chinese wages and those of other laborers could lead to tension and morale problems for US companies.

China's Offshore Service Bases

The China Business Review, March - April, 1982



Sources: US Department of Energy, *Petroleum News*, US Defense Mapping Agency, and China Energy Ventures.

The China Business Review, March - April, 1982

Rig and Drilling Contracts

Many argue that given the Chinese rig fleet, an ambitious program of new rig construction under way at Chinese shipyards, and the preference clause, there will be little room for foreign rigs in Chinese waters. Due to severe constraints on Chinese offshore drilling capabilities, however, at least half of the rigs required for offshore operations may be foreign owned and operated.

The most fundamental consideration affecting rig requirements in the South China Sea is the subsea topography of the continental shelf. In contrast to the shallow waters of the Bohai and the East China Sea, the South China Sea portion of the shelf slopes off more steeply, especially in the areas to the south and east of Hainan Island.

The active Chinese rig fleet includes 10 jackups (8 of which are imported) and one imported semisubmersible. There are currently 5 additional jackups and one semisubmersible under construction in Chinese shipyards. China's imported jackups have a maximum water-depth capability of 75–90 meters, depending on the rig. The three Nanhai jackups can theoretically operate in 85–90 meters of water (50 fathoms), although in soft bottom conditions, standard jackups lose 15–20 meters of water-depth capability. A Chinese 7-well program (Zhu Nos. 1–7) offshore the Pearl River Delta was conducted at the maximum water-depth capability of the Nanhai rigs in 40–50 fathoms.

Roughly half of the surface area of the South China Sea shelf lies beyond the 50-fathom line, out of reach of China's predominantly jackup fleet. Furthermore, there have been persistent rumors that some of the more promising structures revealed by the seismic surveys lie under the deeper side of the shelf, which would require floating rigs (semisubmersibles and drillships). When ARCO announced its exploration agreement for a contract area south of Hainan last June, the company indicated that it would use the drillship Glomar Java Sea for the early phase of the wildcat program. The Java Sea has a water-depth capability of more than 300 meters (165 fathoms), and a drill depth capability of nearly five miles.

A number of other factors favor the early use of drillships in the South China Sea. The area is subject to a 6 month typhoon season with some storms in the 100-mph range. Self-propelled drillships can pull the riser on short notice and steam around the periphery of the typhoon, and then reconnect to continue the well. In contrast, Total Chine was forced to move the Nanhai III, a jackup, completely off location for the entire typhoon season, interrupting the progress of Weizhou 11-1-1 for several months.

It is also likely that the demand for China's jackup fleet will race ahead of the supply of available rigs. Two of the jackups of domestic design and construction (the Bohai I and III) have been decommissioned, while five other indigenous rigs (the Bohai V, VII, IX, and XI, and the Kantan I catamaran drillship), are permanently assigned to the ministries of Petroleum and Geology. Of the eight imported jackups, three are under contract to the Japan-China Oil Development Corporation (JCOD) and Elf-Aquitaine in the Bohai, two are under contract to Total Chine

Rig Fleet Status in the South China Sea

About half of the South China Sea shelf lies beyond the 50-fathom line, and out of reach of China's predominantly jackup fleet.

Rig Name	Builder	Type	Maximum water depth (meters)	Maximum drill depth (meters)	Operator	Owner	Value (million $)
Nanhai I	Robin Loh (Singapore)	Robray 300	90	6,000	JFP Well Servicing	CNOOC	30
Nanhai II	Aker (Norway)	H-3 semisubmersible	300	7,600	(damaged)	CNOOC	40
Nanhai III	Hitachi Zosen (Japan)	Robray-300	90	6,000	Total Chine	CNOOC	30
Nanhai IV	Hitachi Zosen (Japan)	Robray-300	90	6,000	Total Chine	CNOOC	30
Unnamed	Guangdong Ship (China)	JU-200-MC	70	—	(Under construction)	Wah Chang, Bethlehem, National Supply	30
Glomar Java Sea (planned)	Levingston (US)	drillship	500	8,000	ARCO	Global Marine	60

SOURCE: China Energy Ventures, Washington, DC.

in the Beibu Gulf, and one works for the Ministry of Geology in the Yellow and East China seas. The Nanhai I is on "bareboat charter" (no crew) to JFP Well Services, and is available. China's lone semisubmersible (the Nanhai II, an Aker H-3 with 300-meter water-depth capability) is damaged and faces a year of repair work in the Huangpu shipyard, but should be available by 1983.

Chinese shipyards will add between 5 and 10 jackups to the fleet by 1985, although it is not clear whether CNOOC will retain ownership of the new rigs or sell them to foreign operators. Two Chinese-built jackups designed by Magnum Marine are under construction at Dalian, with options available for at least two more. Wah Chang, National Supply, and Bethlehem Steel are working in a joint venture with the Guangdong Shipyard to produce a JU-200-MC mat-supported cantilever rig. Licenses have been obtained for the construction of three more jackups of this type, which is suitable for use in the South China Sea.

CNOOC will also have a limited number of semisubmersibles available for service in the deeper portions of the shelf. Aside from the Nanhai II, which should be in condition by the time contracts are signed in early 1983, a second semi of the Aker H-3 design (the Kantan III) is near completion in the Shanghai shipyard. China Shipbuilding Industry Corporation has licenses for the construction of two additional Aker H-3 semis, possibly at Dalian, but construction has not begun and will take several years. China possesses no modern drillships and apparently has no plans to acquire any.

This analysis suggests an available Chinese fleet of 10–12 jackups, and 2–4 semisubmersibles, for use in the 1983–85 period. Each exploration contract will specify a minimum number of wells in the first 3 years, and 2 subsequent 2-year periods, with staged relinquishments of unexplored or unproductive parts of each contract area. Assuming 10 separate contract areas in the South China Sea, and 2 to 3 rigs per area in the first 3 years, the total rig requirement would be on the order of 20–30 rigs, perhaps a third of which will be semisubmersibles or drillships. This indicates a demand in the 1983–85 period of perhaps 5 non-Chinese jackups and 5–10 floaters. The rig requirement would be far higher in subsequent years.

The prospect of leasing a Chinese rig, even a modern imported rig, with a largely Chinese crew is less than enticing to the exploration companies. And the contractual arrangement with Chinese rigs could upset the long-standing contractual relationships that exploration companies, which seldom own or operate more than a few mobile rigs, have with certain drilling companies (such as Global Marine, Pool, Zapata, Sedco, and Santa Fe). The contracts between the exploration companies and the drilling companies are governed by expectations regarding the division of responsibility, the technical level of equipment, and the training and experience of the crew. These expectations are critical because of the high capital cost of the equipment and the high day rates charged for the vessels and their crews.

There is some concern about the track record of the Chinese drilling fleet. The Bohai II capsized in 1979, the Nanhai II was grounded, maintenance is poor or nonexistent, unusual living conditions exist aboard Chinese rigs (hog pens, etc.), and crews tend to be inexperienced. Total Chine and JCOD have operated effectively over the past year using three Chinese jackups. Total uses tool pushers, mechanics, and drillers furnished by the French firm Forex Marine, alongside Chinese roughnecks, roustabouts, and utility men on the Nanhai III. Elf Aquitaine has reported serious friction among the crew of the Bohai X, along with expatriate complaints about living conditions aboard the rig.

There may be some advantage in day rates in the use of Chinese rigs. British Petroleum reportedly paid $40,000 per day for the use of Bohai VIII for two coring wells in the Yellow Sea. JFP has the Nanhai I on bareboat charter for just $22,000 per day. But savings in day rates are likely to be offset by inefficiency of operation, unless operating conditions on the rigs can be radically improved.

Developing Rear Bases

In addition to the string of forward bases and satellite bases along the coastline, offshore exploration could generate a demand for rear-base logistical services, including long-distance air transportation; shipping and surface transportation; telecommunications; trading, banking, and financial services; central warehousing; rig construction and repair; central offices and hotel space; and recreation. Guangzhou, Hong Kong, and Singapore will be the main contenders for shares of these services.

Efficient air travel is a key to cost-effective rig operation. Crews must be rotated on a constant schedule, parts flown in on short notice, and managers must have instant access to shore base facilities and the rigs to ensure a smooth flow of supplies.

It now takes as long to fly to Zhanjiang or Shantou from Hong Kong as to move from a hotel in Hong Kong to a hotel in Singapore or Tokyo (about six hours). Air transportation is available to Haikou, Hainan, but not to Sanya, which must be reached either by sea or by a six- to nine-hour bus ride. Since

Photo by Chen Xuexi of China Pictures

Exxon's ship *Bravo* operating in the Pearl River Delta.

Zhanjiang and Shantou have maritime customs but no customs office at the airport, travelers must stop over at Guangzhou—a stop that takes about four hours. Direct CAAC flights from Hong Kong to Zhanjiang and Shantou and the installation of all-weather landing radar would greatly speed air travel along the coast.

Coastal shipping is available to all potential supply bases on COSCO vessels. Zhanjiang and Shantou are ports of entry and already handle a substantial volume of international trade. Guangzhou, like other Chinese ports, has a slow turnaround time because of congestion. It takes from one to two weeks to transship to Zhanjiang from Hong Kong on 400-dwt coastal freighters. Container service to the US is available, normally by feeder service through Hong Kong (*see The CBR*, Sept.–Oct. 1981, pp. 10–28). Beijing has not yet indicated whether direct supply between Hong Kong and the rigs will be permitted.

Most light equipment and perishables can be trucked overland from Hong Kong. The Hong Kong Refrigerating Company is already providing Total Chine's French crew with food from Singapore, using refrigerated containers that can be transshipped by truck. Containerized trucking from Hong Kong to Zhanjiang is provided via Guangzhou by Santa Fe China Trucking, a subsidiary of a US trucking company. There is a rail line north from Zhanjiang, but it goes west to join with the Hanoi link through Guangxi Province, rather than east to Guangzhou. Nantou also lacks rail links to Guangzhou, though provincial authorities have floated a proposal for a 24-kilometer spur linking the Nantou base with the main Hong Kong–Guangzhou line.

Beijing worries about the security implications of direct communications with the outside world, and may impose strict licensing on any system that is installed. But as the number of rigs increases, so will the need for advanced telecommunications services, including satellite and microwave stations. Communication to the Total rig is by a standard MacKay Marine radio system that is also integrated with helicopter operations.

Communication between Zhanjiang and Hong Kong is now possible using facilities at the South Sea Branch offices, including a telex machine (no. 44086 COSSB CN), three telephone lines, and a carrier radio system. A telephone call to Hong Kong may require between four hours and two days before the connection is made.

One of Hong Kong's greatest advantages in offering rear base facilities is its highly sophisticated trade, banking, and financial facilities. The trading facilities are so good that China has long preferred Hong Kong to its own ports as an entrepot for trade with the outside world. However, Hong Kong's housing and office space is at a premium, with modern apartments running $4,000 to $8,000 per month. Recreational facilities are excellent and expatriate crews will probably rotate to Hong Kong for short leave periods.

Hong Kong has two modern, but very busy shipyards (Euroasia and Hong Kong United dockyards) that are already heavily engaged in rig construction programs. Three jackups and a drillship are under construction in Hong Kong yards, with more contracts pending. Three of these rigs are committed to other theaters, and one, the Glomar Adriatic VII, is reported available.

The Hong Kong government last year commissioned the Pasco Report on the feasibility of an offshore supply base at one of three potential sites. Plans for developing a base within Hong Kong territory are proceeding with caution, however, given the preference clause in the Chinese exploration contracts. If such a base is developed at all, it will have to specialize in areas not directly competitive with existing Chinese facilities, such as rig repair or jacket construction. But even in these areas care must be exercised, since Guangzhou has indicated its own intent to expand marine repair and construction facilities. Development of a Hong Kong base will depend in the last analysis on the pace and scale of discoveries. If large discoveries are made in the first years of exploration, Guangzhou will be unable to meet the demand for heavy marine construction and repair.

Aside from Hong Kong, both Guangzhou and Singapore will provide important rear base services and facilities. Guangzhou is the provincial capital and will be the seat of relevant government functions, as well as an important communication link to Beijing and the planning centers of the Chinese petroleum industry. Singapore, with its six rig yards and petroleum supply network, has a branch office from every company working the oil patches of Southeast Asia (Indonesia, Malaysia, Brunei, Thailand, and the Philippines). In the near term, Singapore warehouses will also supply operations in the China theater, although this function is likely to diminish with time.

The exploration phase of offshore projects in the South China Sea has been under way since the first wildcats were drilled by the ministries of Petroleum and Geology in the mid-1970s. To date, Chinese rigs have drilled eight wells in the Beibu (Tonkin) Gulf, of which six were listed as discoveries; four wells south of Hainan, of which one was listed as a gas show and one as an oil show; and seven wells 150 kilometers south of the mouth of the Pearl River, of which two were listed as discoveries and two as shows. (A "show" means that hydrocarbon content was found in the well, which is better than a dry hole, but less significant than a discovery.)

Exploratory drilling is expected to accelerate sharply between 1983 and 1985, with the installation of production platforms and development drilling—according to the most optimistic scenarios—beginning in 1986 and 1987. A more realistic target date for the first commercial production would be 1988 to 1990.

Financing Offshore Development

Following the exploration phase is the development phase, which should begin before the end of the decade. Commercial oil and gas development on delineated discoveries is a complex and costly enterprise, requiring a level of financial and logistical support that greatly exceeds support requirements generated at the exploration phase.

China already has moved well down the road toward establishing the banking and financial infrastructure needed to support offshore oil development. The Bank of China will play a central role in arranging commercial loans for platform construction, development drilling, pipeline and refinery facilities, and the export and trading infrastructure. The bank has assets of nearly $50 billion, and is roughly 40 percent the size of the Bank of America. In the past year, the Bank of China has computerized its accounts and extended its international operations through branches in London, Luxembourg, Singapore, and New York. In addition, the Bank of China is backed by the resources of the People's Bank of China, the country's central bank. The assets of these institutions include $4.9 billion in gold, and $4 billion in foreign

exchange. In short, the Bank of China will have no difficulty in participating in commercial loans to offshore development projects or in arranging syndicated credits for the projects.

The principal constraints on foreign bank participation in China's offshore oil development will be the problem of collateral and the continuing perceptions of political risk. Banks normally do not loan funds for exploration, but use the results of exploratory drilling to establish reserve estimates. The reserves of a given discovery are then tied into the terms of the loan as collateral, much as a house provides the collateral in a common mortgage. This traditional US approach to oil development financing is not available in China (or in many other countries), since formal ownership of the oil is vested in the government until the oil is exported beyond Chinese boundaries. The banks will therefore seek other collateral devices, such as forward oil purchases or shareholding in joint enterprises. But the bottom line in the case of China must be direct government assurances that the loans will be secured in the event of company default. These assurances may be provided through insurance and direct government commitments.

These assurances, in turn, will greatly increase the need to evaluate the political risks involved. To a banker, these risks will assume very real proportions over the 20–30-year life span of the offshore projects.

Production Platforms: The Experience to Date

While it is too early to predict the foreign role in the construction of production platforms, subsea pipelines, refineries, and export infrastructure, it is worth looking at what the Chinese already have done in these areas.

The Offshore Branch of the Petroleum Corporation of the PRC has designed, fabricated, and installed 22 drilling and production units on 18 steel jackets (the platform substructure) since 1966 for use on three oilfields in the Bohai. Total output from these platforms is less than 10,000 barrels per day. The platforms are arranged in groups of three, with drilling, production, flaring, and tank storage facilities. The jackets are constructed in drydock and floated to location, and then fastened onto pile-anchored templates. The largest jacket constructed to date was 42 meters square and 40 meters high.

No similar platform construction activity has occurred so far in the South China Sea. However, the Sixth Ministry of Machine Building (responsible for shipbuilding) has signed a joint venture agreement with the French firm Union Industrielle to design and build offshore platforms at the Huangpu shipyard in Guangzhou. Modification of the shipyard will cost $60–$70 million, and the platforms are valued at more than $100 million each, depending on depth and other design characteristics.

The Petroleum Corporation of the PRC has no experience in subsea pipeline construction. Such pipelines are expensive ($200,000 per kilometer) and will only be used in the event of large discoveries or gas fields. If fields are small or scattered, a floating system—semisubmersible platforms or moored storage tankers—might be used.

There are two existing refineries on the South China coast. The 120,000 b/d refinery complex at Maoming boasts a shale retorting capacity, and a recently installed Japanese hydrocracker. It is linked to Zhanjiang via a 20,000 b/d pipeline that terminates in a dock that can handle tankers up to 50,000 dwt, through which the refinery imports about 3.5 million barrels of Middle Eastern crude each year to supplement domestic supplies. Even with the imported crude, the refinery is underutilized at about 70 percent of capacity. The smaller 50,000 b/d refinery at Huangpu near Guangzhou is supplied by Shengli crude shipped in coastal tankers. It too is operating well below designed capacity.

Japanese refinery experts on a March 1981 delegation to Zhanjiang and Maoming expressed some reservations about the commercial viability of shipping South China Sea crude to Maoming for processing at the existing facility, much of which is out of date or in poor repair. The other option would be a new coastal refinery near Zhanjiang. Indeed, AmPac Oil Ltd. of Hong Kong and Plains Overseas of Houston broke ground last October in Zhanjiang for what they say will be a 26,000 b/d refinery worth $110 million. Guangdong Petroleum Chemical Industries Corporation, AmPac's joint venture partner in the project, will provide labor and land. The refinery is scheduled for completion in 1985, and will initially handle imported crude and waste oil for reexport. Once South Sea crude is produced in commercial quantities, the refinery may be reprogrammed to process and export it.

If the offshore projects succeed, there is little doubt that they would provide a massive influx of modern technology, both into the Chinese petroleum industry and into an array of ancillary industries. With even modest discoveries, the southern coast of China could be transformed within a few short decades. It is this prospect that spurs China forward in its dealings with the giants of the American petroleum industry. And if seismic indications are borne out through exploratory drilling, oil development in the South China Sea would be the largest single commercial undertaking ever between China and any foreign country, a development that could propel the United States to first rank in total financial and trade relations with China.

Kim Woodard (top) is president of China Energy Ventures, a Washington, DC firm that provides professional services to oil and energy companies doing business with China. Dr. Woodard is the author of The International Energy Relations of China *(Standford Press, 1980. Robert C. Goodwin, Jr. is a partner in the Washington, DC firm of Thompson, Hine, and Flory. He is general counsel to China Energy Ventures, and provides legal services to their clients.*

Form Approved: OMB No. 0625-0038

U.S. DEPARTMENT OF COMMERCE
INTERNATIONAL TRADE ADMINISTRATION

COMPUTER SYSTEM PARAMETERS

EXPORT LICENSE APPLICATION

FORM ITA-6031P (REV. 5-81)

The Problems With Country Group P

Despite some improvements, high technology exports still bog down under US export controls.

Chris Brown

The hopes of US exporters buoyed last summer when the US Commerce Department announced major steps toward relaxing export controls for China. Though they were based on policy decisions made as early as 1980, these measures continue to be hampered by interagency differences of interpretation—differences that stem from a fundamental ambiguity in US foreign policy toward China.

The most recent development in relaxing export controls was the publication of several amendments to the Export Administration Regulations at the end of last year. The amendments are an outgrowth of a policy laid out in 1980 that removed the PRC from Group Y, which includes the USSR and other East European countries, and placed it in its own, separate category, Group P. In addition, the amendments set new, more liberal technical guidelines for certain dual-use computer and electronic exports to China.

Although these revisions do not mark an actual policy shift, they are the first published technical standards that determine what can and cannot be exported to China. Moreover, the revisions reaffirm and expand the September 1980 guidelines, which define the criteria by which exports to China are controlled. In that definition, one major ambiguity remains. By placing the country in Group P, the Carter Administration took the step of separating China from the East Bloc but fell short of including it in a group of "friendly" nations.

China's ambiguous status—in limbo between friendly and unfriendly nations—is apparent in the wording of the new regulations. A summary of the amendments published in the *Federal Register* on December 29, 1981 reads: "...It is in our interest to foster a strong, secure, and friendly China, capable of deterring potential aggressors and contributing to peace and stability, and to participate in China's economic development for the benefit of China and the United States."

This summary stands in contrast to the requirement that validated licenses must be secured for certain exports to China. These licenses, according to the amendment, are to control exports that "would make a significant contribution to the military potential of any other country or combination of countries which would prove detrimental to the national security of the United States."

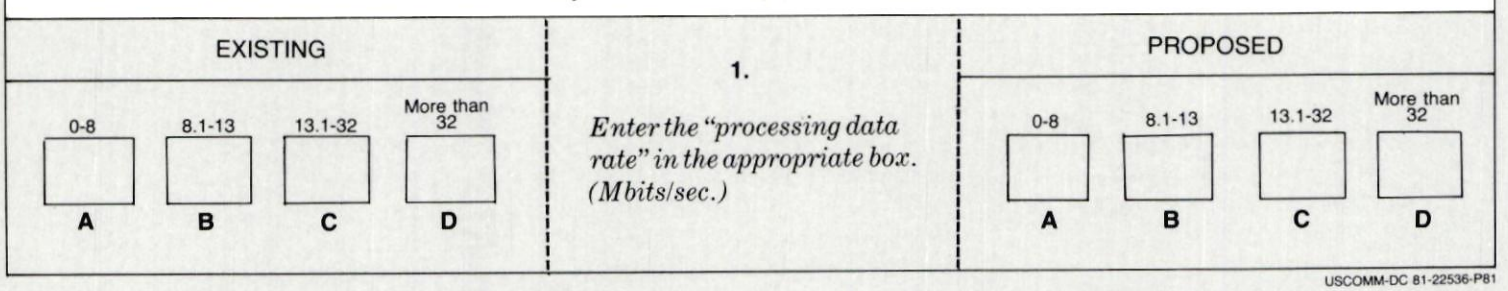
These two statements in combination pose, if not a contradiction, at least a bit of a puzzle: How can the US foster a "strong, secure, and friendly China capable of deterring potential aggressors" without making a significant contribution to the country's military potential? If the issue is whether or not the contribution proves detrimental to US national security, another troublesome question arises: To what extent is China's military capability still seen as a threat to US security? As one high-level government official commented, "Putting China in Group P is an acknowledgement that we're hedging....This is the reason for the learning curve problem in implementing new controls."

Without a clear policy statement on China, it is not surprising that a consistent trade policy has been slow in developing, or that the amendments setting new technical guidelines have run into interagency disputes.

The Liberalized Guidelines

The new guidelines have actually been in effect at the Commerce Department since last July, when officials announced a presidential decision to liberalize controls on dual-use exports to China. That announcement set forth three main policies:

▶ All validated export licenses not requiring COCOM review would be processed by the Department of Commerce without interagency review. (This measure was expected to result in



USCOMM-DC 81-22536-P81

Form Approved: OMB No. 0625-0038
U.S. DEPARTMENT OF COMMERCE
INTERNATIONAL TRADE ADMINISTRATION

COMPUTER SYSTEM PARAMETERS

EXPORT LICENSE APPLICATION

FORM ITA-6031P (REV. 5-81)

a three-fold reduction in processing time.)

▶ There would be a presumption of approval for most products with technical levels twice those previously approved.

▶ Cases above the double threshold would be considered on a case-by-case basis.

Since that announcement, many export licenses have been approved that would not have been acceptable before. Processing time also has shortened. Despite this progress, however, many US companies complain that export control liberalization in practice falls far short of the announced measures. Most of these complaints are leveled at the Department of Defense, which is seen by many exporters of high technology as the most conservative element in the export review process.

Interagency Differences

The Department of Commerce reports that since the July announcement fewer license applications have been referred to the Department of Defense for review. In a recent interview, Bohdan Denysyk, deputy assistant secretary of commerce for export administration, estimated that only 15 to 20 percent of the 1,100 export license applications processed in the last 7 months went through the Department of Defense, and that of these, 95 percent would have been referred to Defense under earlier procedures. Denysyk added, however, that Defense officials are informed of applications that are not referred to them.

Pentagon officials and private sector sources cast doubt as to the extent and effect of these reductions. Said one Defense Department source, "I'm not aware of any reduction in our control cases." Moreover, Defense Department officials have indicated that review is required even for technology below COCOM standards, although the rule of thumb is that only applications requiring COCOM review are normally referred to Defense.

Some observers believe there has been a real reduction of case referrals, but that the Pentagon still insists upon having a say over which cases it examines. Said one company executive in the computer industry, "All of our applications for validated licenses go to DOD. Those that remain in Commerce are very mickey mouse."

Commerce and Defense also differ over the interpretation of technical guidelines. Commerce officials adhere to the policy that the "double threshold" guidelines represent a technical ceiling under which there would be a "presumption of approval" (provided that the export is destined for an acceptable end use). Defense officials. on the other hand, report that they still examine cases falling under the double-threshold on a case-by-case basis, and have only a "predisposition" to approve such applications. Said one Defense Department source, "I don't think the advisory notes are clear-cut unless there is a total embargo, or a total absence of an embargo. They are definitely subject to interpretation."

When that interpretation has led to license denial for exports within the published guidelines, exporters have been bewildered, exasperated, and furious. In one such case, a major US computer manufacturer reported having applied for a license several months ago to export an intermediate, general-use, mainframe computer along with four spindles of disk drive memory devices as peripherals. According to a company source, the computer's processing data rate (pdr) was under the new standard of 68 megabits per second. The effective bit transfer rate on the disk drives was below the new standard of 5.2, and the system was destined for an acceptable enduser. The company recently received notice that the Department of Defense would not approve the export unless the disk drives were replaced with lower level units. "It does us more harm than good to have these notes published for the world to see if we can't get the licenses through," a company executive commented. "It's embarrassing."

Many industry observers have pointed to administrative changes in the Pentagon that account for its hard-line position on sales to China. Since last summer, the DOD's International Security Policy Office (ISP) has been given authority over export control policy in the department. It had been consolidated with the International Security Affairs Office (ISA) in 1979. ISP is considered to be extremely tough on exports to the East Bloc, and conservative toward exports to China.

Sources at the Defense Department have a different explanation. "Interagency differences are better explained by agency bias," one high-level Defense official commented. "To a certain degree, Defense is naturally going to bring a more conservative voice to the process.... We are going to be more liberal than we were before in respect to China; it's just a matter of how far we can go."

Other officials have pointed out the difficulty of implementing controls on exports to a country in a new category for which there is no precedent.

Since this is a problem at the policy level, it is not surprising that the guidelines might not be clear to personnel at the technical level. In Defense, technical determinations are made by officers in the individual armed services—men who are accustomed to scrutinizing exports to communist countries for any element that might give military advantage to a potential enemy.

No Guidelines for Software

Though not always happy with the way the new technical standards are

EXISTING			2.	PROPOSED		
0-2400	2401-4800	More than 04800	*Enter in the appropriate box the highest "effective bit transfer rate" (capability) of the fastest "terminal device" located remote from the "computer operating area."*	0-2400	2401-4800	More than 04800
A	B	D		A	B	D

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administered, most US exporters have fewer complaints about the levels set out in the new notes than with areas not addressed by the notes.

One of the most important of these areas is computer software. Since software exports are unilaterally controlled by the US government, American companies must compete against foreign companies whose sales need not go through COCOM. The US has not established clear guidelines for software exports, and government agencies lack the expertise to formulate them. "We spent so much time trying to formulate software controls with such meager results that we finally decided that it's not worth the government's time," Denysyk explained.

There is a similar lack of guidelines for technology transfer through licensing. When technology is sold to China in phases over a period of time, as in a licensing arrangement, US companies need export policy guidance for the entire package, not just for individual items. One company executive complained about the government's unwillingness to discuss technical transfer arrangements with China until actual export licenses are submitted: "We need to look at arrangements that allow the Chinese to develop their own infrastructure for design and manufacturing," he argued, "otherwise, we just can't keep selling advanced equipment and expect them to absorb it."

Cautious Optimism

Despite complaints about export control practices, most government officials feel that some real progress has been made. "I think we've gone through a major shift of policy," said Denysyk. "Under the Carter Administration, the changes were largely cosmetic, and their implementation was up to the vagaries of the system. We have gone through a policy shift with specific measures." Even so, Denysyk warns exporters not to be overly optimistic. "Industry should have realistic expectations about technical levels of exports to China," he said. "We are not allies; we will be refusing some licenses."

A decision by the National Security Council, or the president, would be needed to remove controls from China or to include it in Country Group V; a group that includes NATO allies as well as Yugoslavia and other countries. Barring such a policy decision, US exporters must live with the status quo, and should not expect additional measures of the sort announced in July any time soon. If there is one point upon which Defense and Commerce agree, it is that further technical efforts at liberalizing controls would create more problems than they would solve.

Commodities Licensed for Export to the PRC During Fiscal Year 1981

Commodity	Value in Dollars
Nonmilitary aircraft and parts	161,655,598
Electronic computing equipment	82,137,473
Electronic test equipment	30,904,260
Magnetic recorders and parts	10,587,390
Compasses and gyroscopic equipment	5,769,094
Communications equipment	4,222,043
Underwater-detection equipment	2,216,714
Seismic exploration equipment	1,301,256
Image-processing equipment	1,033,421
Silicon crystal-growing furnace equipment	848,288
Integrated circuits	831,881
Lasers and laser equipment	703,708
Numerical-control equipment	656,375
Gear-grinding machines	634,970
General industrial equipment	613,167
Gravity meters	414,210
Semiconductor manufacturing equipment	403,170
Oscilloscopes	352,828
Magnetometers	219,026
Electric arc devices	150,000
Radio spectrum analyzers	128,323
Microdensitometers	74,399
Western red cedar	57,400
Compound and metallic materials	41,607
Electron tubes	39,250
Electronic and precision equipment	32,773
Optical elements	31,700
Pressure-measuring equipment	29,850
Photocells	27,250
Diodes	25,514
Microwave equipment	23,825
Synchros and resolvers	21,429
Nonmilitary mobile crime laboratory	19,320
Oscillators	18,165
Lithium	15,200
Transistors	13,669
Amplifiers	12,105
Chemical materials	8,223
Polygraphs, fingerprinting equipment	7,798
Photographic equipment	7,440
Helium	4,701
Thyristors	4,549
Synthesizer	4,370
Acoustic/ultrasonic equipment	2,400
Quartz crystals	1,903
Silicon monocrystalline	1,100
Fiber-optic system	1,074
Boron	675
Bacteria	150
Naptha	80

SOURCE: US Department of Commerce.

EXISTING	3.	PROPOSED
No ☐ Yes ☐	*Are the "communications channels" dedicated to the given application 100% of the time?*	No ☐ Yes ☐

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China's Troubled Coal Sector

For too long the needs of the industry were sacrificed to short-term output gains.

Martin Weil

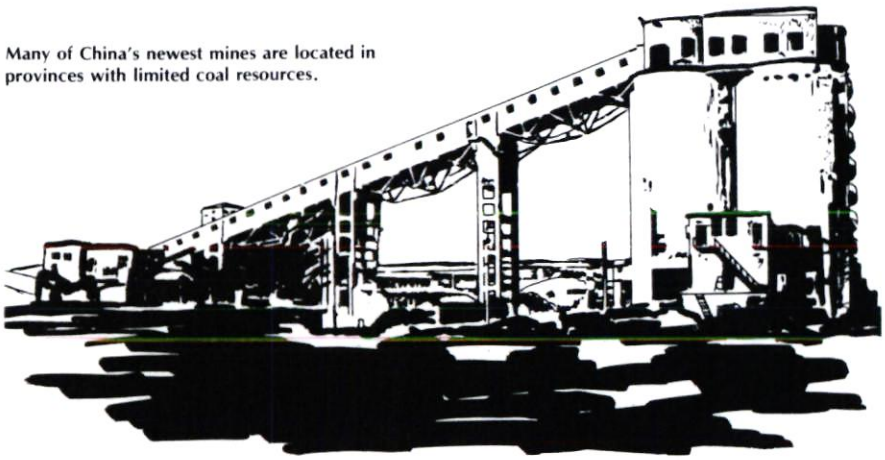
Coal, which provides 70 percent of the country's energy, stands as a symbol of China's industrial difficulties. In the past two years output has dropped from 635 million metric tons to 617 million tons, even as coal production was being proclaimed as one of China's top priorities.

Investment funds have been trimmed to the point that only about 10 million tons of new mine capacity can be added each year in the near future. All signs indicate that in an era of tight budgets and bureaucratic indecision, China will not come up with a coherent coal development plan any time soon.

The authorities still are counting on foreign investment to take up some of the budget slack, despite the government's failure either to explain its plans clearly, or to offer attractive enough terms to interest foreign firms. With the exception of several hundred million dollars in loans from the Japan Exim Bank that are not accompanied by any technical assistance, no negotiations with Western interests are known to have produced results.

In the meantime, China is missing a golden opportunity to expand its coal exports at a time when many Asian countries are converting from oil to coal. China should be a natural supplier to these countries, but now exports a total of only 6–7 million tons per year, a performance lagging far behind the potential of a country that boasts the world's largest reserves and third highest level of output after the USSR and United States.

Coal production has picked up since the third quarter of 1981, raising hopes that the downward slide has been halted. Now it is believed that 1982 production will surpass last year's figure by 10–20 million tons. Some planners even feel that output will achieve 730 million tons by 1985, a target that is probably overly optimistic and that revives an old debate: Should China continue to stress production volume alone, or should it concentrate on conservation, safety, and improved technology?



Many of China's newest mines are located in provinces with limited coal resources.

The Burden of Accumulated Mistakes

China's coal production problems stem from decisions made years ago. One of these was to short-change the coal sector in the area of investment. From 1970 to 1977, for example, the average annual investment in new coal mines was approximately ¥1.9 billion ($1.1 billion), probably less than that made in the petroleum sector. Planners compounded their mistake by directing too much of the country's investment budget—36.3 percent of the total—to south and southwest China, even though almost all of China's high-quality coal deposits are in the east, north, and northeast.

Short-term production often was emphasized rather than long-range considerations. In underground long-wall mines, which account for more than 90 percent of the coal produced in mines under the control of the Ministry of Coal (or about 55 percent of total production), new tunneling often was neglected in favor of easy extraction from existing faces. Thus, output began to drop when easily developed mines were exhausted.

The Kailuan complex in Hebei is perhaps the most serious example of such shortsightedness. After being devastated by the 1976 Tangshan earthquake, the government demanded that the mine reach its pre-earthquake yearly production level of 25 million tons within a year. By superhuman effort, the miners came reasonably close to this target the first year, but production has been declining ever since.

Miners extract coal from the No. 4 mine at Pingdingshan colliery in Henan Province.

Setting tight short-term targets had other adverse consequences: by 1979, 76 mines lacked the necessary coal-elevation equipment to keep up with their extraction rate, and others lacked gas-pumping and ventilation equipment, threatening the miners' safety. Disregard for worker safety was brought to a dramatic head in November 1979 when an explosion killed 59 miners in a pit at Tonghua, Jilin. Engineers there apparently had pressed on with an intensive program to meet their target despite a ruling by inspectors that the mine was unsafe.

Most outside observers note that in general safety conditions in Chinese mines do not come close to Western standards. One visitor who gathered statistics from several mines in 1980 put the Chinese death rate at two people per million tons of coal mined in ministry-controlled mines, which is about 10 times higher than the US rate.

Another significant problem: China's transportation system has failed to keep pace with coal mining. In 1980, rail bottlenecks kept 33 million tons of mined coal—about 5 percent of total production—from being transported.

But more than structural imbalances are responsible for the decline in production. In the first eight months of 1981, 52 of the 81 mining bureaus under the Ministry of Coal failed to meet their targets as tunneling and extraction *both* slowed.

In large part, the Chinese blame mine mismanagement for the slowdown. Minister Gao Yangwen made a public self-criticism in August 1981 for having a "lack of revolutionary enthusiasm and inefficient leadership," and administrative personnel were pressured to begin spending fixed amounts of time in the mines. Chinese news reports indicated that administrators did not "understand" readjustment. Clearly, however, managers accustomed for 30 years to the incentive of high targets were discouraged by the sharp budget cuts and shifting of priorities that accompanied the readjustment policies.

Absenteeism and high labor turnover reflect the serious discontent among the rank and file as well. This is blamed in part on the slowness of conservative administrators to implement the "responsibility system," whereby miners' wages are linked to individual output. At the same time, ironically, long-overdue efforts to set lower, more

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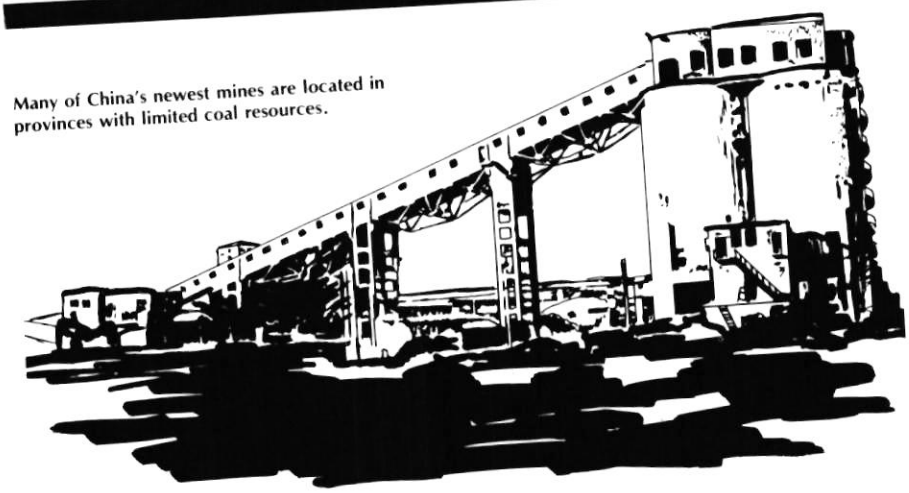

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Miners extract coal from the No. 4 mine at Pingdingshan colliery in Henan Province.

realistic output targets have had the effect of reducing mine profits and the bonuses earned by workers and administrative personnel alike.

The high rate of labor turnover is attributed in one Chinese report to "sickness, injuries, disabilities, as well as resignations, retirement, and deaths." The average turnover rate is 8 percent per year in the Fengfeng Mining Bureau in Hebei, which is probably typical of the larger, centrally controlled complexes. Pitmen cannot physically last more than about 15 years before they must be transferred to lighter jobs.

Replacing laborers is not easy. In many Chinese state enterprises, children are more than happy to take over their retired parents' jobs and acquire the "iron rice bowl," or guaranteed lifetime income and benefits. But not in the coal mines—the work is too dirty and dangerous. Thus miners must be recruited from the countryside.

Recruiting peasant miners has its problems as well. Attendance rates dip dramatically during agricultural busy seasons and festivals. Moreover, the morale of the peasants, called "unplanned" laborers since they are recruited outside the state labor plan, is weakened by the fact that they do not receive the medical, injury, and retirement benefits given regular workers.

For all of these reasons, the coal situation had deteriorated to such an extent by mid-1981 that Beijing brought heavy pressure to bear on the Ministry of Coal to make immediate improvements. Minister Gao's self-criticism and the movement of administrators to the mines were some of the consequences. Provincial Party secretaries were told they would be held responsible for unmet targets.

The pressure may have speeded up some management reforms. Several mines have introduced wage systems geared to individual worker output, as well as bonuses for perfect attendance. (One mine proudly claims that this lowered its absentee rate for pitmen to 10.3 percent). Reports also suggest that administrators applied coercive pressures, including threats of firing, to chronically unproductive workers.

But there are also signs that the pressure from above has caused a return to the old practice of putting output first—at the expense of longer-term development and safety—and that this contributed to the spurt in production in late 1981 and early 1982.

Well over 60 percent of China's coal is loaded manually.

Upgrading Underground Technology

About half of China's future output gains will come from improved technology, Chinese engineers estimate. But today only 39 percent of the coal produced in centrally operated mines is mechanically cut. The remainder is blasted and loaded manually, as is virtually all of the approximately 250 million tons produced annually in the mines under local control. Just 212, or about 4 percent of China's longwall faces, are fully mechanized. Another 20 percent are partially mechanized. National Council member firms have estimated that full mechanization of China's blasted and loaded faces would increase output six to eight times per face.

Full mechanization will not occur in the immediate future, as China's domestic coal machinery technology is quite backward. About 66 percent of the 100–125 million tons produced mechanically is cut by an 80–100-kw single-ended winning machine developed during the 1960s. Really more a loader than a cutter, visitors note, the machine is poorly designed.

A more advanced system of partial mechanization, using more powerful (170-kw) double-drum shearers, and manually operated hydraulic props and flexible chain conveyors, can produce about twice as much as the older equipment, but still far less than Western equipment. Wooden or steel props are set manually.

China introduced foreign longwall technology in the 1970s. About 30 fully mechanized systems (including 360-kw double-drum shearers and automatic self-advancing roof shields) were purchased from English and German firms in 1974. In 1978, the Chinese ordered 100 sets of equipment from the same companies, as well as from French and Japanese firms. The purchases included some mechanized tunneling equipment. Three continuous miners used in room and pillar mining (which leave a pillar of coal standing to support the roof after a face is mined) and 30 shuttle cars were sold by Joy Manufacturing of Pittsburgh that same year, making total purchases in 1978 close to $1 billion.

Advanced machinery has not been easy to use in Chinese mines. In one case equipment was mistakenly imported that was too large to fit into Chinese shafts. Delays have been experienced in aligning the new machinery. Chinese technicians, grappling with the intricacies of the new machinery, are often unable to solve minor mechanical problems. Mine to surface transportation systems cannot keep pace with foreign cutting systems in some cases. Use of the energy-intensive equipment aggravates electric power shortages. In some places, the machinery has not been put into use at all, due to the unavailability of rail transport to haul coal away from the mines.

This is not to suggest that the experience with the machines has been entirely negative. China has allocated its best and brightest technicians to operate the

equipment, and in a few mines the foreign companies report that the equipment is operating as well as anywhere in the world.

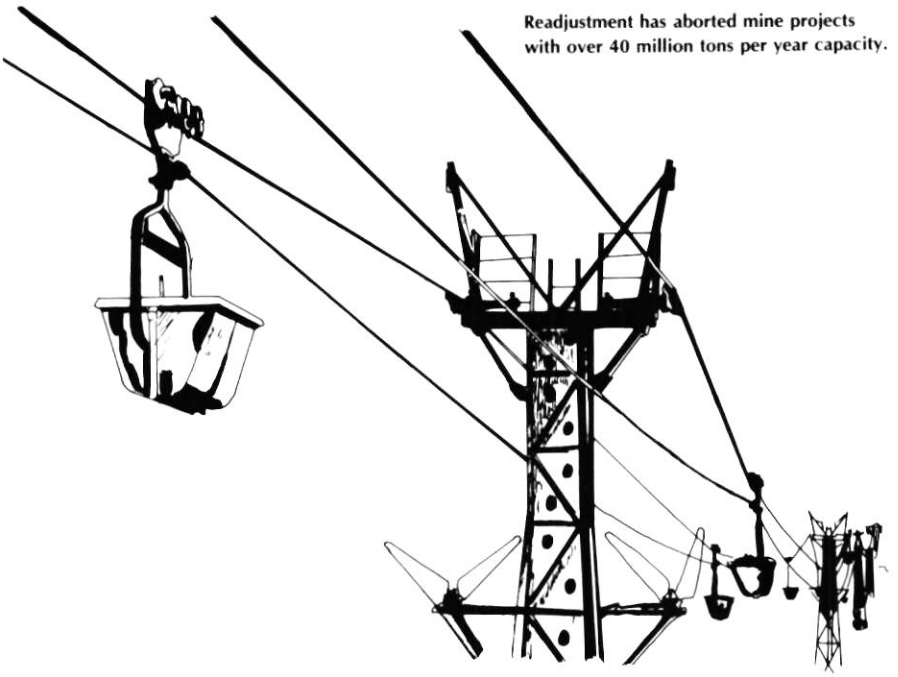
What is significant, though, is that such fully mechanized systems have been criticized in the *People's Daily* as "wasteful" and "not suited" to China's conditions. The future course of development, it is argued, should emphasize the Chinese double-drum shearers that "are suited to the workers' technical level and the condition of the mine shafts," as well as being "cheaper to operate and easily popularized."

As a result, completely mechanized longwall systems are more likely to be of domestic, rather than foreign, manufacture. The Chinese already have built more than 50 mechanized systems by copying European machinery, but so far have not achieved serial production of competitively priced machinery.

The First Ministry of Machine Building has indicated a desire to license European longwall machinery technology, but no deal has been concluded thus far. The most advanced negotiations are reportedly with Anderson Mavor of Great Britain for high-power double-drum shearers.

It was recently announced that 12 mining machinery plants in different cities were to be combined into a corporation to manufacture complete sets of longwall equipment. The new corporation aims to produce 500 sets of high-powered (probably 180-kw shearer) sets of combines and 150 lower power sets. These plants, however, appear to fall completely under the aegis of the Ministry of Coal. As they do not seem to be coordinated with plants under the First Ministry of Machine Building, there is some question whether they will be able to follow through on their plans. Indeed, jurisdictional conflicts between the two ministries could hold up the modernization of longwall machinery manufacture.

US companies such as Joy Manufacturing argue that the Chinese could improve underground mining more cheaply by moving to a technique known as shortwall mining, which can be applied to faces that have hard roofs and gently inclined slopes, as at Datong. Shortwall, unlike room and pillar mining, leaves no coal standing in the face after mining. Shortwall, in fact, is being done on a trial basis with a Joy continuous miner.



Readjustment has aborted mine projects with over 40 million tons per year capacity.

New Mine Developments: On Again, Off Again

When modernization fever was at its height in China during 1978 and 1979, the Coal Ministry dreamed of developing 8 major coal bases producing 50 million tons of coal, and of meeting output targets of 1 billion tons by 1990. Investment levels in these years shot up 50 percent over 1977, averaging ¥3.3 billion ($2.1 billion) each year. Some 80 coal projects were begun in 1979, and by mid-1980, numerous other projects had been discussed with foreign companies.

Included in the proliferation of new projects was a proposal to increase open-pit capacity. Although open-pit mining is both cheaper and safer than underground mining, less than 5 percent of China's coal is produced by open-pit methods.

One of the eight major bases was a large, untapped lignite deposit in the Huolinhe area of northeast Inner Mongolia, which the Chinese hoped to develop into an open-pit mine yielding 20 million tons per year by 1985. Due to China's inexperience with modern open-pit technology, foreign expertise was called in. Montan Consultants, a subsidiary of the German Ruhrkohle consortium, submitted a preliminary development plan, and about $60 million worth of Orenstein & Koppel (West Germany) shovels, and WABCO (US) trucks were purchased in 1978 for the site. Other open-pit mine developments under serious consideration at the time:

▶ The Yiminhe lignite deposit near Huolinhe. The Chinese wanted to develop it into a mine producing 20 million tons per year as well, and during 1979–80 began building a railway from the city of Hailar to the mine site.

▶ The gigantic Junggar steaming coal deposit in Inner Mongolia, not far from Datong. US firms submitted a 30-million-tons-per-year development proposal, and rail construction began connecting the site with the provincial capital of Huhehot.

▶ The Pingshuo high-quality steaming coal deposit in Shanxi Province near Datong. Development discussions began with several US firms in 1979 for a mine yielding 20 million tons per year.

The greatest emphasis was still on underground mines. Foreign help was

solicited for these, but the only known signed contracts were with Romania to develop a coking mine with an annual output of 1.2 million tons in southern Shanxi, and with Ruhrkohle/Montan for the engineering design of a 4-million-tons-per-year longwall mine in the Kailuan area. Reports indicate that no development work has been done at the mine. Many other Japanese, German, French, English, and US firms visited mines in Shanxi, Huainan-Huaibei, Yanzhou, and other places offering proposals.

The ministry's expansion plans, however, were given a jolt by the economic retrenchment policy that was begun in 1979 and intensified in 1981. Despite China's need for energy and coal's top-priority status, investments had to be cut as part of the general belt-tightening process. Investments fell from ¥3.2 billion ($2.1 billion) in 1979 to ¥2.5 billion ($1.7 billion) in 1980, and might have been even lower in 1981. Projects that were started were often stopped or reduced in scope. The Ministry of Coal claims that projects with a total capacity of 76 million tons are now under construction, 44 million tons less than those reportedly under construction in 1980. Among the projects that appear to have been postponed indefinitely are the Yiminhe and Junggar open-pit mines, for which the Chinese had already begun to build railroad spurs.

The Huolinhe mine, earlier touted as one of the eight up-and-coming bases, is a graphic example of the combined effects of retrenchment and poor planning. Originally targeted to produce 20 million tons per year by 1985 for power stations to be built nearby, the mine will be doing well to produce 4 million tons. Most of the project's funding was cut off after the box cut was hastily begun in 1979, from which the Chinese are expected to extract only a small amount of coal.

The Chinese have complained that the German mining plan (calling for bucket wheel excavators) did not give adequate consideration to the hardness of the overburden. Other knowledgeable observers believe this complaint is an attempt to obscure more fundamental problems. Infrastructure in the area is lacking, and the entire complex must be shut down for the winter. The severe weather conditions are causing morale problems. Moreover, the rail spur connecting Huolinhe with the city of Tongliao reportedly cannot carry large volumes of coal.

Organizational problems abound as well. Work at the site is being done by the Construction Corps of the People's Liberation Army. Rumor has it that the Ministry of Coal has completely washed its hands of the project, and that military considerations may have been behind the decision to launch it in the first place.

The problems encountered in removing Mongolian herdsmen from the mining area are reminiscent of the controversy that surrounded the exploitation of Indian lands in the American Southwest. At last September's National People's Congress, an Inner Mongolian deputy accused the Ministry of Coal of occupying the Huolinhe mine site and expelling 800,000 head of livestock from the area "without giving a penny in return." The deputy further charged that "People's Liberation Army units . . . occupied the lands as they pleased. This affected the unity between armymen and civilians, and undermined the herdsmen's livelihood." The euphemism "affected the unity" in the Chinese press usually denotes serious tension or outright violence.

Government investment is now being concentrated in about 40 underground mines in the following areas: Datong, Gujiao, and other complexes in Shanxi Province, where 27 million tons of capacity are under construction; Yanzhou in Shandong; Kailuan in Hebei; in Liaoning—the country's largest coal consuming province—where efforts seem to be concentrated on the 4.5 million-tons-per-year Tiefa complex; Inner Mongolia, where 16 million tons of capacity are reportedly under construction; and in Huainan-Huaibei in Anhui, where 15 million tons are under development (*see* chart).

In contrast to the earlier disproportionate emphasis on developing the resource-poor south, the dominant thinking now is to concentrate investment in areas of plentiful reserves.

But opinions still differ on the role that Shanxi's giant reserves should play in China's coal development strategy. One side argues for an all-out effort to turn Shanxi into "China's Ruhr"; others believe that this would exacerbate Shanxi's already serious water and transportation problems. Like the American West, Shanxi is a water-deficient area.

Another point of controversy is the amount of support to give smaller, locally operated mines. There have been periodic press attacks on the high cost, poor quality, and poor safety of these mines, which proliferated in the 1970s. Locally operated mines in coal-rich areas are criticized for their tendency to interfere with the operations of the larger, centrally controlled mines.

But the current consensus seems to be to preserve and even expand most of the small mines, particularly in the south where local mines provide the only source of coal. At the same time, the government is attempting to limit the interference of small mines with large ones, and to gradually consolidate them and upgrade their technology. The small mines seem likely to remain an important part of China's coal picture for some time, but their contribution to total output will probably gradually decline from their current share of 45 percent.

The slowdown in coal investment is itself controversial. Its opponents, while recognizing that infrastructure must be brought into better balance with mining capacity and that overall investment cutbacks are needed, have argued pointedly in the press that "underinvestment will only result in output instability, and will hamper the steady annual growth of production."

One of the tacks that coal interests are taking is to seek funding from local governments, many of which enjoy budget surpluses. With the permission of central leaders, the Ministry of Coal is inviting coal-deficient provinces to invest in mines in neighboring coal-rich provinces. Investing provinces reportedly will be guaranteed a portion of the mines' output in return, and will even be allowed to exercise some financial and operational control over the mines. Minister Gao recently placed an article in a domestic journal describing the conditions of various mines so that provinces could pick and choose.

Such a novel strategy would give investing provinces a direct stake in the project's outcome, and if the scheme works, the provinces might be deterred from making wasteful investments on their own small or unpromising deposits.

Meanwhile, coal officials are emphasizing faster construction in order to make better use of their limited funds. Not only does it take about three years "just to buy the land for a new mine," one official confessed, but it usually takes six and one-half years—one or two years longer than in the West—to develop a major underground mine in China.

New Mines Planned or Under Construction

Table prepared by Martin Weil.

Location	Capacity (mmt) Under construction	Planned	Principal type of coal produced	Completion date	Comments
Shandong Province					
Yanzhou Mining Bureau	—	—	High-quality steaming	—	Deep-shaft mines.
Baodian	3	—	—	1983	Japan Exim Bank financing.
Dongtan	4	—	—	1985	Possible compensation trade deal with French.
Jining No. 2	—	3	—	—	—
Zaozhuang Mining Bureau	—	—	Coking	—	—
Jiangzhuan	1.5	—	—	1984	Japan Exim Bank financing.
Anhui Province					
Huainan-Huaibei mining bureaus	15	—	Steaming and coking	—	
Panji No. 1	3	—	—	1983	
Zhuxianzhuang	1.2	—	—	1982	
Panji No. 3	3	—	Gas and coking	—	
Panji No. 2, Haizi, and Linhuan	6.3	—	—	—	
Liaoning Province					
Tiefa Mining Bureau	—	6	—	—	
Daxing	3	—	—	—	
Xiaoqing	1.2	—	—	—	
Total	13.8	—	—	—	
Shanxi Province					
Datong Mining Bureau	—	—	High-quality steaming	—	—
Yanzishan	4	—	—	—	Preparatory work completed in 1980.
Sitaigou	—	5	—	—	Japan Exim Bank financing. Compensation trade discussion with Mitsui.
Gujiao (Xishan) Mining Bureau	—	—	Coking	—	—
Xiqu	3	—	—	1984	Drift mine financed in part by Japan Exim Bank.
Zhenchengdi	1.5	—	—	—	Preparatory work completed in 1980.
Malan	—	4	—	—	Japan Exim Bank financing.
Tunlan	—	4	—	—	Shaft mine.
Dongqu	—	4	—	—	—
Yangquan Mining Bureau	—	—	Anthracite	—	—
Guishigou	4	—	—	—	Preparatory work completed in 1980.
Xuangang Mining Bureau	—	—	—	—	—
Liujialing	—	—	—	—	Described as large-size mine.
Lu'an Mining Bureau	—	—	—	—	World Bank financing under consideration.
Changcun	—	4	—	—	—
Jincheng Mining Bureau	—	—	Anthracite	—	World Bank financing under consideration.
Jiangzhuang	—	4	—	—	Drift mine.
Fenxi Mining Bureau	—	—	Coking	—	—
Bailong	—	1.2	—	—	Romanian design.
Pingshuo	—	15	Steaming	—	Private US investment planned. Open-pit.
Locally controlled mines	12	—	—	—	—
Total	27	41.2+	—	—	—
Hebei Province					
Kailuan Mining Bureau	—	—	Steaming and coking	—	—
Qianjiaying	4	—	—	1984	Japan Exim Bank financing.
Linnancang	1.2	—	—	1984	—
Donghuantuo	—	4	—	—	Probably designed by Montan Consultants (W. Ger.)
Henan Province					
Pingdingshan Mining Bureau	—	—	Coking	—	—
No. 8 Mine	1.8	—	—	—	1.2 million tons capacity already in operation.
Jiangsu Province					
Xuzhou Mining Bureau	3	—	Steaming	—	—
Sanhejian	1.8	—	—	1985–86	—
Jiahe	—	—	—	—	Mine expansion planned via compensation trade with US.
Locally controlled mines	—	—	—	—	—
Baiminchang, Yixing County	0.3	—	—	—	—
Inner Mongolia					
Huolinhe Mining Bureau	4	—	Lignite	1985	Open-pit mines; foreign mining equipment used.
Total	16.6	—	—	—	2 open-pits, 2 shaft mines in addition to Huolinhe.
Guizhou Province					
Liupanshui Mining Bureau	3.6	—	Steaming and coking	—	Foreign investment by Southwest Energy Development Corp.
Guangdong Province					
Siwangzhuang Mining Bureau	—	—	—	—	—
Huaihai	0.2	—	—	—	—

Slurry Pipelines in China?

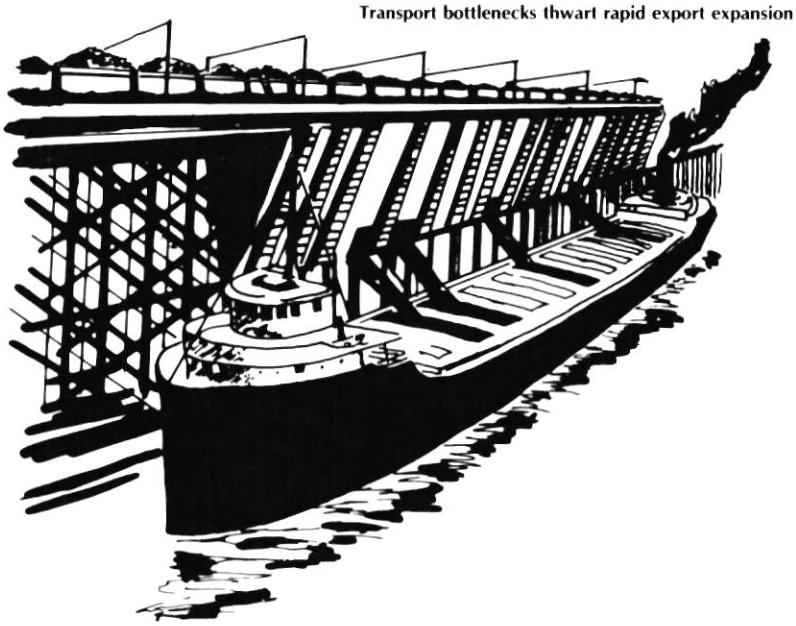
A US company that presented a technical seminar on the advantages of slurry was surprised to see its arguments appear practically verbatim (including case examples from the US) in a September 1980 issue of the *People's Daily*. Recently, the Coal Ministry announced in the English-language *China Daily* that it was actively considering slurry development.

The 1980 article emphasized that investment in slurry is cheaper than investment in long-distance railroads, and that slurry requires less water than a mine-mouth electric power plant. The energy loss of long-distance high-voltage power lines was also cited as a point in favor of slurry.

There are obvious bureaucratic reasons why the Ministry of Coal would take to slurry with such alacrity. A slurry pipeline would be used for coal only, and would most probably be controlled by the Ministry of Coal. It would obviate the need to deal with the overloaded railroad system, and the often-hostile Ministry of Railways. (The conflict between railway and slurry interests is not unique to China. In the Western US, railroads will not allow slurry pipelines to cross their right of way.)

Slurry pipelines would also increase the ministry's foreign exchange earnings by connecting large fields in the interior with ports. Significantly, the two fields for which the ministry seems most interested to construct slurry pipelines—Pingshuo and Junggar—have been discussed largely as export-oriented operations.

Forestalling a rapid development of slurry pipelines, however, is cost and the lack of water. Shanxi and Inner Mongolia are fairly arid regions. Serious discussion about pipeline construction is a few years down the road at the very least.



Transport bottlenecks thwart rapid export expansion.

Unrealized Export Potential

As East and Southeast Asia convert from oil to coal, China has a rare opportunity to expand its exports. According to a study by the Australian government Department of Trade and Resources, Japanese demand for foreign steaming coal is likely to increase from 7 million tons in 1980 to 23–26 million tons in 1985; Hong Kong from 2 million tons in 1980 to 4–5 million in 1985; Taiwan from 5 million in 1980 to 6–7 million in 1985; and South Korea from nothing in 1980 to 8–10 million in 1985. Even if falling oil prices and world recession slow the conversion, increased demand should still be enough to radically improve China's export potential.

But in recent years, China's exports have only expanded at the rate of about 1 million tons per year, reaching 6–7 million tons in 1981. A faster rate of expansion is probably not possible until the mid-1980s at the earliest.

In the first place, domestic demand will probably rise, as China itself converts from oil to coal. A spectacular improvement in energy efficiency would be necessary to free up large volumes of coal for export.

Lack of coal beneficiation capacity will also pose a problem in the short run. China's bituminous coal must be washed to be attractive to foreign users. At present, only about 55 million tons out of a total output of 620 million tons are washed. Humboldt-Wedag of West Germany has supplied a 4-million-tons-per-year washing plant which will soon be completed at the Fanggezhuang mine in Kailuan. Roberts and Schaefer of the US is building a 4-million-tons-per-year facility at Yanzhou. In addition, the Chinese are building several large washing plants on their own in Huainan-Huaibei and other places, but many of these plants will not be completed for some time. The Japanese, who buy their Chinese steaming coal from the Datong and Huaibei mines, recently rejected samples from the Fengfeng area in Hebei because of impurities.

An even more serious difficulty is transportation, both shipping and rail. At present, the only coal ports of any significance are Qinhuangdao, with a capacity of about 12 million tons (all but 2 million are shipped to other parts of China) and Lianyungang, with 2–3 million tons. Foremost in China's coal export plans is the expansion of Qinhuangdao to handle 42 million tons, of which it is envisaged 20 million tons would be for export, and the construction of a new 15-million-tons-per-year coal port at Shijiusuo in Shandong, with financing from the Japan Overseas Economic Cooperation Fund. OECF is also financing a new rail-

road from the Yanzhou area to Shijiusuo, designed to accommodate "unit" coal trains, and a double-tracked and electrified railroad between Beijing and Qinhuangdao; both are essential to feed the new ports.

These projects all are targeted to be completed around 1985, and all are running behind schedule. Only about $15 million of the OECF's $700 million committed to the projects has been drawn down, according to the *Japan Economic Journal*. Work on the Beijing–Qinhuangdao railroad is reportedly stalled because of disagreement over the exact route, and work at Shijiusuo has been set back by the theft of almost one-fifth of the gravel sent to the construction site, according to the *Far Eastern Economic Review*. Although some other port construction is under way, including a berth with a three-million-ton capacity at Dalian for northeastern coal, China's exports are unlikely to rise dramatically until the Japanese loan projects are completed around 1985 at the earliest.

China's two major coal customers are Japan and North Korea; the latter reportedly receives about two million tons of metallurgical and steaming coal by rail each year. In 1981, Japan bought about 2.7 million tons of steaming and metallurgical coal. Earlier, China had committed itself to shipping 10 million tons of coal to Japan by 1985. So far, China has made no clear signal that it will meet the target. Japanese analysts put the probable 1985 export level at 7 million tons.

Japan understandably is turning to other sources. Australia already accounts for about 55 percent of Japan's imports, and the Australian government estimates that this percentage will be maintained through 1985. Japan is investing in at least 10 million tons worth of steaming coal mines in Australia, in return for access to the output. This contrasts markedly with the difficulties the Japanese have experienced tying up with China.

If China has missed opportunities in terms of how much it can export, it has maximized its gains in the area of price. In 1981, it won a 47 percent increase to $53 in the average price per ton of steaming coal ($54 per ton fob for Datong coal, the main source, and $46 per ton for Huaibei coal). Although the volume of exports is fixed in a long-term trade agreement, the Chinese have the right to negotiate prices annually.

The Chinese would also like to supply Hong Kong. Recently MINMETALS (the Foreign Trade Ministry's subsidiary that purchases coal from producers and sells according to the state plan) signed an agreement to supply Hong Kong Electric's Lamma Island power plant with Shanxi coal during 1982–92. The first shipment was for 20,000 tons, but the Chinese reportedly hope to raise the volume to several million tons per year. There is some concern in Hong Kong about China's ability to deliver. Hong Kong's other utility has turned to Australia and South Africa.

In a separate deal, the Southwest Energy Development Corporation is marketing 400,000 tons of Guizhou coal to Hong Kong in 1982; it also hopes to raise the volume to several million tons per year.

There is a government-to-government coal export arrangement with Romania, and MINMETALS has engaged in a joint venture with Belgian interests to market Chinese coal there. The remainder of China's coal exports are sold through middlemen on the spot market to Europe and Asia. Exports to Europe are limited, however, by the inability of Chinese ports to accommodate ships larger than 20,000–30,000 tons. Small ships are uneconomical for long-distance travel.

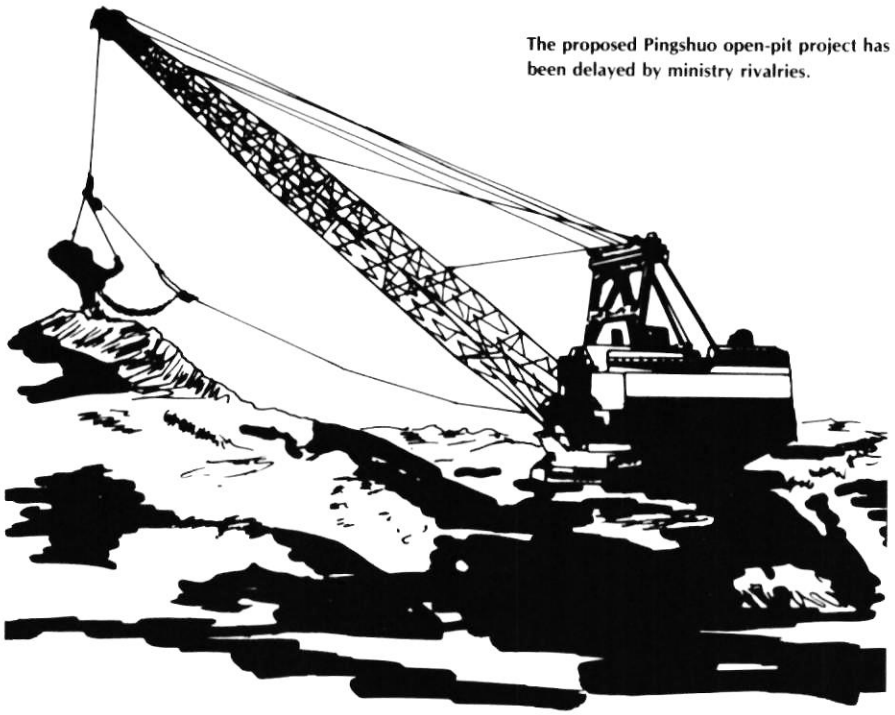
Rumors that are too persistent to be ignored indicate that South Korea has been buying more than 200,000 tons of Chinese coal annually, mainly anthracite, through third parties. The coal, in fact, has been reported in official South Korean statistics. But recently, the Chinese have been cracking down on the clandestine shipments. If Korea is peacefully reunited, it will certainly become a major market for Chinese coal.

Through 1981, coal exports were controlled mainly by MINMETALS, a system left unchanged by China's decentralization reforms of 1979. Unlike the Ministry of Metallurgical Industry, the Coal Ministry was not given authority to export, though Shanxi Province set up a trading company to directly export its coal. (The company only handled about 200,000 tons in 1980, or 10 percent of the province's export total.) A few southern provinces may have handled their own coal exports in recent years, but certainly in miniscule amounts.

In 1982, however, there are signs of change. Many companies report that the Ministry of Coal will soon be allowed to handle exports directly. The new Southwest Energy Development Corporation, composed of four provinces and three ministries, has been given the green light by Beijing to sell directly abroad.

The end of MINMETALS' monopoly might result in increased exports, as has been the case when producers of other commodities in China have won the right to export. The danger also exists that the intramural competition in China's metals business could come to characterize the coal industry. The central government, while allowing more organizations to export, may introduce a licensing system to regulate export volumes and prices.

Qinghuangdao, in Hebei Province, is China's most heavily used coal port.



The proposed Pingshuo open-pit project has been delayed by ministry rivalries.

Coal Compensation Trade

The Coal Ministry's strategy to attract foreign investment is basically a compensation trade approach: China will export coal at some time in the future in exchange for money and technical assistance now.

Companies have indeed proven interested in such schemes; since 1979, in fact, companies from every Western coal-producing country have discussed joint ventures or compensation trade arrangements with Chinese authorities at both the central-government and provincial levels.

A large proportion of these discussions represent little more than feelers from the Chinese side, hence few have progressed beyond the exploratory stage. The slowness of these negotiations in some respects is surprising, however, since top officials in the central government have taken a direct interest in many of these projects. In a few cases, the State Council itself has given the green light to certain investment schemes involving foreign companies.

The largest and perhaps most significant of these schemes involves the Pingshuo deposit under discussion with three US firms. Its history aptly illustrates some of the major barriers to foreign investment in China's coal industry.

Pingshuo

The proposed Pingshuo coal mine—named for its location at the intersection of Pinglu and Shuoxian counties in northern Shanxi—is part of an extraordinarily rich bed of coal underlying the heavily mined northern Shanxi area. The material at Pingshuo is good-quality steaming coal similar to the neighboring Datong field. Its characteristics: roughly 11,000–12,000 BTU per ton, 1–2 percent sulfur content, and seams located at the relatively shallow depth of 60–100 meters beneath the surface. The stripping ratio would be around 5/1.

For what could only have been political reasons, the Chinese chose in the late 1970s to develop the difficult Huolinhe lignite deposit ahead of Pingshuo as the country's first large modern open-pit mine. But even at that time, interest in Pingshuo was high. The mine was described in 1978 to then US Energy Secretary Schlessinger as China's highest priority cooperative venture with the US. At about the same time, the Peabody Coal Company of St. Louis was invited to examine the deposit.

Peabody's first proposal involved the sale of technology and equipment to develop the mine's capacity to 20 million tons. In 1979, Consolidation Coal and Utah International Coal also made proposals after drilling and taking samples. When the effects of the 1979 economic retrenchment became apparent and the Chinese realized that no foreign exchange would be allocated to the project, the focus of discussion shifted to compensation trade, and then to direct investment in a joint venture to develop the coal for export. A joint venture not only seemed to obviate the need for China to spend money, but it would also bring foreigners into the mine's management. This seemed to be a good idea in the wake of the disastrous experience at Huolinhe, where foreign equipment was imported unaccompanied by any managerial know-how. In 1980, the Island Creek Coal subsidiary of Occidental Petroleum jumped into the picture with a joint venture proposal; that same year Utah International dropped out of the competition.

On the Chinese side, the principals have always been the Ministry of Coal and Shanxi Province. According to some sources, there was visible opposition within the Ministry of Coal to foreign involvement in mine development before Gao Yangwen became minister in 1980. Gao, former vice-minister of Metallurgy, is believed to strongly favor foreign involvement in China's coal industry.

All along, a major stumbling block was the lack of coordination between the Coal Ministry and superior planning agencies—the State Planning Commission, State Import-Export Commission, State Capital Construction Commission, and the State Energy Commission. The lack of cooperation extended to the ministries of Railways and Communications (which controls ports), thus bedeviling attempts to work out a plan to deliver Pingshuo coal to foreign countries. As the negotiations dragged on, it became evident that the Coal Ministry and Shanxi had not received the necessary approval from the commissions.

The ponderous bureaucratic apparatus finally approved the project in principle in the summer of 1981—reportedly prodded by no less than Deng Xiaoping himself, who met with Occidental's Armand Hammer in July. A Chinese delegation with representa-

tives from all the organizations concerned visited the US soon after to assess the three companies, and, it was announced, to pick a partner by the end of February 1982.

But the February deadline passed without a decision. Part of the reason for the most recent delays seems to be the Chinese desire to keep fierce competition between the three firms alive in the interest of obtaining better terms. The Chinese are even considering the unorthodox procedure of allowing the losing companies to submit other bids after the partner is tentatively chosen, according to several companies not directly involved with the project. At the root of the problem is the persistent belief held by some Chinese officials than any cooperation with capitalist countries will lead to exploitation.

Even if there is no rebidding, the selection of the partner is only the first step. The next is for the American company to undertake a feasibility study with the Chinese, which in essence will be a series of tough negotiations on major issues separating the two sides.

The Chinese are promoting a scheme they call a "contractual joint venture," similar to Japan's oil drilling arrangement in Bohai Bay. Under this formula, the foreigner does not receive equity in the project, and profits are shared according to the proportion of money invested by both sides. The Chinese investment probably would be valued at 51 percent of the total, and consist of land, labor, and a limited amount of local currency. Part of the coal output would be shared among the joint venture partners to cover operating costs over the life of the agreement, and a portion of what was left would be assigned to the foreign company to recoup its investment. In addition, the company would receive a share of the joint venture's profits earned from coal exports.

The companies, on the other hand, would prefer a production sharing arrangement under which they are simply allocated a fixed share of the mine's output to cover both profits and costs. Under such an arrangement, the Chinese side would bear responsibility for the project, its construction timetable, and labor policy. In the case of wages, for example, this would mean that Pingshuo workers would receive average pay by Chinese standards, instead of above-average wages that would likely be the case in a joint venture situation.

Furthermore, the Chinese are reportedly trying to structure the deal so that the company will only obtain a 20 percent annual return on investment. To most private companies, this is not adequate compensation in light of the risks involved.

Taxes are another stumbling block. Originally it was assumed that the company would be assessed at the 33 percent rate stipulated in China's 1979 joint venture tax law. But in late 1981, the Chinese decided that a foreign company involved in a "contractual" joint venture would be subject instead to China's December 13, 1981, Foreign Enterprise Income Tax Law that stipulates a higher rate of up to 50 percent. Companies point out that this rate of taxation is bearable for oil companies, but that it poses hardships for coal companies, which operate on lower profit margins.

The scope of the project remains unresolved. The Chinese would like to build the mine to a capacity of 15 million tons by the mid-1980s. The companies are skeptical that these targets can be met, given China's inexperience with large open-pit mines and the inevitable bureaucratic snafus. Disposing of 10 million tons through exports, as the Chinese intend, also may be problematical. (The Chinese plan to use the remaining lower-quality coal in domestic power plants.)

Ten million tons is a large volume to enter the world market from a single source at one time. The most important prospective buyer, Japan, is pursuing a policy of ordering from many different suppliers, and may well prove reluctant to buy such a large amount from one mine in China. Japanese companies prefer to deal directly with the Chinese government, and may be reluctant to purchase coal through an American intermediary.

Another issue concerns China's desire that as much equipment as possible used at Pingshuo bear the made-in-China label. At stake is roughly $400 million in equipment, of which half is expected to be imported. US equipment suppliers hope to win orders for everything from earth-moving equip-

China's Soft Loan Friends

As private sector financing looks less certain, China's coal authorities are turning to foreign government loans and World Bank financing.

Japan's Exim Bank already has agreed to provide $1 billion at 6.25 percent interest for the development of 7 mines: Baodian near Yanzhou in Shandong Province (with a planned capacity of 3 million tons per year); Jiangzhuang in the Zaozhuang mining area in Shandong (1.5 million tons); Qianjiaying in Hebei's Kailuan mining area (4 million tons); Xiqu, Malan, and Zhenchengdi, in Shanxi's Gujiao mining area (4, 4, and 1.5 million tons respectively); and Sitaigou in Shanxi's Datong area (4–5 million tons). About $600 million reportedly has been allocated so far, but these funds have been drawn down slowly. At Sitaigou and Malan, for example, construction is not yet under way. The National Council's Beijing office has been told that the central government is simply pocketing the foreign exchange and allocating the Ministry of Coal the equivalent in Chinese domestic currency. Once these mines are completed, the Japanese hope to make them the major source of coal supply from China.

Apart from the Japanese government, the major potential source of funds is the World Bank. Of the $800 million the bank plans to allocate to China over the coming three years, it is targeting about $200 million to the energy sector, including coal. The bank has announced that it is actively considering two underground longwall projects each to produce up to 4 million tons per year in the Jincheng (anthracite) and Lu'an mining bureaus in southern Shanxi Province. Each of these currently produce about 2–3 million tons of coal per year, and rank among the most mechanized in China. As with other foreign investment projects, there are infrastructure problems to be solved before construction can begin. It will probably be at least a year or two, therefore, before any projects are launched under bank auspices.

ment to coal-washing machinery. (The project includes at least one coal-washing plant.)

Transportation is perhaps the single most difficult issue. For the Pingshuo scheme to work, the Chinese must be able to guarantee massive coal deliveries to the coast. The most likely route involves shipment from Pingshuo to Datong (120 kilometers), Datong to Beijing (340 kilometers), and from Beijing to the port of Qinhuangdao (300 kilometers).

Though the Datong–Beijing line is being electrified, which will reportedly increase its capacity from about 43 million tons to slightly over 50 million tons, some companies doubt whether this is a big enough increase to accommodate the Pingshuo coal and increases in other coal shipments on the line. The Beijing–Qinhuangdao route is being double-tracked with technical assistance from Japan, but the plan to electrify the route has been abandoned, according to a report in the *JETRO China Newsletter*. Moreover, work on this line, targeted to be completed by 1985, is reportedly two years behind schedule because the Chinese bureaucracies concerned cannot agree on the exact route.

Companies feel that more is required than just new track or electricity. Per-train capacity, as well as per-line capacity, must be increased. This means increased investment in rolling stock to replace the 50-ton-capacity wooden cars commonly used today. Some experts believe that a third line is needed at key links in the route, or an automated central traffic control system. They also recommend the use of heavier gauge rail.

The situation is complicated by the antagonistic relations between the ministries of Coal and Railways. The Railways Ministry is unenthusiastic about the idea of displacing other shipments in favor of Pingshuo coal, while the Coal Ministry believes it should be allowed to determine which coal shipments take priority. The Coal Ministry wants to control the rolling stock so that cars are not diverted to other lines; the Railways Ministry insists upon allocating cars as it sees fit.

Such tensions will probably intensify if the Japanese succeed in putting together a compensation trade package for the development of the 5-million-tons-per-year Sitaigou mine near Datong, which will place even greater pressure on the critical Datong–Qinhuangdao rail link.

Amidst such bureaucratic infighting, Coal Ministry officials reportedly have offered general assurances that they will take care of the transportation problem—pointing out that the State Planning Commission has the power to bring the Railways Ministry into line. But the companies remain skeptical.

Liupanshui

Aside from Pingshuo, the project that has received the most attention is Liupanshui near Shuicheng in Guizhou. Local interests have aggressively pushed the project, and have found receptive ears in Hong Kong, which would be one of Liupanshui's major markets. In 1981, the Coal Ministry and the province won approval from the State Council to encourage foreign investment in the project.

The plan is to expand Liupanshui's annual output from about 6.2 million tons to 10 million through renovation of 21 existing mines, and to export about 2 million tons annually through the port of Zhanjiang in Guangdong by 1985. This plan apparently emerged in part from a prefeasibility study undertaken by a consortium of European firms put together by middleman Shaul Eisenberg.

The major hurdle is transportation to the coast. A rail line connects the Liupanshui area to Zhanjiang. But this single-track, unelectrified line through mountainous terrain has a very low carrying capacity of several million tons. In the summer of 1981, Guizhou Province tried to upgrade this rail line by floating around $150 million in bonds in the Hong Kong market. But the idea apparently did not get very far, since Guizhou was seeking unrealistically low interest rates. Hong Kong financiers may have helped to scuttle the plan by asking hard questions as to who would guarantee the bonds in China, and about the coordination of the various bureaucracies involved.

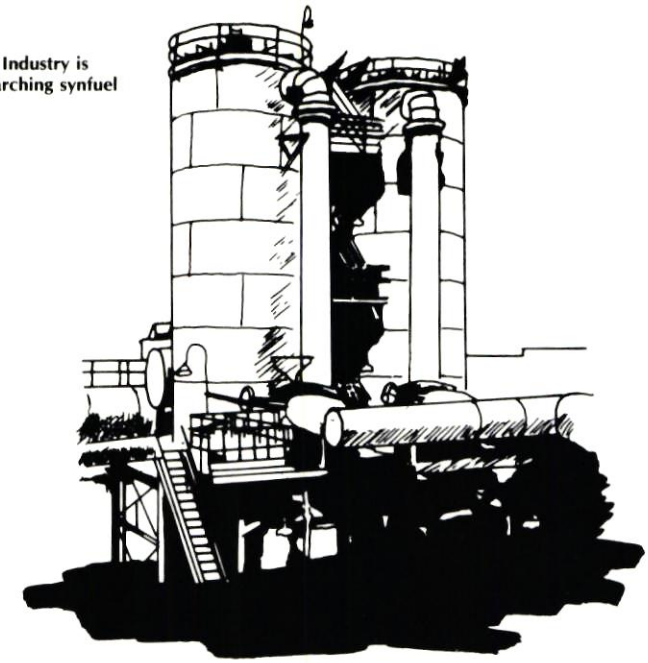
The most recent Chinese proposal for Liupanshui seems designed to overcome exactly these concerns. A consortium known as the Southwest Energy Development Corporation was formed in January 1982, consisting of the three ministries of Coal, Railways, and Communications, the four provinces of Yunnan, Guizhou, Guangxi, and Guangdong, the Bank of China in Beijing, and the BOC branch in Hong Kong. Coal Minister Gao is chairman of the board, suggesting that much of the initiative for the move came from the Coal Ministry. By combining so many diverse interests into one company, the Chinese clearly want to reduce bureaucratic infighting by giving all the bureaucracies a stake in the success of the project.

The corporation is officially capitalized at ¥560 million ($320 million) but it probably has no money in hand yet. The sum appears to be a target which it hopes to attract through foreign investment. It plans to spend ¥120 million on developing the Liupanshui mines; ¥420 million on upgrading 2,000 kilometers of railroad from the mines to Kunming, and from Kunming to Zhanjiang; and ¥20 million on expanding the port of Zhanjiang—all by 1985.

Much about the corporation remains a mystery, including the terms it will offer investors, how it plans to divide up profits among members, and the amount of autonomy it has from Beijing. The corporation informed the Council's Beijing office that it would be seeking cheap government loans or contractual joint ventures, suggesting that its terms will be similar to those under discussion in the Pingshuo project. Recently the corporation announced that it will export 400,000 tons of Guizhou coal to Hong Kong in 1982.

Pingshuo and Liupanshui are both handicapped by their great distance from the coast. But other potential projects do not suffer from this problem. The Yanzhou, Shandong steaming coal deposits are near the new port of Shijiusuo. A special coal railroad is being built from the mines to the port; both railroad and port are financed with cheap Japanese government loans. Although construction is running somewhat behind schedule, their completion will mean easy transport for export coal. At least one foreign investment project at Yanzhou is being given serious consideration by the Chinese.

Another possibility is the Xuzhou Mining Bureau in Jiangsu. This steaming coal area is a mere 225 kilometers by rail from the port of Lianyungang. The railroad is being double-tracked, and it has been reported that the State Council has approved a compensation trade deal (with a US firm) for developing a mine in Xuzhou. The Kailuan complex is even closer to the coast, but its coking coal is less salable on the world market than steaming coal. No matter how close to the coast, however, any project for which the Chinese permit only a 20 percent rate of return is bound to look unattractive to US firms.



The Ministry of Coal Industry is enthusiastically researching synfuel development.

China's Liquefaction Program

Spurred by rising world oil prices, Western countries have stepped up synthetic fuel research, particularly in the area of coal liquefaction. The new technology involves turning coal into synthetic petroleum, a process that has fascinated the Chinese since it promises to reduce pollution and transportation costs at the same time it dramatically increases thermal efficiency.

The Coal Ministry's Coal Chemistry Research Institute has been experimenting with liquefaction since 1978. According to one of their reports, autoclave tests on 7 of 8 different types of lignite yielded conversion rates of 72.6–87.0 percent. The Chinese also are testing high-sulfur bituminous coals from Shandong.

The major developments in coal liquefaction are taking place abroad. The Chinese are eager to benefit from foreign expertise at the same time foreign companies are seeking markets for their developing technologies. Thus, companies have been willing to offer, and the Chinese have been happy to accept, a number of joint research programs funded by foreign companies to study the potential for liquefaction of Chinese coals. The following agreements have been, or are about to be, reached:

▶ An agreement by the quasi-governmental Japan New Energy Development Organization to construct (and jointly operate until March 1985) a 100-kilograms-per-day pilot plant in the Coal Chemistry Research Institute in Beijing. Mitsui Engineering and Shipbuilding will build the plant under subcontract to NEDO, and Chinese technicians will help operate it. According to a Japanese news account, the plant is to examine the suitability of more than 100 types of lignite and bituminous coals for liquefaction. This project reflects the Japanese government's direct interest in developing a source of liquefied coal in China. The China facility will be one of the first tests for the newly developed NEDO process.

▶ An agreement between the Hydrocarbon Research subsidiary of the US firm Dynalectron, the Japanese trading giant C. Itoh, and the Ministry of Coal to test the suitability of coals from 12 Chinese mines for liquefaction, starting in early 1982. The Japanese side is providing funds, and the US company the technical expertise.

The coal will be tested in facilities in the US, first in quantities of a few pounds per day, then three tons per day, and then 200 tons per day. The final stage of testing will be done in Dynalectron's Cattlettsburg, Kentucky plant, which will soon have a throughput of 17,000 tons of coal per day. Chinese engineers will participate in all phases of the tests.

Dynalectron will use its H-coal process, developed over a 20-year period, in which hydrogen is pumped into the coal molecules (catalytic hydrogenation) to produce a synthetic oil similar to sweet Arabian crude. Dynalectron's technology provides the world's highest oil yield per ton of coal. Using its process, the threshold of economic viability at current world market prices is a minimum of three barrels of oil per ton of coal.

The companies hope to establish a multibillion dollar liquefaction plant in China by the early 1990s. Dynalectron is actively seeking foreign markets for its technology, and C. Itoh wants to gain access to Dynalectron's technology. The Japanese firm would assist in financing a plant that would export to Japan.

The exact site of such a plant would depend both on the type of coal suitable for liquefaction, and the infrastructure in various localities. One safe prediction is that lining up approval to build such a plant in China will be far more complicated than securing Chinese approval of the foreign-financed research program now under way.

▶ Though details are not final, Veba of West Germany plans to install its new hydrogentaiton equipment in Chinese laboratories to test various types of coal. Test results will be the property of both sides, as in both the other programs.

Aside from these three, there are only two other known coal liquefaction processes in the world: one developed jointly by Davy McKee and Exxon, and the Fisher-Tropes process developed in South Africa, which is already in use commercially there. Prospects for any cooperation with South Africa are nil. There apparently has been no negotiation with Davy McKee and Exxon either.

Confronting the foreign parties in all of these arrangements, of course, is the risk that the Chinese might decide to use the test results to develop liquefaction plants on their own, rather than in cooperation with the companies.

Joint Adventures

Setting up Sino-American companies in the US can be mutually beneficial. It also can be singularly frustrating for the capitalist side.

Carol S. Goldsmith

If the best way to learn about a market is to live in it, then the Chinese should be gaining a wealth of knowledge from their studies in the United States.

China's foreign trade community here has grown markedly in the past three years. A staff of 16 now does market research and liaison work at the PRC embassy in Washington. At any given time, a small group of foreign trade specialists are scattered among US companies, where the Chinese do project work with their business partners or serve internships. (Two representatives of the China National Aerotechnology Import and Export Corporation, which has a representative office in Arlington, Virginia, work at the Douglas Aircraft headquarters in California. They cooperate with Douglas on certain projects, as well as conduct independent business with the firm's competitors.)

Fifteen offices of Chinese trading corporations have opened across the country—many as incorporated versions of the old PRC trading groups that resided in the diplomatic mission in New York.

A year ago, if one of the representatives would have been asked what his US office was doing, he invariably would have answered, "market research." Now that most of the missions have been incorporated as subsidiaries, having lost their tax-free status under US laws governing foreign trade offices, it's safe for him to say, "We're doing business in the American market."

But with the exception of the savvy CEROILS (China National Cereals, Oils, and Foodstuffs Import and Export Corporation) traders in New York, and a few other active traders in some of the PRC offices, US business executives agree that information is about the only commodity being moved. The Chinese are understandably preoccupied with learning the ropes. Their daily duties center on escorting Chinese delegations, conducting research, and occasionally acting as liaisons between Chinese corporations and American interests.

In those rare instances where the office can sign contracts in its own name, the Chinese seldom take an active interest in pursuing business. One American trader told of being urged to deal directly with Beijing whenever questions about her order arose. Another, dealing in metals and metallic chemicals, said he would "just as soon telex Beijing directly" to arrange a deal. The offices here, he said, offer him nothing he can't get himself.

Apparently the Chinese have begun to realize what these traders have long known: "Left to themselves on Twelfth Avenue in New York," said one businessman, "the Chinese begin to develop some understanding of the market. But it's a slow learning period. A faster way for them to learn"—and to profit, he might add—"is to team up with US companies."

While fewer joint ventures than expected have been set up in China (only 18 were launched in 1981, down from 20 in 1980), the idea has caught on outside the country. China reportedly has entered into seven joint ventures with American partners. Another US company, which incorporated its China joint venture in Bermuda, plans to open a New York branch soon. In addition, the US plays host to several subsidiaries of Chinese joint ventures incorporated in other parts of the world, usually in Hong Kong.

Much of this activity has been initiated by the Chinese. US traders report that PRC officials seem intent on the idea of joining forces with the capitalists in overseas offices—with *established* offices in particular.

Joint ventures abroad offer China the chance to step into a market where the partner already has a foothold. For a small investment and at little risk, the reasoning goes, China can reap the rewards of an American marketing campaign. The US partners can benefit from what they hope will be a guaranteed source of supply.

The five publically announced, and two unannounced, Sino–US joint ventures share a number of characteristics. The partners in all seven cases go back a long way, and the marketing channels for China's goods have been established, or at least identified, by the American firms. The Chinese need only plug their products and people into the system.

Despite the partnerships' percentage split—generally about 50/50—the US side often supplies the bulk of the staff and capital. One exception is the Bermuda-based China American Insurance Company, a joint venture between the American Insurance Group (AIG) of New York, and the People's Insurance Company of China (PICC).

Each side put up $2.5 million to capitalize the venture, which handles insurance and reinsurance of all lines of

Sino-US business. PICC serves as AIG's claims settlement agent in China. AIG, once it opens a branch office of the joint venture in New York, will concentrate on picking up insurance and reinsurance business with US firms.

Claimed an AIG official, "The venture either would have been 50/50, or it would never have flown."

Traders seem to think the Chinese have been surprisingly circumspect in their selection of US partners. The charge has been levied that they're not as careful with Overseas Chinese or Hong Kong partners, whose proximity and heritage give them a decided advantage in forming joint ventures.

One AIG executive related an anecdote that may sum up China's criteria. At one of the first meetings with PICC, he recalled, AIG pointed out that it was only logical for China to select AIG as a partner, since the company was formed in Shanghai. But the Chinese, he said, indicated "they selected us because they had read the operating statements of the other companies, and AIG made the most money."

In approving the first joint publishing venture with an American firm, China again signed on with a well-known name. CW Communications, a Massachusetts publisher, already had established *Computerworld* as a leading US trade paper when it approached the Fourth Ministry of Machine Building with the joint venture idea. (*See The CBR*, Sept.–Oct. 1981, p. 32.) Within eight months of the initial meeting, the 49/51 percent (China) venture had been finalized and the October 1980 issue of *China Computerworld* had premiered.

Today, the 20-member Chinese staff works in a new office building the partners constructed in Beijing. Diana LaMuraglia, CW's manager of international marketing, said two CW executives sit on the four-member board. *Computerworld* provides 30 percent of the news from its US and worldwide bureaus, and overseas advertising and marketing. The bimonthly *China Computerworld* goes to about 50,000 readers in the PRC.

China elected to sign work two other well-entrenched US companies when forming its tungsten and cotton joint ventures.

Li Tungsten, a New York firm, traces its roots back to China in 1914, when founder Kuo Ching Li discovered that country's first tungsten vein. Today President John Li says the company supplies 10-15 percent of the US market for tungsten metal powder, using tungsten concentrate that comes almost exclusively from China.

A year and a half ago Li Tungsten and MINMETALS signed a 50/50 joint venture to create Chi Mei Metals in the US. Obviously, by forming the venture and securing what Li calls the North American exclusive for tungsten concentrate from China, Li Tungsten was protecting its market share.

Likewise, Scheurer International had secured much of the US market for cotton, polyester cotton, polyester rayon, and spun rayon cloth before taking a 25 percent share of the Huafang Trading Company. Formed with CHINATEX in November 1980, the joint venture "is not a 100-percent exclusive," said President Harry Goodwin. But it does hold the major share of the China market in these categories. In its first full year of business, Huafang's invoiced sales volume amounted to $28 million. That, according to Scheurer President Bruce Lasher, is roughly equivalent to 70 million square yards in a US import market from China of 125 million square yards. Lasher sees that share continuing to grow in Huafang's second year.

The wielding of exclusives—or near-exclusives, as most turn out to be—can be a potent force in the US market. One Sino-US joint venture has barely been able to get a start in the market due to the operation of one exclusive and competition from another joint venture company here.

MACVIN, a Hong Kong joint venture between MACHIMPEX and the Hong Kong-based Vincor International, is competing in the US on several fronts, with subsidiary offices in three cities. (Another Vincor company in Hong Kong has a joint venture with INDUSTRY called Vincor Forest Products, which has its own New York office. But President Lorenz Vincenz refuses to give any details about the business.)

The MACVIN subsidiary EESCO, Inc. operates an office and showroom in Houston that services the oil industry. Zhang Hao, the articulate Chinese president, claims the office has contract signing authority for pumping units, thread gauges, and oil equipment and components. Business admittedly has been negligible while EESCO takes the initial steps of introducing itself through industry exhibitions.

The New York MACVIN subsidiary, Intercontinental Technologies, likewise is just making a start. Vice-President Luo Kaifu says the office was formed less than a year ago to serve as a middleman for machine tools, diesel engines, hydraulic and electric power equipment, textile machinery, construction equipment, pumps, and castings. It has no contract signing authority.

Most of MACVIN's US contracts so far have been orchestrated by the American Industrial Corporation in Dallas. And the majority of those deals have been exports to China. Vice-President Bill Shockley reports that about 40 contracts have been signed with 5 PRC organizations since November 1980—mostly for sales of oil equipment and electronic components. The office's increased import drive is centering on electronic components, transformers, circuit breakers, telephone cable, and electronic wire and cable.

Though Shockley declined to give exact sales figures, he said the business volume for January of this year doubled the total for all of 1981.

The latest addition to the list of Sino-US joint ventures is perhaps the most ambitious. Chinese Native Products, Ltd. (CNP), a New York importer, has just finalized an agreement with the Guangdong Foodstuffs Industry Corporation to form the first manufacturing joint venture between China and the US. The partners are purchasing a canning plant in Des Moines, Iowa, to be renovated and equipped for the production of Pearl River Bridge canned food. Poultry, beef, and pork dishes will be turned out to the tune of 200,000–300,000 cases in the first year. The equipment is American; the recipes and technical expertise, Chinese.

CNP President Ming Yi Chen said that in this case, his company proposed the joint venture to China. (Iowa sweetened its offer of a factory site by guaranteeing a $1.6 million industrial revenue bond.) Though originally conceived as an "almost 50/50" partnership, Chen says CNP will now contribute 60 percent of the venture's capital. Various types of service contributions by the Chinese are being discussed as 20 percent of their investment.

The wholesale operation will consist of three managers from both sides, 5 to 10 Chinese technical personnel, and up to 50 factory workers from the US. Moreover, the canning facility will provide a very specialized product that does not directly compete with a US brand.

It is a rare joint venture that can fit into its own niche of the market without bringing on charges of obstructionism. The Sichuan Pavilion restaurant in New York City is an interesting example. Deemed an official joint venture by the Foreign Investment Control Commission, but as a looser cooperative by its Chinese-American board chairman (since the Chinese put up none of the money), the restaurant grew out of an offhand remark by a university professor.

C. T. Wu, now both a New York professor and restauranteur, was visiting his native Sichuan Province in 1980 when the subject arose. "I was making a pitch about how New York could help them with their modernization drive," he said. When one official asked the inevitable question of how China could help New York, Wu said the city's Sichuan restaurants could use spicing up. In a flash Sichuan's governor embraced the idea of sending some of the province's finest chefs to help set up an enterprise there. (The governor—now Premier Zhao Ziyang—had a reputation for getting things done.)

Wu pays the chefs' salaries and living expenses, and buys all the materials and decorations through the Vegetable and Food Catering Service of Sichuan. At year's end the restaurant remits "15 to 20 percent of the profits" to Sichuan, said Wu—provided it's a good year.

(Apparently 1981 *was* a good year. Wu now plans to open a second Sichuan Pavilion under the same arrangements in Washington, D.C.)

Because so many joint ventures have been formed by importers trying to lock up a share of the market, some partners are quick to point out their functions as facilitators, not competitors, to other importers. For instance, Shandong Enterprises, a 50/50 joint venture between the Shandong Foreign Trade Council and Camhing Enterprises, a Hong Kong linen importer, is described by its general manager as "a marketing arm" that "plays a supporting role to importers." In the first nine months, the firm's New York and Qingdao offices brought in $4.5 million worth of business, mainly in raw materials, hardwares, light industrial products, and arts and crafts. Many of those goods are made to importers' orders, Manager Allen Wong explained, since the handicrafts may be "too oriental" for the US market.

Another joint venture marketing specialty items is China Resource Products of New York, which has aroused the ire of some importers by its practice of selling both to wholesale and retail customers at similar prices. The 50/50 joint venture between ARTCHINA's Beijing branch and an Overseas Chinese firm called Trinity Development did about $1.5 million worth of business in its first year, but reportedly has had little luck expanding sales.

One digruntled importer compared China Resources' double-edged competition with problems she encounters in most Chinese subsidiary offices here: "They don't distinguish between wholesale and retail, long-term and short-term customers with their prices," she complained.

Most of the US-based ventures should be able to minimize such problems in certain product areas, since their primary function is to manage China's often scattershot marketing approach. But several US traders involved in joint ventures with China said those outside difficulties are minor—at least compared to some of the problems going on *inside* the venture itself.

The advice seems straight out of a fortune cookie. The advisor, however, speaks from personal experience rather than ancient proverbs: "Beware of your choice in partners," he warned.

Company A had been dealing with China for years before it accepted an invitation to discuss a possible joint venture in 1978. Relations had been cordial and business good. But negotiations dragged on several years before the 50/50 venture was signed.

The American partner didn't mind furnishing most of the start-up capital; with his office already running, he reasoned, that would be a minor expense. Operating funds would likewise come from him until the business got going.

A year and a half later, he's footing colossal bills generated by his Chinese staffers, and complaining about a marriage he now feels was doomed from the start. His bureaucrat partners, he said, are making up for the deprivations suffered during the Cultural Revolution with spending sprees on the company tab. They generously pick up expenses for visiting delegations, dine at the finest restaurants, and rent limousines when taxis would do.

Company B uncovered a number of universal problems when he went to China for joint venture talks—both in his negotiations and in the reports of other would-be partners. Communications tend to deteriorate as questions become more specific. Traders have found it difficult to pin the Chinese down on procedural details that must be spelled out under the foreign country's joint venture law. Talk of money is practically taboo; if both parties enter the agreement in good faith, it is reasoned, the rest will work itself out.

Staffing discussions open up their own world of problems. Complained one trader: "All the Chinese will say is that Mr. So-and-So will be the vice-president. Not what he can do."

To the surprise of at least one other American partner in a Chinese–American joint venture, the old friends he had been dealing with for years were not even considered for his venture's US staff, and new people had to be brought in for training.

US traders admit to hearing these problems time and again. The everyday hardships of buying and selling in China are quadrupled, some say, when investments of money and staff come into play. One joint venture partner sees such severe problems when capitalists and socialists try to work together in his office that he recommends limiting Chinese participation to membership on the board.

President B would like to see his joint venture fly—even though his partners have yet to come forward with details about the amount of business and backup they plan to provide. He believes, like many US traders, that the joint venture concept offers China a good way to "walk itself into the market."

The real danger, in the view of Company President A, is that the Chinese will walk out on the partnership once they learn the market. Another US partner strongly disagrees, believing that China would not want to risk losing face. His concern centers on the partners' not contributing their fair share to the business.

"I'm sure they wanted this venture as a stepping stone in the US," he remarked. "But I won't be stepped on."

Firmness, experience in China trade, and above all *patience* stand out as the most important qualities for a potential joint venture with the PRC. Most of the traders interviewed have high hopes for their partnerships, believing the Chinese will be able to grow along with the venture. It will take time. Thirty years separate China from the days of its capitalist past. Certainly, a few more will pass before its foreign traders can feel confident buying and selling in a foreign land.

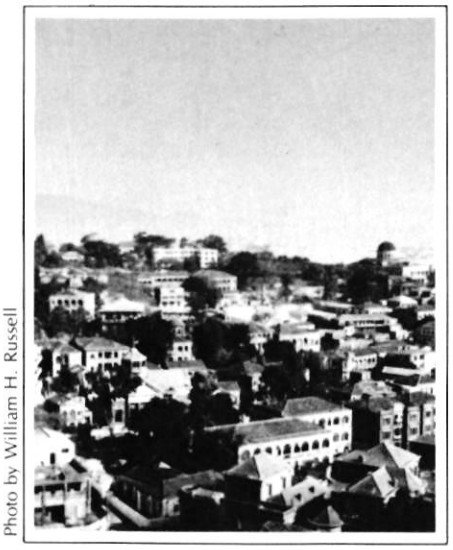


Photo by William H. Russell

View of Embassy (Legation) Island in Xiamen.

China's SEZs

Terms in the special economic zones compare well with those in other parts of the world.

James B. Stepanek

As one US executive put it, "They are a family affair—for Overseas Chinese only." It is hard to quarrel with the figures: All but 5 percent of the HK$2.4 billion ($410 million) so far committed to projects in the Shenzhen Special Economic Zone, China's most advanced SEZ, is from Overseas Chinese.

The Overseas Chinese connection is even more important in Fujian's Xiamen zone, where the authorities are under pressure from Beijing to develop close ties with Overseas Chinese, whose influential members, the government hopes, eventually will bring pressure on Taiwan to reunite with the mainland.

The belief that China's SEZs are purely a "family affair" is of course underscored by press reports like the recent announcement in the *South China Morning Post*, attributed to Xiang Zhen, deputy director of the Xiamen SEZ, that Overseas Chinese should expect the most favorable terms of all.

Such reports undoubtedly have scared off a few companies from investing in the SEZs. But the question the companies should ask themselves is this: How do the actual terms offered in China's SEZs compare with those in similar zones in other countries?

To those who remember how carefully China researched export zones elsewhere in the world—sending teams to Sri Lanka's Colombo International Airport Zone in 1979, and to the Bataan export processing zone in the Philippines in 1981—the answer should come as no surprise: China's four zones in Zhuhai, Shenzhen, Shantou (all in Guangdong Province), and Xiamen (in Fujian Province), compare very favorably in many respects with export processing zones around the world.

Land rentals, for example, range from a low of 19¢ per square foot per year in Xiamen, to an average annual charge of $1.10 per square foot for underdeveloped industrial property in Shenzhen, according to Article 16 of the Shenzhen land control regulations promulgated on November 17, 1981. Rates for "under roof" factory space in export processing zones in Jamaica, Barbados, Colombia, and the Dominican Republic, reportedly range from $2.50 to $3.50 per square foot. As in China, the land and buildings in these zones normally may be leased for at least 20 years with an option to extend.

Projects in China, as elsewhere, tend to be small scale. In Shenzhen, the foreign exchange component of the average project is $580,000, according to Xu Dixin, the director of the Economics Institute of the Chinese Academy of Social Sciences. The comparable figure for Sri Lanka is $1.3 million. Investments in Xiamen range from a high of $1 million for joint equity ventures to roughly $40,000–$100,000 for compensation trade deals.

Per-worker investment in Shenzhen is about $6,000 at the Goodyear Printing plant, $60,000 at the LMK printing and dyeing factory, and nearly $190,000 at the Pepsi Cola plant, well above the World Bank estimate of $10,000 believed to be the norm in most export processing zones.

Costs of raw materials are high in China, sometimes approaching international price levels. However, imports of machinery and raw materials are tax exempt, and special low duty rates are considered on taxable items. But no concessions are granted comparable to those offered in Bombay's Santa Cruz Electronics Export Processing Zone, where foreign firms reportedly pay discounted prices on all Indian-made components used by zone enterprises.

China's high wage policy naturally diminishes the appeal of its SEZs. This is a major obstacle to attracting investors, inasmuch as low labor cost is believed to be the single most important factor behind the dramatic growth of export processing zones, from 7 in 1970 to about 68 in 40 developing countries today, according to Carl D. Goderez, a World Bank consultant on export processing zone development.

Though the average industrial wage in China is only ¥60 per month (about $35), the government insisted when China's zones began to open up in 1980, that foreigners should pay a wage approaching Hong Kong levels. But Article 7 of China's most recent labor legislation, which took effect in Shenzhen this January, assures investors that "the terms of remuneration shall be negotiated." The new regulations also allow firms to negotiate their own wage system, adopting a piece rate system, or system of payment by the hour, day, or month.

In one important respect China's export zones closely resemble Mexico's Border Zone Program in that investors are not required to locate in designated estates. In both countries approved export industries in off-zone premises enjoy the same privileges conferred on zone enterprises. For example, in Shenzhen Municipality, a 100-percent foreign-owned plant established in the Mirs Bay area in 1980 reaps all the ben-

efits granted enterprises in the Shenzhen SEZ (which occupies a 327.5-square-kilometer area comprising one-sixth of the municipality). The plant pays an annual rent of only 39¢ per square foot, lower than the rentals paid by many enterprises in the Shenzhen SEZ.

In Mexico, export processing activities also are centered in a few urban enclaves such as Ciudad Juarez, where infrastructure facilities are most developed. But enterprises are encouraged to set up operations in a much larger free trade area surrounding these enclaves, which encompasses a 20-kilometer-wide zone running the entire southern perimeter of the US-Mexican border. In China the potential free trade area is even larger, encompassing the three provincial-level municipalities of Beijing, Shanghai, and Tianjin, as well as Guangdong and Fujian. All five have been granted expanded self-management authority in the area of foreign trade and investment, a privilege that cash-poor provinces in China covet. As zone fever began to spread in 1980, Hainan Island started advertising itself as an export zone, and in early 1982, Shanghai announced plans to set up a "special industrial area" 25 kilometers southwest of the city, to be managed by the Shanghai International Trust and Investment Corporation.

China differs from Mexico in that it lacks a strong central authority to oversee zone activities. Mexico's Ministry of Patrimony and Industrial Development keeps watch over foreign investments to ensure, among other things, that the country's local zone authorities do not engage in "intra-zone competition and rivalry harmful to the nation," according to Goderez. Sri Lanka's Greater Colombo Economic Commission, the Barbados Industrial Development Corporation, and similar authorities in Taiwan, Mauritius, South Korea, Ireland, and the Phillippines serve the same function in their respective areas.

The supervision of China's SEZs has been left mainly to provincial bodies, namely the Guangdong Provincial Committee in charge of the Special Economic Zones, headquartered in Shenzhen, and the Xiamen Construction and Development Corporation. The former committee controls Zhuhai, Shenzhen, and Shantou, but its authority over Shekou (a small port zone within Shenzhen) is shared—some would say usurped—by the China Merchant Steam Navigation Company, a Hong Kong subsidiary of China's Ministry of Communications that was empowered in 1979 to negotiate all foreign ventures in Shekou. Recently, China's Ministry of Petroleum Industry has been eyeing a small zone of its own near Shekou to develop into a major supply base for drilling operations in the South China Sea.

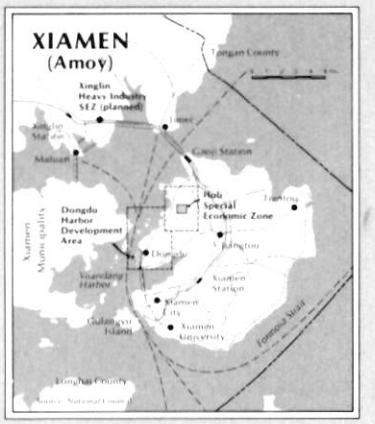
Perhaps China's extraordinary expectations to have foreigners build harbors, highways, waterworks, railways, and even airports in its SEZs, is the most unique aspect of its SEZ strategy. Export processing zones in other countries are basically industrial estates "located administratively outside the host country's customs barrier," as defined by the World Bank. So too are China's SEZs, except that China does not intend to limit foreign involvement to the sort of small-scale assembly and packaging operations normally found in such zones.

So why has China singled out a 30-square-kilometer satellite city, two jet airports with 4,000-meter runways, deepwater wharves, an expressway, and a 10-million-ton-per-year oil refinery as appropriate SEZ investment ventures for foreign companies?

The answer lies in the politics of "readjustment," as the Chinese call their country's current drive to slash spending. In order to revive the infrastructure projects in Guangdong and Fujian cut from Beijing's budget in recent years, the authorities are putting many of the projects on the international auction block.

Fujian's 1981–85 Five Year Plan, for example, has budgeted ¥5.5 billion ($3.2 billion) for investment, of which ¥1 billion will come from Beijing, ¥1.9 billion from the province, ¥1.2 billion from banks in the province, and ¥1.4 billion —one-quarter of the total— from foreign investments, mainly in the Xiamen SEZ. Many of the projects included in the plan were axed from the central government's list of priorities, and can only be revived if the province comes up with the cash.

Such large financial needs are beyond the capability of most Hong Kong entrepreneurs, and the authorities now seem eager to attract a wider range of foreign enterprises, including giant multinationals. What began as a family venture may yet become an international affair.



The Xiamen zone was the first to designate as a special economic zone the entire city—not just the 2.5 square kilometer Huli export processing area. It also took the lead in encouraging the establishment of 100 percent foreign-owned enterprises. Says one US executive, "The business climate in Xiamen is serious." Were it not for Xiamen's distance from Hong Kong and general inaccessibility (a jet airport will not be completed until late 1982), Xiamen probably would be prospering as much as the Shenzhen SEZ.

Guangdong port scene.

Guangdong's SEZs

Four new regulations fill important gaps

Michael J. Moser

Guangdong Province has issued new "provisional regulations" on special economic zones aimed at enhancing the attractiveness of its SEZs to foreign investors. The regulations cover entry and exit procedures, the labor and wage system, land usage, and business registration.

The Guangdong People's Congress promulgated the four new regulations on November 17, 1981, under liberalized State Council guidelines issued last summer that granted Guangdong and Fujian unprecedented power to improve the investment climate in their respective special economic zones. So far Guangdong has established zones in Zhuhai, Shenzhen, and Shantou. In Fujian, similar regulations are expected to be issued soon governing the Xiamen Special Economic Zone.

The new provisional regulations came into effect on January 1, and are intended to amplify certain provisions of the Regulations on Special Economic Zones in Guangdong Province, which were promulgated on August 26, 1980 (*see The CBR*, Sept.–Oct. 1980, p. 54). The 1980 regulations—26 articles long but short on details—have been criticized for glossing over important issues of concern to foreign investors.

The new provisional regulations mark an important step in removing some of the haze that surrounds the 1980 SEZ regulations. Many observers hoped that the regulations would extend more concessions to foreign investors than they do. Reports circulating in Hong Kong since last August indicated that the regulations would also contain provisions liberalizing foreign exchange procedures and specifiy further types of preferential tax treatment. It is now expected that these issues will be dealt with in a separate set of regulations to be announced later this year.

One thorny question left unresolved is how the new regulations will affect the Shekou Industrial Zone. Although technically a part of Shenzhen Municipality and thus within the jurisdiction of the new regulations, Shekou is run by the PRC-owned China Merchant Steam Navigation Co. in Hong Kong. In the form of an investor's handbook, China Merchant issued its own rules that provide more favorable treatment to investors than do the 1980 SEZ regulations and the new provisional regulations. Whether Shekou will continue to act, as it has thus far, as a special zone within a special zone remains to be seen.

The real impact of the four new provisional regulations can only be assessed after they have been implemented. The final picture, once it emerges, should provide investors with clearer guidelines for doing busines in the SEZs.

Entry and Exit: Easing Travel Restrictions

Traders operating in the SEZs have complained about the cumbersome procedures required to clear immigration and customs, especially in Shenzhen. Although Article 18 of the 1980 SEZ regulations promised that "entry and exit procedures will be simplified," little apparently has been done to implement this provision.

While not affecting the existing visa rules applicable to foreigners who may pass through the SEZs on their way to other destinations in China, the new provisional entry/exit regulations are aimed at facilitating the movement of people and goods into and out of the SEZs. For example, the new regulations allow foreigners and Overseas Chinese, after receiving a "letter of proof" from the SEZ development company, to apply for multiple-entry visas if they have set up factories, are doing business or have a home in the SEZs, or are required to travel regularly to the SEZs. The Chinese text of the regulations seems to imply that negotiations and preparatory work would also make one eligible for a multiple-entry visa. If this is true, it will be welcome news to investors considering projects in the SEZs, who are often required to participate in numerous preliminary meetings before a deal is signed.

In addition, the new regulations ease restrictions on transport vehicles traveling betwen the SEZs and Hong Kong and Macao. After obtaining local government approval, vehicles may be issued a pass by the public security bureau for border crossing.

Whether the new provisional entry/exit regulations will actually reduce the long hours and inconvenience of entering and leaving the SEZs remains to be seen. Much will depend on how flexibly the regulations are administered by the local government agencies.

One disturbing aspect of the new regulations is that they fail to simplify existing customs inspection procedures. Although the 1980 SEZ regulations promised that import duties on many items would be reduced or eliminated, the new regulations simply state that these issues are to be handled in accordance with the "relevant con-

trols and regulations issued by the customs authorities." But until China's customs rules are liberalized—and clearly made known to investors—this ambiguity considerably weakens the new entry/exit regulations.

Guangdong Provisional Entry/Exit Regulations in Special Economic Zones

Article 1. These provisional regulations are drawn up in accordance with the relevant laws and decrees of the People's Republic of China and the Guangdong Special Economic Zone Regulations.

Article 2. These provisional regulations apply to all foreigners, Overseas Chinese, Hong Kong, Macao, and Taiwan compatriots who enter the special economic zones (SEZs) via the country's open ports within the SEZ or via ports designated for the SEZ. Those entering China via open ports to other parts of China or leaving from other parts of China via the SEZ should do so in accordance with existing regulations.

Those entering and leaving are subject to inspection by the port inspection authorities.

Article 3. Those entering from Hong Kong or Macao should do so in accordance with the following entry procedure, whichever the case:

1. Foreign nationals and Overseas Chinese should, with their passports, make entry/exit application through authorized travel organs or other representative organs in Hong Kong or Macao to obtain visas from China's visa issuing organs before being given inspection and clearance at border checkpoints. Foreign nationals and Overseas Chinese who have set up factories, have other work, or have bought homes or live in the SEZ and need to travel regularly to and from the SEZ may, with a letter of proof from the SEZ development company, apply for multiple entry/exit visas.

2. Hong Kong and Macao compatriots shall present their "Home Visit Certificate" and the accompanying form or card to be checked and cleared. Those who have set up factories, have other work and have bought homes or live in the SEZ and regularly need same-day entry/exit may apply to be exempted from filling out the accompanying sheet or card. They should do so by presenting a letter of proof from the SEZ development company or their "Hong Kong Macao Compatriot Resident Permit" to obtain authorization from the SEZ (municipal) Public Security Bureau. Those exempted from filling the accompanying sheet or card may be issued a permanent registration booklet for personal effects by the customs inspection. Such booklets will be filled out by the bearer for customs inspections and clearance.

3. Taiwan compatriots entering the SEZ via Hong Kong or Macao may apply for entry/exit through authorized travel organs in Hong Kong and Macao with proof of their personal identification to obtain entry/exit papers issued by China's visa issuing offices.

Article 4. Foreigners applying for entry into an SEZ directly from other countries or territories (other than Hong Kong or Macao) must present entry visas issued by China's visa issuing office for inspection and clearance.

Article 5. Tour groups of foreign nationals and Overseas Chinese to SEZs from Hong Kong and Macao for tourist reasons may be issued group visas for inspection and clearance.

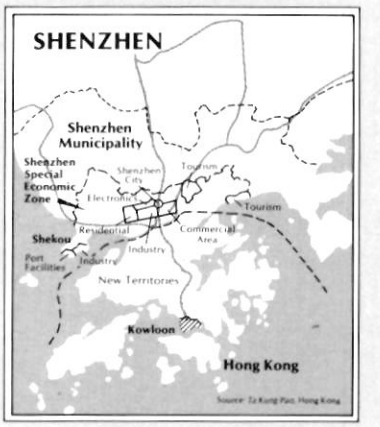
Article 6. Foreign nationals, Overseas Chinese, Hong Kong and Macao compatriots who own homes in or live in SEZ and who are to live there six months or longer but less than one year may be issued a temporary resident permit by the SEZ (municipal) Public Security Bureau; those who live in an SEZ a year or longer may be issued a resident permit, renewable yearly.

Article 7. Baggage and goods of persons entering SEZs from Hong Kong, Macao, or Overseas are subject to relevant controls and regulations of the People's Republic of China's SEZ customs inspection.

Article 8. Persons and goods from epidemic areas, which fall under "Health and Quarantine Regulation, People's Republic of China's" and "Animal and Plant Quarantine Regulations, People's Republic of China," are subject to inspection at the port of entry by the health quarantine and animal and plant quarantine authorities.

Article 9. Foreign nationals entering other parts of China from the SEZ or entering the SEZ from other parts of China shall do so in accordance with existing regulations.

Article 10. Transport vehicles traveling between the SEZ and Hong Kong or Macao should, through approval by the SEZ (Municipal) People's Government, obtain a pass from the SEZ (Municipal) Public Security Bureau for inspection and clearance.



Shenzhen has become China's most successful special economic zone, attracting more than 10 times the combined foreign investment made in China's three other major zones. Within its 327.5 square kilometer area, a multitude of "zones within a zone" have sprung up specializing in different types of commercial activities, ranging from pig farming and electronics to recreational boating and golf. At one such mini-zone on Chiwan Bay, China's Petroleum Ministry intends to build a major oil supply base for the exploration of the South China Sea.

Article 11. Entry/exit procedure for Chinese cadres and staff working in the SEZ shall be in accordance with existing regulations.

Article 12. These provisional regulations are effective as of January 1, 1982.

Wages and Labor: Tighter Discipline

The new labor regulations have teeth: They permit SEZ enterprises to issue warnings to workers, impose wage reductions, and even lay off or fire workers after giving them a severance payment equal to one month's wages for every year of service. But such disciplinary actions are subject to review by the SEZ Labor Bureau, which is also authorized to act as a mediator in cases of labor disputes. Enterprises dissatisfied with the bureau's decisions are granted the right to appeal to the local People's Court.

Poor discipline among workers probably has been the greatest cause of investor dissatisfaction in the SEZs. Here again, the 1980 regulations promised improvements, but in fact produced few changes. Most enterprises operating in the SEZs, even after the 1980 regulations were passed, still had to accept workers assigned by the local Labor Bureau. Moreover, firms generally have had no authority to fire workers. Most could only request the Labor Bureau to reassign workers to other factories.

For companies encountering labor problems in the SEZs, the new Provisional Labor and Wage Regulations provide some welcome news. They allow firms to recruit workers either by requesting the assistance of local labor service companies or by advertising on their own. The regulations also allow the firms to select applicants by examination and hire applicants for a probationary period of three to six months.

Under the new regulations, employment contracts will be negotiated directly between enterprises and employees. While the contracts must be approved by the SEZ Labor Bureau, enterprises apparently will be given considerable flexibility in fixing some of the employment terms. For example, the regulations do not fix a minimum wage, but state that wages and the basis of payment (piecework, hourly, or monthly) are negotiable. Other key employment terms: 70 percent of a worker's wages are to be paid directly to the worker, 5 percent to the enterprise's welfare fund, and 25 percent to mandatory labor insurance and "various state subsidies," which are unspecified.

One provision in the new regulations which may cause concern to investors is the requirement that enterprises accept resignations tendered by workers "under special circumstances." What these special circumstances are intended to cover is unclear. Still, the regulations do provide safeguards against at least one potential area of abuse: using employment with an enterprise merely as a means to obtain free training. The regulations state that employees who have received at least three months of training from the enterprise may not resign prior to the completion of at least one year's service. Workers who breach this provision must compensate their employers for the costs of their training.

The test of these more flexible labor regulations will come when firms negotiate contracts: Will foreign firms be allowed to negotiate and draft their own documents—as the regulations imply—or will they have to use form agreements drawn up by the SEZ labor authorities?

Guangdong Provisional Labor and Wage Regulations in Special Economic Zones

Article 1. These provisional regulations are drawn up in accordance with the relevant laws and decrees of the People's Republic of China and the Guangdong Special Economic Zone Regulations.

Article 2. The hiring of staff and workers by foreign enterprises, and joint equity and non-equity enterprises (hereafter SEZ enterprises) will be executed according to labor contracts concluded between the employer and employee. The labor contract shall include the following points: employment, dismissal, and resignation; job specification; service payment, award, and fines; working hours and holidays; labor insurance and welfare; labor protection; and labor discipline. The contract is subject to the approval of the SEZ Labor Bureau.

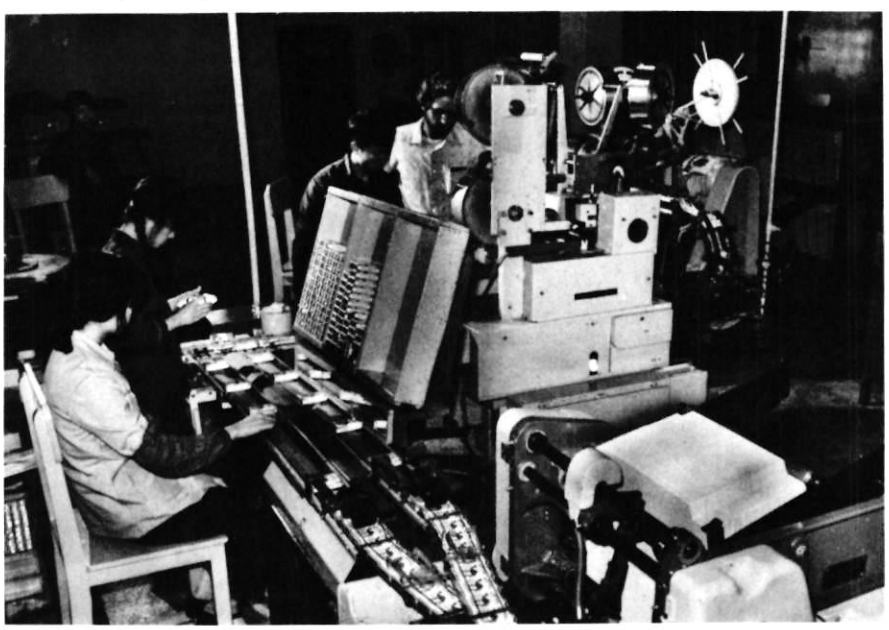
Article 3. The special economic zone of Shenzhen and the municipalities of Zhuhai and Shantou shall, under the guidance of the SEZ (Municipal) Labor Bureau, set up a labor service company to assist SEZ enterprises in the employment of labor and provide guidance for those seeking a contract with SEZ enterprises.

Article 4. With approval from the Labor Bureau, an SEZ enterprise may hire staff and workers through the labor service company. It may also advertise for workers on its own behalf. Selection may be made by examination. Successful candidates may undergo a three- to six-month probation period.

Article 5. The staff and workers employed by an SEZ enterprise must be above the age of sixteen.

Article 6. The staff and workers employed shall abide by the labor contract and requirements of the management of the SEZ enterprise. The SEZ enterprise may open technical schools or classes to train its management personnel and technical workers.

Article 7. The terms of remuneration shall be negotiated and set out in



The R. J. Reynolds Co. of the US equipped the Xiamen cigarette factory.

the labor contract. Allowances shall be made for different levels of remuneration according to different kinds of enterprises, and different types of work. Allowance for a progressive annual increase in remuneration of 5–15 percent shall be made in accordance with the degrees of proficiency of the staff and workers.

Article 8. The apportioning of the labor remuneration shall be as follows: 70 percent goes directly to the staff and workers as wages (including basic and floating wages); 5 percent is deducted for enterprise subsidies and other benefits for the staff and workers; 25 percent is for use as social labor insurance and various forms of subsidy the state provides for workers and staff.

Article 9. The SEZ enterprise makes its own decisions on the enterprise's form of wages, awards, and allowances. Wages may take the form of piecework, or hourly, daily, or monthly work as the SEZ enterprise deems fit.

Article 10. The SEZ enterprise operates on a six work-day week and an eight-hour day basis (with the exception of special types of work for which rules shall be made separately). Overtime shall be paid accordingly.

Article 11. The staff and workers employed by the SEZ enterprise shall enjoy rest days, public holidays, home leaves, and special leaves for marriage and other reasons as stipulated in regulations promulgated by the Chinese government, as well as other rights and benefits stipulated in the labor contract.

Article 12. The SEZ enterprise is under the obligation to abide by laws and regulations pertaining to labor and environment protection, to ensure labor safety, and healthy working conditions. Over all these respects the SEZ authorities reserve the right to inspect and supervise.

Article 13. The SEZ enterprise is under obligation to abide by the Chinese government's regulations on women workers and give special consideration to the protection of their health.

Article 14. The SEZ enterprise is under obligation to make arrangements according to the Chinese government's Labor Insurance Regulations in the event of accidents which occur at work and cause wounds, disability, or death.

Article 15. The SEZ enterprise is obliged to accept the resignation of members of the staff and workers tendered under special circumstances. Workers who have received special training for a period of three months or more are not allowed to tender resignation unless they have completed a year's service. A worker who insists on resignation or leaves without permission shall be responsible for the compensation of the costs of his training.

Article 16. The SEZ enterprise has the right to lay off staff and workers whose employment is considered redundant or unnecessary either in view of changes in production or technical conditions or because of failure to reach requirements after training and yet there is no suitable work to which he could be reassigned. Dismissed staff or workers are entitled to a month's wages for every year of service; one who has not completed a year's service is entitled to a month's wage. One who is still on probation is entitled to half a month's wage.

Article 17. The staff and workers of the SEZ enterprise are subject to warnings, demerit marks, wage reductions, or dismissal in the event of violating the enterprise's regulations and causing losses, and according to the nature and degree of their offense. All cases of dismissal shall be reported to the SEZ (Municipal) Labor Bureau.

Article 18. In the event of a member of the staff or worker refusing to accept dismissal he (she) may present his (her) case again to the enterprise for further consultation. If the consultation fails, the case may be referred to the SEZ (Municipal) Labor Bureau for mediation. Either side has the right to appeal to the local People's Court if it considers the Labor Bureau's decision unsatisfactory.

Article 19. All matters concerning the hiring, dismissal, resignation, awards, fining, welfare, and social insurance for Hong Kong, Macao, and Taiwan compatriots in SEZ enterprises shall be decided by the board of directors of the SEZ enterprise and should be specified in the contracts governing employment.

Article 20. The above provisional regulations are effective as of January 1, 1982.

Land Use: Less Room for Construction Delays

The land use regulations apply only to Guangdong's largest SEZ, the Shenzhen Special Economic Zone. They restate the well-known principles that land rights are rights of usage and not ownership; that all forms of land sales are forbidden; and that local author-

Zhuhai became China's first announced "special district" on September 6, 1979. Today it is developing a 3.1 square kilometer area for light industry and the assembly of electronic components for export. Another 3.7 square kilometer area has been set aside for resorts and hotels. In an unprecedented decision, the central government has decided to let Zhuhai and Shenzhen open their economies to the market influences of Macao and Hong Kong. This could eventually lead to the establishment in these SEZs of an economic system Beijing officials recently called "state capitalism."

ities have the right to regulate and allocate land in accordance with Shenzhen's overall development plan.

Most significantly, the new regulations spell out rental rates and procedures not covered in Article 12 of the 1980 SEZ regulations. Though the rates will vary according to location, certain types of enterprises will have to pay more than others. For example, industrial enterprises must pay ¥10–¥30 per square meter per year (between $0.55 and $1.64 per square foot per year at current exchange rates), while commercial enterprises must pay top rentals of ¥70–¥200 per square meter per year ($3.80–$10.93 per square foot per year).

The rates are comparable to those charged foreign joint ventures in other parts of China—rates that some foreign investors regard as excessive, especially for commercial property. While Hong Kong investors, long accustomed to exorbitant land charges, may find Shenzhen's rates attractive, it is doubtful whether the rates will generate enthusiasm among executives from other countries.

To obtain building rights in Shenzhen, enterprises with approved contracts may apply to the municipal planning department in Shenzhen for a certificate of land use. Within six months after issuance of the certificate, the enterprise must submit a blueprint and construction plan. Ground breaking must occur no later than nine months after the certificate is issued or the certificate may be canceled. If properly enforced, these provisions should improve land use planning in Shenzhen. More important, they could reduce the frequently reported delays in securing land permits and in construction often caused by the procrastination of the PRC investment partners, who are typically given responsibility for such matters in joint venture contracts.

Rate payments may be made in a lump sum any time within the two-year period following the issuance of the certificate of land use. Alternatively, enterprises may make rate payments on an annual basis at an interest rate of 8 percent.

Other important provisions of the land regulations concern the duration of renewable leases and Shenzhen's land use charges. Land leases for industrial and tourist enterprises are valid a maximum of 30 years; for agriculture-related and commercial enterprises (including restaurants), the limit is 20 years; and for marketable housing enterprises and educational, scientific, or medical enterprises, the limit is 50 years.

Guangdong Provisional Land Regulations for Shenzhen Special Economic Zone

Chapter 1. Preamble

Article 1. These provisional regulations are drawn up in accordance with the relevant laws and decrees of the People's Republic of China and the Guangdong Special Economic Zone (hereafter SEZ) Regulations.

Article 2. All the SEZ s developed and undeveloped mineral resources, streams, cultivated and uncultivated land, wooded areas, and land and offshore resources are under the unified administration of the Municipal People's Government of Shenzhen, Guangdong Province, which has the right, according to the reconstruction needs of the SEZ and relevant laws and decrees, to requisition, appropriate, or nationalize the land in the SEZ.

Article 3. All units and individuals shall abide by the SEZ general development plan once it has been approved. The topography and general configuration of the land shall not be altered without approval. Unauthorized appropriation of land and building of any kind is forbidden.

Article 4. Units and individuals wishing to use land should apply to the Shenzhen Municipal People's Government. Land use is forbidden without approval and the completion of the necessary procedures. All contracts concluded directly with units and individuals currently using the land without official approval are invalid.

Article 5. Authorized units and individuals shall only have the right to use land, but do not have ownership over it. Land sales and all disguised forms of land sales are forbidden. Leasing and unauthorized transfer of land are likewise forbidden. Mining exploitation, and impairing underground and other resources are not allowed.

Article 6. The compensation for civilian dwellings and other structures which either have to be moved away or torn down because of land appropriation shall be made as stipulated in relevant regulations issued by the People's Republic of China and the Guangdong Provincial People's Government.

Article 7. The Shenzhen Development Company is in charge of the SEZ land development. Outside capital may be acquired for development projects. Arrangements regarding the revenue from and costs for land development shall be made by the development company.

Chapter II. Land Development and Administration

Article 8. An investor requiring use of land shall, on the strength of approved documents, contracts, agreements, and the submission of relevant data, apply for the use of SEZs land the municipal planning department. He will be issued a "Certificate for Land Use" upon completing the procedures of payment for the use of the land and demarcation of the land.

Article 9. The outside investor shall submit a general blueprint and the construction and production plans of his investment within six months after the Certificate for Land Use comes into effect, and break the ground for construction according to the blueprint within nine months after the certificate comes into effect. Failure to comply subjects his certificate to forfeiture and the fees paid will not be refunded. The construction and commissioning of the project shall proceed according to schedule. Delay should be reported to the department which approved the project for verification of the cause of delay. The certificate shall be canceled in cases of illegitimate delay.

Article 10. All SEZ enterprises shall be subject to the final inspection and approval of the proper authorities before going into operation. Unless approval is obtained, outside investors shall not tear down, modify, or rebuild any existing structure on the premise.

Article 11. SEZ enterprises shall strictly follow the ratio of space allotted to buildings and greenery required by SEZ. This ratio shall not be altered at will.

Article 12. All projects are required to meet safety and fire prevention precautions as set out in Chinese government regulations for civil engineering. Enterprises violating these regulations will not be allowed to go into operation. Those who do so without authorization and thus causing accidents shall compensate for the losses and be held legally responsible for such accidents.

Article 13. The use of land shall be in strict accordance with the contract and

agreement signed by the SEZ enterprise. The land under contract shall not be used for other purposes without approval.

Article 14. The use of land outside the confines defined by the certificate for land use shall be applied for according to procedures stipulated in Article 8.

Chapter III. The Duration of Land Use and Charges

Article 15. The duration of the use of land, which shall be decided in consultation, varies according to the size and actual needs of the investment. The maximum lengths of the duration are:

For industrial use: 30 years; for commercial use (including restaurants): 20 years; for development of marketable housing: 50 years; for educational, scientific and technological, and medical use: 50 years; for tourism: 30 years; for crop raising, animal husbandry, and raising grounds: 20 years.

The use of land may be renewed upon expiry of the terms set out in the certificate.

Article 16. Charges shall be collected on all land used by enterprises financed by outside investors or joint ventures. The rates vary according to the location and the purposes for which the land is used. In RMB per square meter per annum: land for industrial use: 10–30 yuan; land for commercial use: 70–200 yuan; land for development of marketable housing: 30–60 yuan; land for tourism: 60–100 yuan; land for crop raising, animal husbandry, and raising grounds: subject to negotiation.

The rates are subject to readjustments once every three years. The margin of fluctuation shall not exceed 30 percent.

Article 17. All educational, cultural, scientific and technological, medical, and social welfare institutions shall receive preferential treatment. Nonprofit and exceptionally advanced technologies shall be exempt from land charges.

Article 18. Land charges may be paid in one lot, or paid within two years free of interest, or paid annually at an interest rate of 8 percent. In the event of readjustments, the sum to be paid shall be calculated according to the new rates.

Article 19. The above-mentioned regulations on the payment of charges for land use apply to all units involved in setting up enterprises and establishments.

Chapter IV. Public Utilities

Article 20. Within the confines of the land allotted, SEZ enterprises are under obligation to undertake the installation of public utility facilities according to the requirements of the municipal plans.

Article 21. SEZ enterprises shall be responsible for the installation of power lines, water supply lines, drainage works, sewage systems, gas lines, and telecommunication facilities within the confines of their allotted land. They shall also assume responsibility for all costs for connections with external mains.

Article 22. All residual substances, fumes, and wastewater shall be disposed of and treated according to relevant Chinese government regulations. SEZ enterprises are subject to inspections by the SEZ environment authorities and pay fees according to regulations.

Article 23. These provisional regulations are effective as of 1st January 1982.

Business Registration: Foreign Banks Excluded

The last of the four new regulations attempts to make administrative procedures uniform in SEZs, and closely mirrors the May 1981 law governing foreign offices in Guangdong. The regulations outline the steps to be taken to apply for and effect the registration of enterprises, to open bank accounts, and to register for tax payment. "Foreign banks," it is worth noting, are specifically excluded from the scope of the regulations, and are to be dealt with in "separate regulations."

Above all, the registration regulations signal an intention on the part of local authorities to keep a close watch over enterprises operating in the SEZs. Registration certificates, for example, must be renewed each year, and approval by the local SEZ administrative committee is required for an enterprise to change the scope of its activities, corporate structure, or even its registered capital. Moreover, police powers are granted to the SEZ department of industry and commerce, authorizing them to "supervise" SEZ enterprises, and "warn, fine, or shut down" enterprises found to be in violation of the regulations.

Lacking good roads and any rail connections, Shantou is Guangdong's least developed special economic zone. The city has twice scaled down its zone development plans, which now encompasses only a 0.2 square kilometer export processing area in Longhu village on the city's outskirts, and another 1.7 square kilometer area near the port. Local officials go out of their way to emphasize that foreign firms located anywhere in the municipality will receive the same benefits enjoyed by zone enterprises, recent visitors report.

Guangdong Provisional Regulations for Business Registration in Special Economic Zones

Article 1. These provisional regulations are drawn up in accordance with the relevant laws and decrees of the People's Republic of China and the Guangdong Special Economic Zone Regulations.

Article 2. Foreign equity enterprises, equity joint ventures, and non-equity joint ventures (hereafter referred to as SEZ enterprises) must obtain registration certificates or business licenses from the SEZ department of industry and commerce before starting operation; businesses termed 'special' by the People's Republic of China shall obtain special registration certificates or licenses. Those without registration certificates or business licenses are not permitted to start operation.

Registration procedures for foreign banks and other financial institutions shall follow separate regulations.

Article 3. SEZ enterprise registration applications shall be accompanied by:

1. Document of approval by the local SEZ (Municipal) People's Government or SEZ administrative committee where the enterprise is located.
2. Chinese and another language copies of the signed agreement of the enterprise's partnership, contracts, and the enterprise's company charter, and list of members of the board;
3. Copy of registration issued by government organ of the business's country of origin or other credentials.

Article 4. SEZ enterprise registration applications shall, all three copies, be filled out in Chinese and another language. Main items to be registered are: name of business, address, range of business, operation of business, registered capital and the sharing of capital held by each partner in equity or non-equity enterprise, members of the board, general manager, deputy-general manager or factory director, deputy factory director, the organ approving the document, document ordinal number and date, total number of employees, and number of foreign staff and workers.

Article 5. A foreign enterprise or enterprise of Overseas Chinese, Hong Kong, Macao, and Taiwan compatriots setting up a representative office in the SEZ shall present an application for a representative office and a copy of the registration certificate issued by government organ of the business's country (or territory) of origin to register with the SEZ department of industry and commerce within 30 days after being granted permission to open an office.

Article 6. From the registration certificate's date of issue, the enterprise and its representative office is officially established; its legitimate production and operation shall come under the People's Republic of China's legal protection.

Article 7. An SEZ enterprise and representative office shall with their registration certificates open bank accounts with the Bank of China or any other government-approved bank and register for tax payment with the local tax offices.

Article 8. An SEZ enterprise shall make changes in its location, line of production, increase, cut or transfer its registered capital, extend its contract expiry date, and make changes in other registered items only with approval from the SEZ (Municipal) People's Government or the SEZ administrative committee, and shall thereafter make the necessary changes in registration with the SEZ's department of industry and commerce and tax officers.

Article 9. Registration certificates for SEZ enterprises and representative offices are renewable yearly.

Article 10. An SEZ enterprise and its representative office shall pay registration fees or change of registration fees when the new registration certificate is picked up. The amount of fees shall be determined by the SEZ (Municipal) People's Government or the SEZ administrative committee.

Article 11. Upon the contract expiry date or termination of the contract before the due date, the SEZ enterprise shall present permits issued by the SEZ (Municipal) People's Government, SEZ administrative committee, or other authorized government offices, to the SEZ's department of industry and commerce and tax offices for the cancellation procedure, and shall hand in its registration certificate or business license.

Article 12. The SEZ department of industry and commerce is empowered to inspect and supervise SEZ enterprises within its jurisdiction. Enterprises which violate the regulations set forth here will, according to the degree of offense, be warned, fined, or ordered to shut down.

Article 13. This provisional regulation is effective as of January 1, 1982.

NOTE: Translation of regulations from Ta Kung Pao (ed.), *Ordinance and Regulations of Guangdong Special Economic Zones*, January, 1982.

Michael J. Moser holds a J.D. degree from Harvard Law School and a Ph.D. degree from Columbia University. He is based in the Hong Kong office of the international law firm of Coudert Brothers and is engaged primarily in advising clients on investments in the PRC.

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GENERAL

Encyclopedia of China Today, 3rd edition, revised and expanded, by Fredric M. Kaplan and Julian M. Sobin. New York: Eurasia Press and Harper & Row, 1981. 446 pp. $29.95. The new edition of the encyclopedia is a thorough revision of earlier editions. Pinyin spelling has replaced Wade-Giles throughout the book. New sections have been added on doing business with China, and on pre-1949 political history. The new edition contains expanded sections on education and the arts, as well as more tables, charts, and maps than the earlier editions. *The Encyclopedia of China Today* is the most comprehensive single-volume source of information on China.

China Facts and Figures Annual, Vol. 4, 1981, edited by John L. Scherer. Gulf Breeze, Florida: Academic International Press (Box 1111, 32561), 1981. 422 pp. $46.50. Available as a standing order or single volume. The fourth volume of this useful reference series surveys major developments in China during 1980; has essays on demography, Korean–Chinese relations, changes in Chinese law, and Chinese impressions of America; and presents a wide variety of statistics, lists, and tables on China. The many sources used in compiling the book are cited. A detailed table of contents serves as the index. The list of previous volumes' contents, included in Volume 3, is omitted in this volume.

China Briefing, 1981, edited by Robert B. Oxnam and Richard C. Bush. Boulder, Colorado: Westview Press, 1981. 121 pp. $14.50 hardbound; $6.50 paperback. The second annual compilation of the briefing papers issued by the China Council of the Asia Society, *China Briefing, 1981* contains an introduction by Robert B. Oxnam and six essays by China specialists: "The Rise of Hu Yaobang and the Problems of One-Party Rule," by Richard C. Bush; "From Feudal Patriarchy to Rule of Law: Chinese Politics in 1980," by Richard Baum; "The Chinese Economy in 1980: Death of Reform?" by Bruce Reynolds; "Youth in China Today: Obstacle to Economic Modernization?" by Thomas B. Gold; "Chinese Families and Their Four Modernizations," by Deborah Davis-Friedmann; and "US–China Relations in 1980," by John Bryan Starr. Appendices and an index are included.

AGRICULTURE

Vegetable Farming Systems in China, edited by Donald L. Plucknett and Halsey L. Beemer, Jr. Boulder, Colorado: Westview Press, 1981. 386 pp. $32. Based on the observations of a vegetable farming systems delegation to China in the summer of 1977, the report by eminent specialists looks at suburban vegetable production. It contains chapters on land and water management, fertilizers, cropping systems, environmental control structures, plant protection, weed control, research, plant breeding, seed production, storage and maintenance, supply and marketing, and the economics of vegetable supply. Appendices include the organizations visited, a report on pig raising, a list of vegetables seen or reported in the PRC, and tables on vegetable diseases, insects and pests, and weed species.

The delegation's visit was part of an exchange program between the Committee on Scholarly Communication with the PRC and the Scientific and Technical Association of the PRC.

Cornell University Workshop on Agricultural and Rural Development in China Today: Implications for the 1980s. Ithaca: International Agriculture Program, Cornell University, 1981. 76 pp. Single copies available at no charge, additional copies 25¢ each. The report summarizes the proceedings of the Cornell Workshop held April 6–8, 1981, which addressed overall agricultural and economic development in China, microeconomic changes in the rural sector, technology and the environment, and higher education and agricultural development. Lists of participants and papers are included. The publication of the contributed papers is planned for 1982.

SECTORAL STUDIES

China Space Report, by Wilbur L. Pritchard and James J. Harford. New York: American Institute of Aeronautics and Astronautics, 1980. 208 pp. $35. The AIAA delegation to China during November 1–17, 1979, centered on the exchange of scientific and technological information in communications, earth resources, and meteorological satellites. A brief state-of-the-art report is provided in each of

Photo by Anne-Catherine Fallen

these areas, followed by a chronology of visits to institutes, factories, and other organizations. The delegation's reports contain notes on the technical seminars presented, questions asked, equipment observed, and the structure of Chinese space technology organizations. Final sections of the book include observations on travel in China, lists of AAIA delegates and Chinese hosts, names and addresses of Chinese organizations, appendices on the Chinese communications satellite program and US protocols, a bibliography, and an index. The report is useful for both its state–of–the–art account and its market opportunity content.

Aeronautics in China, by Jerry Grey. New York: American Institute of Aeronautics and Astronautics, 1981. 199 pp. $24. From August 30 to September 18, 1980, a 23-member AIAA delegation visited universities, factories, and research institutes in China. Their detailed reports examine aircraft and engine production, aerodynamics and propulsion development, materials and structures, flight testing, guidance and control, computers, university programs, vertical takeoff and landing aircraft, and agricultural aircraft. The delegation's travel experiences form a major portion of the book. Appendices include a list of Chinese personnel contacted and the program of the CSAA annual meeting. The report is a valuable survey of the aeronautical industry in China.

TRAVEL

A Guide to All China. Chicago: Rand McNally & Co., 1981. China Guide Series. 143 pp. $8.95. This very general travel book provides basic information for tourists and brief descriptions, arranged by region, of principal cities and tourist sites. Historical information on sites is included, but the book lacks detailed information on hotels, restaurants, and transportation. Color photographs make this a most attractive travel guide.

China Directory: The Complete Reference for Business People and Tourists, edited by Leo G. B. Welt and Mark Ford. Chicago: Rand McNally & Co., 1981. 181 pp. $7.95. This guide, with its emphasis on doing business with China, was originally published under the title *Information Peking* by Welt Publishing Co. Approximately half the book is a business guide, the remainder contains brief travel information. Trade-related organizations in the US are described, and the addresses and phone numbers for many organizations in China are provided.

Chinese/English Phrase Book for Travellers, by John S. Montanaro. New York: John Wiley & Sons, Inc., 1981. 288 pp. $8.95. This handy, four-by-six-inch phrasebook is a welcome aid for travelers preparing a China trip, and for communicating in China. Written by a member of the Chinese-language teaching staff at Yale University, the book avoids a common problem with phrasebooks by including questions a traveler is likely to be asked and responses he is likely to receive, not just questions a visitor is likely to pose to others. A basic pronunciation guide and brief grammar lessons accompany the book's sections on such topics as dining, sightseeing, and travel.

Books and business guides submitted for possible review in The China Business Review *should be sent to the National Council's book editor, Marianna Graham.*

Jennifer Little
Assistant Librarian

The following tables contain recent press reports of business arrangements exclusive of those listed in previous issues. Joint ventures, licensing arrangements, and other forms of business arrangements are included if classified as such in Chinese and foreign media reports. For the most part, the accuracy of these reports is not independently confirmed by *The CBR*.

National Council members can contact the library (202-828-8376) to obtain a copy of news sources and other available background information concerning the business arrangements appearing below. Moreover, member 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 Jennifer Little.

中外貿易 EXPORTS TO CHINA: SALES AND NEGOTIATIONS THROUGH FEBRUARY 15

Company/Country	Product/Value/Date
Agricultural Commodities	
(Guatemala)	4,000 tons of cotton. NVG. Announced 11/9/81.
(Canada)	Shipment of 1.5 million tons of wheat for February 1–July 31, 1982, delivery. NVG. Reported 11/19/81.
Andhra Pradesh (India)	5,000 tons of tobacco. NVG. Reported 12/81.
(Canada)	A grant for 8,500 metric tons of wheat for emergency relief in Hubei and Hebei provinces. $1.7 million (C$2 million). Reported 12/10/81.
Hohenberg Bros. (US)	Is shipping 250,000 bales of Arizona long staple cotton. NVG. Announced 12/14/81.
Marubeni Corp. (Japan)	450,000 tons of US grain during the first half of Japanese 1981 fiscal year. NVG. Reported 12/14/81.
C. Itoh & Co. (Japan)	100,000 tons of US grain. NVG. Reported 12/14/81.
(Australia)	Renewal of grain supply agreement for three years in which Australia will supply between 1.5 and 2.5 metric tons of grain annually. NVG. Announced 12/14/81.
(US)	7,832,400 tons of wheat in 1981; and 2,195,000 tons of wheat already committed for 1982. NVG. Reported 12/28/81.
(US)	503,800 tons of corn in 1981; 30,000 tons of corn already committed for 1982. NVG. Reported 12/28/81.
Weyerhauser Co. (US)	8.4 million board feet of heavy construction timbers. NVG. Announced 1/2/82.
(Cuba)	14,000 tons of sugar. $45.50 fio. Reported 1/11/82.
Shaver Breeding Farms (Canada)	More than 7,000 chicks for breeding. NVG. Reported 1/15/82.
Continental Enterprises (US), and Chia Tai International Investment Co. (Hong Kong)	Have formed a joint venture in Shenzhen, Chia Tai Continental, to supply feed, day-old chicks, and swine breeding stock to communes in Guangdong and other provinces. NVG. Reported 1/20/82.
(Canada)	1,009 metric tons of barley seed. $253,000 (C$300,000). Reported 2/12/82.
Agricultural Technology	
National Research Council (Italy)	Agreement with China's Academy of Agrarian Science for joint agricultural research. NVG. Reported 11/23/81.
Chemicals	
(Portugal)	Three-year supply of cellulose. $150 million. Contract reported 11/4/81.
Shell Chemicals, Ltd. (US)	4,000 metric tons of copolymer polypropylene. Approx. $2.2 million. Reported 12/7/81.
Chemical Plants and Equipment	
Murata Machinery, Ltd. and Kotobuki Industry Co., Ltd. (Japan)	Polyester staple equipment for the second stage of the project for the Shanghai General Petrochemical Works, Jinshan. NVG. Reported 11/23/81.

NVG = No value given
NOTES: Contracts denominated in foreign currencies are converted into US dollars at the most recent monthly average rate quoted in *International Financial Statistics (IMF)*.
Contracts concluded over two months ago are also included if they were not reported in the last issue of *The CBR*.

Coal

Peterson Filter Corp. (US)	Filtration equipment for coal-washing plant being built in Shandong by Roberts & Schaefer. $1 million. Reported 1/11/82.
(W. Germany)	Basic agreement on joint research in coal liquefaction technology. NVG. Announced 11/30/81.
Dynalectron Corp. (US) and C. Itoh & Co. (Japan)	Will study setting up a coal liquefaction plant. NVG. Reported 12/28/81.
Ishikawajima-Harima Heavy Industries Co., Hitachi Ltd., Mitsubishi Heavy Industries Ltd., Mitsui Miike Machinery Co., Sumitomo Heavy Industries Ltd., Kawasaki Steel Corp., Ube Industries Ltd. (Japan)	Will sell coal ship-loading systems for Qinhuangdao port under Japanese-government low interest. $46–$55 million (¥10–¥12 billion). Reported 2/2/82.

Construction Materials and Planning

Paulton Investment Co. Ltd. (Hong Kong)	Construction of two apartment buildings in the Xiamen Special Economic Zone. NVG. Contract signed 3/26/81.
Xinlujiang Investment Co. Ltd. (Singapore)	Construction of the Dongdu housing estate in the Xiamen Special Economic Zone. NVG. Contract signed 9/6/81.
American United Properties, Ltd. (Hong Kong)	Is constructing a housing project in cooperation with the Pearl River Foreign Investment Construction Co. of China called the New Jiangwan Village on a landfill in the Pearl River located in Guangzhou, Guangdong. NVG. Reported 10/24/81.
Kisaburo Itow Architects & Engineers, Inc. and Nikken Sekkei Ltd. (Japan)	Design of the China-Japan Friendship hospital complex in Beijing. NVG. Reported 11/10/81.
AmPac Oil, Ltd. (Hong Kong)	Agreement to build a 500-room hotel in Zhanjiang, Guangdong, for oil company executives operating in the South China Sea. NVG. Reported 12/11/81.
Lian Cheng Enterprise (Hong Kong)	Will develop an industrial processing area, a university, and scientific and cultural facilities in the Shenzhen Special Economic Zone. $431 million + (HK $2.5 billion +). Contract reported 1/82.
Millie's Holdings Ltd. (Hong Kong)	Intends to build industrial buildings in Shenzhen Special Economic Zone. $2.3 million (HK $13.2 million). Reported 1/18/82.

Consumer Goods

Hong Kong Jardine Ltd. (Hong Kong)	Agreement on commission sales of foreign liquors and wines was concluded with the Shaanxi branch of CEROILS. NVG. Agreement reached 10/81.
East-West Industries (US)	Assistance in setting up a cosmetic manufacturing plant. NVG. Reported 12/81.
Rado, Schlup & Co., Ltd. (Switzerland)	Has opened a service center for its watches in Fuzhou, Fujian. NVG. Reported 1/13/81.
United Breweries (Denmark)	Beer brewing expertise for a Guangzhou factory. NVG. Contract reported 1/22/82.

Electronics

AEG-Telefunken (W. Germany)	1,000 Olympia ink jet printers to print Chinese characters. NVG. Reported 9/81.
Quaser Data Products (US)	Will set up 12 units on an unrevealed project. NVG. Announced 10/19/81.
Monsanto Co. (US)	Silicon material for the Wuxi integrated circuit facility. NVG. Reported 11/2/81.
GCA Corp., Varian, Thermalloy, Applied Materials, Tegal, CVC, Xynetics/Electroglas (US)	Vintage wafer fabrication equipment for an integrated circuit facility in Wuxi, Jiangsu, pending US government approval of other machines for the project. CVC vacuum-sputtering systems; $180,000; reported 11/2/81. General Signal silicon crystal furnaces; $21 million; reported 1/19/82.
Sanyo Electric Co. (Japan)	Is building a plant to assemble tape recorders in the Shenzhen Special Economic Zone. NVG. Announced 11/19/81.
Teradyne, Inc. (US)	Two linear circuit test systems for a Wuxi assembly facility being built by Toshiba. NVG. Reported 11/23/81.
Rediffusion Ltd. (Hong Kong)	Will supply and install communication facilities for residential and hotel projects in the Shenzhen and Xiamen special economic zones. $172,000 (approx. HK$1 million). Contracts reported 11/24/81.
Yamatake-Honeywell (Japan) and Honeywell, Inc. (US)	Will provide technological know-how concerning automatic air-conditioning control systems. NVG. Contract signed 12/81.
Sumimoto Lease Co. (Japan)	Will provide color TV receivers for hotel rooms, $685,000 (¥150 million); and magnetic head producing equipment, $1.1 million (¥250 million). Announced 12/1/81.
IBM (US)	20 computers, including one intermediate-sized IBM 4341 and small-sized IBM 4331s. NVG. Announced 12/7/81.
Waterbury Ferrel (US)	A Sendzimir mill for the production of high-precision thin steel strips for color TV tubes to be installed in the Shanghai Iron and Steel Research Institute. NVG. Contract signed 12/17/81.
DEK Printing Machines (UK)	Printing and drying equipment and screen-making materials for a thick film manufacturing plant in Shanghai. NVG. Announced 12/25/81.
Philips (Netherlands)	Contract for the design, delivery, and installation of electrical systems for a new town in the Shenzhen Special Economic Zone. NVG. Reported 12/29/81.
Hitachi (Japan)	Will deliver a medium M-150 computer system. NVG. Reported 1/6/82.
Sigma Information Systems (US)	7 Sigma-10 Chinese-language computers and 8 PDP-1123s. $500,000. Reported 1/6/82.
Core Digital Co. (Japan)	Will train two Chinese in software applications of microcomputers. NVG. Reported 1/11/82.
Texas Instruments (US)	Has appointed China National Instruments Import/Export Corp. as an authorized service center for its programable calculators. NVG. Reported 1/12/82.
AEG-Telefunken (W. Germany) and Sun Hung Kai Ltd. (Hong Kong)	Plan to open branch offices in Beijing, Guangzhou, and Shanghai which will supply conventional electromechanical components and control systems to industrial plants in China. NVG. Reported 1/13/82.

Iron Ore

(India)	Proposal to purchase 2 metric tons of iron ore. NVG. Reported 12/11/81.

Machinery

Stihl KG (W. Germany)	Chain saws for Heilongjiang Province. NVG. Contract announced 10/81.

(W. Germany)	Has delivered a machinery center to be used for the production of crankshaft cases for diesel engines. Approx. $3 million. Reported 12/81.
(Italy)	A horizontal boring mill and an automatic tool changer. NVG. Reported 12/81.
Gestetner International Ltd. (UK)	Reprographic equipment. $1 million +. Reported 11/81.

Metal Mining and Processing

Nippon Light Metal Co. (Japan)	Components for an aluminum smelter completed in Guiyang, December 1981. $150 million. Reported 12/11/81.

Nonferrous Metals and Minerals

(Hong Kong)	Repatriation of old Chinese silver coins. NVG. Reported 11/28/81.
Jacobs Engineering Group Inc. (US)	Feasibility and scoping study for two facilities to recover 1.2 million tons of potash per year from the Chaerhan Lake, Qinghai. NVG. Announced 1/28/82.

Petroleum and Natural Gas

Ewbank & Partners (UK)	Will undertake fire and safety surveys on offshore installations in the South China Sea for Brunei Shell Petroleum Ltd. NVG. Announced 11/81.
(Iran)	Crude oil (no amount given). NVG. Reported 11/18/81.
Baker Marine (US)	Construction of a semisubmersible rig to be built in Shanghai's Jiangnan shipyard. $100 million. Letter of intent announced 12/4/81.
AmPac Oil, Ltd. (Hong Kong)	Construction of an oil refinery in Zhanjiang, Guangdong. $110 million. Announced 12/11/81.
Krupp Koppers (W. Germany)	Has handed over a dimethyl terephthalate (DMT) plant built near Tianjin. $44.3 million + (DM100 million +). Reported 12/14/81.
Cooper Energy Services (US)	Reciprocating compression equipment for use in natural gas gathering. $2 million +. Contract reported 12/15/81.

Power

Japan International Cooperation Agency (Japan)	Has begun surveys and research for the construction of hydroelectric plants at Tankang and Huangpu in Zhejiang. NVG. Reported 11/21/81.
Hitachi Shipbuilding & Engineering Co. (Japan)	Agreement with Shoudu Iron and Steel Co. for the construction of a blast furnace top pressure recovery turbine power plant. $3.7 million. Reported 12/1/81.

Scientific Instruments

AlphaNUCLEAR Co. (Canada)	7 multiparameter geophysical logging systems. NVG. Announced 10/81
GEOEXploration Co. & Associates (US)	Two complete systems of electrical geophysical equipment. NVG. Reported 11/81.
Geoex Pty. Ltd. (Australia)	A borehole monitoring system. $306,000 + (Aus$270,000 +). Contract announced 11/18/81.
Digital Electronic Automation S.p.A. (Italy)	A dimensional measuring machine sales and service center in Beijing called the Digital Electronic Automation Orient Sales and Service Center was set up in cooperation with the China National Aerotechnology Import and Export Corp. NVG. Announced 11/23/81.
Canberra Industries, Inc. (US)	A Canberra service station of the China National Instruments Import and Export Corp. was set up in Beijing to repair nuclear instruments. NVG. Announced 11/23/81.
Seismic Engineering Co. (US)	Marine seismic systems used in offshore exploration. $2 million. Contract announced 12/21/81.
General Administration for Nuclear Energy (France)	Cooperation with the Chinese Academy of Science on a neutron scattering project; China will import a spectrometer from France for its Institute of Nuclear Energy. NVG. Reported 1/82.

Shipping

Nissin Transportation & Warehousing Co., Ltd. (Japan)	Has launched a sea-land intermodal container-forwarding service linking Japan with principal Chinese cities with SINOTRANS as its Chinese partner. NVG. Reported 11/19/81.
MacGregor Pacific (Hong Kong)	Will set up a manufacturing plant and two service centers in Shanghai and Huangpu for cargo access equipment. NVG. Reported 12/81.
Siemens (W. Germany)	Has opened a marine electrical equipment service station in Shanghai. NVG. Opened 12/10/81.
Norton, Lilly & Co. (US)	Has been appointed general agent for the US and Canada for container service between China and the West Coast. NVG. Reported 12/24/81.

Steel and Steel Production

Nippon Steel, Sumitomo Metal Industries, Kawasaki Steel, Nippon Kokan KK, Kobe Steel & Nisshin Steel (Japan)	782,000 tons of rolled steel products for shipment in 1982. NVG. Reported 11/11/82.

Telecommunications

Ministry of Posts and Telecommunications (Japan)	Financial and technological cooperation in modernizing China's communication system. NVG. Reported 12/23/81.
Comtech Telecommunications Laboratories Division (US)	A satellite downlink receiver system. $300,000. Sale reported 1/82.
Nippon Electric Co. (Japan)	A 2,700-channel microwave system. $2.4 million (HK$14 million). Reported 2/82.

Textile Plants and Equipment

Laurkim International (US)	Engineering and design of a carpet tufting complex near Beijing. NVG. Announced 11/2/81.
Ust (Switzerland)	Textile testing instruments for testing centers to be built in Beijing, Tianjin, and Shanghai. NVG. Reported 11/23/81.
Graf & Co., Ltd. (Switzerland)	Fully automatic production lines for the manufacture of metallic card clothings. NVG. Reported 11/23/81.
EMS-Inventa (Switzerland)	A plant with a capacity of 5,500 tons of preoriented polyester yarn to be built at Xinhui, Guangdong. $11 million. Contract reported 12/21/81.
Industriewerk Schaeffler Ohg (W. Germany)	Will supply know-how for the manufacture of a bottom roller bearing and cylindrical roller to the Hengyang Textile Machinery Plant in Hunan. NVG. Contract reported 12/28/81.

Rieter Co., Ltd. (Switzerland)	A complete 30,000 spindle plant at the Jinzhou Textile Mill, Liaoning. NVG. Opening announced 1/82.

Textile Products

American Cotton Shippers Assoc. (US)	Agreement to establish regular procedures for exporting American cotton to China. NVG. Reported 1/24/82.
Carpet World (Hong Kong)	400,000 square feet of carpet for the Jinling Hotel in Nanjing, Jiangsu. $517,000 (HK$3 million). Contract reported 2/82.

Tourism

American Express (US)	Is sponsoring five Chinese managers to study at a tourism school in New York. NVG. Announced 11/25/81.
Peninsula Group and Zhong Mei Hotel Development (Hong Kong)	Will provide hotel management services for the Jianguo Hotel, Beijing. NVG. Reported 12/81.
Williams Development Holdings (New Zealand)	Initial agreement for the construction of two hotels in Xiamen and Guilin. $21.5 million (HK$125 million). Reported 1/82.
JCB Co. (Japan)	Is negotiating extension of its credit card operations to China. NVG. Reported 2/82.

Transportation

Kamigumi Co. Ltd. (Japan)	Agreement with China National Foreign Trade Corp. to promote Japan–China multimodal cargo forwarding operations. NVG. Reported 10/28/81.
Finsider (Italy)	Will supply Chinese railways with steel structural items and technological advice. NVG. Announced 11/10/81.
Suzuki Motor Co. and Mitsubishi Motor Corp. (Japan)	Have been asked to build plants in Guangdong. NVG. Reported 11/19/81.
National Bicycle Corp. (India)	30,000 bicycles. $1.09 million (Rs10 million). Announced 11/30/81.
Asahi Chemical Industry Co. (Japan)	Has completed a nylon 66 tirecord plant with an annual production capacity of 13,000 tons located in Pindingshan, Henan. $63.9 million (¥14 billion). Reported 12/15/81.
Bell Helicopter Textron (US)	Has delivered its ninth Bell Helicopter-Textron 212. NVG. Reported 1/4/82.

Miscellaneous

American Surgical Supply Corp. (US)	Donation of 3,220 heart pacemakers. $7.6 million. Reported 10/81.
Anglo-Sino-Hawkshead Films Ltd. (UK)	To film an 18-part documentary series called *The Chinese*. NVG. Contract announced 10/81.
Arnold Palmer (US)	Is negotiating the design and construction of an 18-hole golf course near Guangzhou, Guangdong. NVG. Announced 10/81.
Falls, Grant, Davila, Inc. (US)	Will introduce contemporary design techniques to Chinese handicrafts. NVG. Reported 11/81.
Hagihara Industries, Inc. (Japan)	A plasic woven bag production line. NVG. Reported 11/23/81.
(Italy)	A two-year contract on Chinese stamp retailing in Italy. NVG. Reported 12/14/81.
(W. Germany)	Cooperation in intercontinental astronomical observation. NVG. Announced 12/15/81.
AMF, Inc. (US)	Automatic bowling equipment sold to the Jing Jiang Club, Shanghai. NVG. Announced 1/12/81.
Aristrocrat (Australia)	Slot machines installed for the International Club located in the Dongfang Hotel, Guangzhou. Machines recently reported banned from hotel by Chinese government. NVG. Reported 1/15/82.
World Islamic Organization (Saudi Arabia)	Donation to the China Islamic Association. $500,000. Reported 1/15/82.

CHINA'S EXPORTS: SALES AND NEGOTIATIONS THROUGH FEBRUARY 15

Company/Country	Product/Value/Date
Agricultural Products and Equipment	
(US)	Signed an agreement with the China Seeds Co. to transfer hybrid rice-breeding technology. NVG. Reported 11/16/81.
Tarshi Food Co. (Japan)	The Beijing Foodstuff Research Institute will sell its technology and equipment for making fermented bean curd. NVG. Agreement announced 12/12/81.
(Uganda)	Contract awarded to the Tianjin branch of the China National Machinery Corp. to supply 250,000 hoe blades. $491,915. Contract reported 12/16/81.
(Mauritius)	Rice. NVG. Contract signed 1/82.
(Japan)	550,000 tons of salt for caustic soda during December 1981–December 1982, and 600,000 to 700,000 tons in 1983. $13.10 per ton. Agreement announced 1/19/82.
Animex (Poland)	50,000 tons of pork. NVG. Reported 1/20/82.
(Thailand)	5,500 tractors during 1981. NVG. Reported 2/1/82.
Chemicals and Petrochemicals	
Mitsubishi Petrochemical Co. and Showa Denko (Japan)	Naptha containing arsenic. $326 per ton. Reported 12/29/81.
Construction	
(Jordan)	Construction contract for the first stage of the Abu Nusair housing scheme. $50 million. Reported 11/6/81.
(Iraq) and (Kuwait)	The Iraq-Kuwait bridge will be built by the China Road and Bridge Co. and Jiangxi Province. NVG. Reported 12/3/81.
(Nepal)	Will construct a new sugar mill with Chinese assistance in Sumwal village. NVG. Announced 1/7/82.

Consumer Goods

Quebec (Canada)	Tsingtao beer. NVG. Reported 12/81.

Electronics

(US)	Graphite electrodes. NVG. Sales reported 12/17/81.

Foreign Aid

(Mali)	18 tons of iron. Gift. Reported 10/5/81.
(Senegal)	Food aid and donation of equipment for construction of a dam at Affiniam. $4.8 million. Reported 12/4/81.
(Madagascar)	Farm machinery repair project. NVG. Reported 1/82.
(Nepal)	Construction of the Pokhara water conservancy and irrigation project. NVG. Reported 1/82.
(Ethiopia)	Project to provide drinking water in four towns; NVG; reported 1/82. Donation for literacy campaign; $20,000; announced 1/5/82.

Light Industries

Cutler Brands & Designs Inc. (Canada)	Glass tableware. $633,000 (C$750,000). Reported 7/81.
Yuasa Trading Co. (Japan)	24,000 cases of chopsticks (5,000 pairs each) to be exported annually by the Jilin branch of the China National Arts & Crafts Import and Export Corp. NVG. Agreement announced 11/20/81.
Talley Industries (US)	Clocks (amount not given). NVG. Reported 11/30/81.
Mida Import Ltd. (US)	Hand-wrapped silk flowers. NVG. Reported 1/82.

Machinery

(Thailand)	10,000 motors to be installed in ventilating fans. NVG. Reported 9/81.
Brook Compton Parkinson Motors (UK)	10,000 refrigerator motors. NVG. Reported 9/81.
(US)	Provisional order for 200,000 motors. NVG. Reported 9/81.
Milledge Bros. Pty. Ltd. (Australia)	Purchase and sole distribution rights of the Chinese Dong Feng brand industrial, agricultural and marine diesel engines. $1 million. Contract announced 11/4/81.
Battenfeld Maschinen Fabriken GmbH (W. Germany)	Plastics injection moulding machines by the Zhejiang Plastics Machinery Factory and Wuxi Machine Building Factory. NVG. Reported 12/14/81.
Columbus McKinnon Overseas, Inc. (US)	37,000 Flying Pigeon brand chain blocks from the Hangzhou Wulin Machinery Plant. $1.5 million. Reported 1/18/82.

Metals and Minerals

Derritron Systems, Ltd. (UK)	Steel castings to be delivered by China National Aerotechnology Import & Export Corp. over a two-year period. NVG. Reported 11/81.
Davy International (UK)	Has agreed to license the Shoudu Iron and Steel Company's (Beijing) powdered coal injection technology for blast furnaces. Will pay Shoudu an 8 percent royalty for each unit it constructs. NVG. Announced 11/16/81.
Hong Kong Electric Power Plant (Hong Kong)	18,000 tons of coal. NVG. Reported 11/10/81.
(Japan)	Electrolytic copper. NVG. Announced 12/9/81.
Cometals, Inc. (US)	Has been appointed the exclusive marketing channel in the US for barium carbonate by the China National Chemicals Import & Export Corp. NVG. Reported 12/14/81.
(US)	536,000 pounds of contained tungsten during the first nine months of 1981. NVG. Reported 12/16/81.
(EEC)	Has been offered the sale of uranium for peaceful purposes. NVG. Reported 1/82.
(Japan)	Major steelmakers to purchase 2 million tons of coking coal during 1982. $61.75 f.o.b. per ton. Reported 1/12/82.
Chromalloy American Corp. (US)	Purchased barite in 1981. $15 million. Reported 1/20/82.

Military Equipment

(Egypt)	100 F-7 versions of the MiG-21 fighter. Approx. $100 million. Reported 11/16/81.

Petroleum Products and Equipment

(NA)	Fabrication of rig legs for 3 Marathon Le Tourneau jackups by the Guangdong Shipbuilding Corp. NVG. Subcontract announced 11/81.
JFP Well Services (US)	Will charter the Chinese jackup Nanhai I for two years. $43,000/d. Announced 11/4/81.
(US)	Two 40-meter jackup drilling platforms. NVG. Reported 11/17/81.
Aminoil USA Inc. (US)	180,000 barrels of refined gasoline to be delivered by February 1982. NVG. Agreement announced 1/21/82.

Shipping

Hong Kong Express Ship Management Services Ltd. (Hong Kong)	Two 8,200-ton container cargo ships to be designed by the China Ocean Shipping Designing & Research Institute and built by the Hunan branch of the Zhonghua Shipyard. NVG. Contract signed 11/26/81.
Ming Wah Shipping Co. Ltd. (Hong Kong)	32 sailors from the Wuhan branch of the Yangzi River Navigation Administration employed to take over the SS Linjang, a 7,000 ton freighter. NVG. Contract reported 1/4/82.

Textile Products and Equipment

Top Form Brassiere Mfg. Co., Ltd. (Hong Kong)	Brassieres processed by the Dalian Underwear Factory, Liaoning. NVG. Reported 11/30/81.
Daiei Inc., Homan Co. Ltd., Chorl Co. Ltd. (Japan) and Hong Kong Oriental Rug Co. Ltd. (Hong Kong)	270,000 square feet of carpets produced by the Tianjin No. 4 Carpet Factory. NVG. Announced 11/30/81.
(Japan)	5,000 bales of silk. NVG. Reported 12/7/81.
P. Prarsram Co. (US)	Seven silk garment sales contracts for the Liaoning Silk Corp. $30 million. Contracts reported 12/28/81.

Trade Agreements

(W. Germany)	Agricultural, scientific, and technical cooperation. NVG. Protocol signed 11/81.
(Guinea Bissau)	China has opened a line of credit to build a hospital, a football stadium, and a bamboo goods factory. Guinea Bissau is to export cashew nuts. $171.8 milliion (¥300 million). Announced 11/13/81.
(Gabon)	A technical and agricultural protocol. NVG. Reported 11/17/81.

(Sri Lanka)	Protocol relating to the exchange of Chinese rice for Sri Lankan petroleum products. $60 million. Signed 11/20/81.
(Nepal)	A three-year agreement on trade and payments, stressing the importance of encouraging private Nepalese traders to trade directly with the state organizations of China. NVG. Pact reported 11/23/81.
(Nigeria)	An agreement which covers Chinese exports of textiles, rice, tea, and building materials and Nigerian exports of cocoa, rubber, and ginger. NVG. Reported 11/24/81.
(Pakistan)	Scientific and technical cooperation. NVG. Protocol signed 12/2/81.
(UK)	Agreement to cooperate further in science and technology. NVG. Protocol signed 12/13/81.
(Turkey)	Cooperation in agriculture, tourism, and trade. NVG. Agreement reported 12/23/81.
(Algeria)	Economic, technical, and commercial cooperation. NVG. Agreement reported 1/3/82.
(Poland)	Barter agreement providing for a 25 percent increase in trade between the two countries. $255 million (SwF 135.4 million). Signed 1/29/82.
(N. Yemen)	Cooperation in civil aviation transport. NVG. Agreement signed 1/31/82.

Miscellaneous

(US)	Airplane forgings. NVG. Reported 11/81.
Volutone Distributing Co. (US)	Violins. NVG. Reported 11/81.
University of California Riverside Campus (US)	Four species of red scale parasites for biological control study. NVG. Announced 11/14/81.
ICC Industries, Inc. (US)	Is distributing tetracycline hydrochloride USP in the US. NVG. Announced 12/7/81.
Rexall Corp. (US)	Vitamin C powder. NVG. Reported 1/82.
Taylor Diving & Salvage Co., Inc. (US)	Chinese divers hired for underwater salvage. NVG. Reported 1/30/82.

JOINT VENTURES: PRESS REPORTS THROUGH FEBRUARY 15

Foreign Party/ Chinese Party	Technology/Terms/Value/Status
Feng Shun Trade Co. (Hong Kong)/Guiyang Shirt Factory, Guizhou Province	Has begun operation of the Chunhua Garment Factory. NVG. Reported 10/14/81.
Union Industrielle & d'Entreprise (France)/ Guangdong Shipbuilding Corp.	Will produce offshore oil platforms and oil rigs. NVG. Announced 11/30/81.
Wynne & Co. (Hong Kong)/ Guangdong Provincial Overseas Chinese Enterprise Co.	Are jointly operating the Lufeng Chicken Farm. $2.8 million (HK$16.3 million). Reported 12/81.
Hopewell Holdings Ltd. (Hong Kong)/Guangdong Provincial Government	Plan to build a highway linking Hong Kong to Guangzhou and Macao. $429 million. Reported 12/15/81.
C. Melchers & Co. (W. Germany)/China National Arts & Crafts Import & Export Corp.	Are marketing pearls and unique Chinese ornaments in W. Germany. NVG. Reported 12/18/81.
Karl O. Helm AG (W. Germany)/China National Chemicals Import & Export Corp.	Have established a new company, Deutsche Sinochem GmbH, to promote imports of Chinese chemicals for the pharmaceutical industry and to channel exports of these products, as well as fertilizers and agrochemicals, to China. $443,000 (DM 1 million). Announced 12/24/81.
Yan Kwong Trading Co. (Hong Kong)/Fujian Auto Transport Co.	Joint enterprise named the Minyan Auto Transport Co. to open containerized highway transport route between Fujian and Hong Kong. NVG. Reported 12/28/81.
Conway Investment (Hong Kong)/Hangzhou House Property Business Co.	Will construct four apartment buildings. NVG. Reported 1/82.
Chinamerican Corp. (US)/Taishan County Foreign Affairs Office	Have opened the Stone Flower Mountain Inn. NVG. Reported 1/5/82.
Bank of Tokyo (Japan)/Bank of China and Kincheng Banking Corp.	Have concluded an agreement with the Guangdong Trust & Investment Corp. to exchange legal, business, and credit information, and Kincheng-Tokyo will provide financing assistance. NVG. Reported 1/6/82.
Seiko Group (Japan)/China National Light Industry Products Export & Import Corp.	Will establish a Hong Kong company to assemble wristwatches for worldwide export. NVG. Agreement announced 1/19/82.
Hiro Trading Co. (Japan)/China National Arts and Craft Import and Export Corp., Tianjin Branch	Have formed the Sino-Japanese Friendship Arts Co. in Tokyo to handle imports and wholesale business of Tianjin's arts and crafts. NVG. Reported 1/20/82.
Lucky Horse Co. (Hong Kong)/Dongfang Hotel	Have opened the Dongfang International Club in the Dongfang Hotel, Guangzhou. NVG. Reported 1/28/82.
Millie's Group (Hong Kong)/Bao-an District Trust Trading Co., Shenzhen	Have formed the Polly Industrial Estate Investment and Development Co. to build an industrial estate and sell packages of its space to foreign and Hong Kong industrialists. $2.6 million (HK$15 million). Reported 2/82.
Rikio Co. Ltd. (Japan)/China International Trust & Investment Corp. and the Second Bureau of Light Industry of Nantong, Jiangsu	Joint operation called Nantong-Rikio Co. Ltd., to produce Japanese-style labor protection denim slippers for exclusive distribution by Rikio. $880,000. Reported 2/1/82.

CALENDAR

事历

EXHIBITIONS IN CHINA

☐ **Beijing, Xi'an, and Shanghai, June.** AGRO LIT EXPO (CHINA) '82, a catalogue show sponsored by China Translation and Printing Services (CTPS). The show will be in Beijing June 15–19, Xi'an June 19–23, and Shanghai June 23–27. For information, contact CTPS-USA (SF), Inc., 490 2nd St., Suite 306, San Francisco, CA 94107.

☐ **Guangzhou, October 15–November 5.** Guangzhou fall trade fair featuring CEROILS, CHINATUHSU, CHINATEX, INDUSTRY, and ARTCHINA.

☐ **Shanghai, December.** Textile machinery exhibition, organized by Shanghai Development Corp. in Hong Kong.

☐ **Beijing, March 1–9, 1983.** International Textile Machinery Exhibition, sponsored by the China Council for the Promotion of International Trade and organized by Industrial and Trade Fairs International, Ltd. of London, England.

CHINA'S EXHIBITIONS

☐ **New York City, March 20–April 20.** Garments and knitwear exhibition by the Hebei branch of CHINATEX, 209 W. 40th St., New York, NY. For information, call (212) 719–3251.

☐ **New York City, April 11–30.** Textile exhibition mounted by the Jiangsu branch of CHINATEX at the CHINATEX-America Building, 209 W. 40th St., New York, NY; (212) 719–3251.

☐ **Balawayo, Zimbabwe, April 23–May 1.** A light industrial goods, textiles, and hand tools exhibition at the Zimbabwe International Trade Fair.

☐ **Palermo, Italy, May.** An arts and crafts exhibition at the International Mediterranean Sample Fair.

☐ **Mexico City, Mexico, May.** A textiles, arts, and crafts show at the Chinese Economic and Trade Exhibition.

☐ **Nicosia, Cyprus, May.** A light industrial goods, textiles, and arts and crafts exhibit at the Cyprus International Fair.

☐ **Port Moresdy, Papua New Guinea, June.** A light industrial goods, textiles, and arts and crafts exhibit at the Chinese Economic and Trade Exhibition.

☐ **Valletta, Malta, July 1–15.** A light industrial goods, textiles, and arts and crafts show at the Malta International Fair.

☐ **Buenos Aires, Brazil, August.** A light industrial goods, textiles, small machines, hardware, tools, chemicals, building materials, and arts and crafts show at the Chinese Economic and Trade Exhibition.

☐ **Dublin, Ireland, August.** A light industrial goods, textiles, and arts and crafts exhibit at the Chinese Economic and Trade Exhibition.

☐ **El-Djazair, Algeria, August 26–September 11.** A light industrial goods, textiles, chemicals, small medical apparatus, and arts and crafts exhibit at the El-Djazair International Fair.

☐ **Reykjavik, Iceland, October.** A light industrial goods, textiles, and arts and crafts show at the Chinese Economic and Trade Exhibition.

☐ **Bucharest, Rumania, October.** A light industrial goods, textiles, and arts and crafts exhibit at the Bucharest International Fair.

☐ **Sharjah, United Arab Emirates, November.** A light industrial goods, textiles, and arts and crafts show at the Chinese Economic and Trade Exhibition.

☐ **Muscat, Oman, November.** A carpets and rugs exhibit at the Chinese Economic and Trade Exhibition.

CHINA DATA

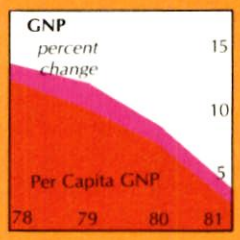
中國數據

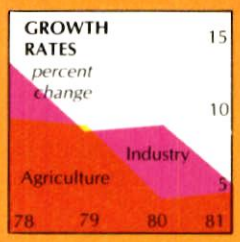
KEY INDICATORS

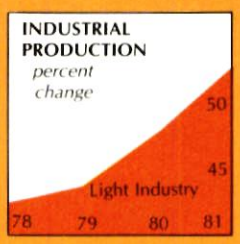
	1977	1978	1979	Percent change	1980	Percent change	1981*	Percent change*
GNP (billion yuan, current prices)	¥307.4 $165.5	¥349.8 $207.8	¥391.4 $251.7	11.9 21.1	¥424.1 $283.0	8.4 12.4	¥438.9 $258.2	3.5 –8.8
Population (year end, million)	945.2	958.09	970.92	1.3	982.55	1.2	994.0	1.2
Of which:								
Urban	—	—	128.16	—	—	—	—	—
Rural	—	—	842.76	—	—	—	—	—
GNP per capita	¥325 $175	¥365 $217	¥403 $259	10.4 19.4	¥432 $288	7.2 11.2	¥441.5 $259.7	1.2 –9.8
Net material product** (billion yuan, current prices)	¥264.4 $142.3	¥301.0 $178.8	¥335.0 $215.4	6.3 20.5	¥363.0 $242.3	8.4 12.5	¥374.0* $226.7 *	3.0 –6.4
Total gross industrial and agricultural output value (billion yuan, 1970 prices)	¥510.8 $274.9	¥569.0 $338.0	¥617.5 $398.4	8.5 17.9	¥661.9 $441.7	7.2 10.9	¥687.0 $404.1	3.8 –8.5
Gross value of industrial output (billion yuan, 1970 prices)	¥376.8 $202.8	¥423.1 $251.3	¥459.1 $295.2	8.5 17.5	¥499.2 $333.2	8.7 12.9	¥519.0 $305.3	4.0 –8.4
Of which:								
Heavy industry	—	¥242.4 $144.0	¥261.1 $167.9	7.7 16.6	¥264.8 $176.7	1.4 5.2	¥252.9 $148.8	–4.5 –15.8
Light industry	—	¥180.7 $107.3	¥198.0 $127.3	9.6 18.6	¥234.4 $156.4	18.4 22.9	¥266.3 $156.6	–13.6 0.1
Gross value of agricultural output (billion yuan, 1970 prices)	¥134.0 $72.1	¥145.9 $86.7	¥158.4 $101.9	8.6 17.5	¥162.7 $108.6	2.7 6.6	¥168.0 $101.8	3.0 –6.3

*Estimates

**Net material product is a measure of aggregate output in industry, agriculture, construction, transportation, and commerce. It is the closest measure in China's accounting system to GNP.







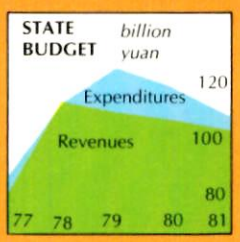
DOMESTIC FINANCE

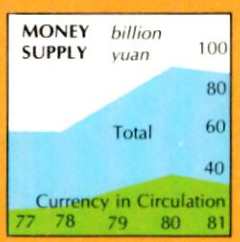
(Billion current yuan unless otherwise indicated)

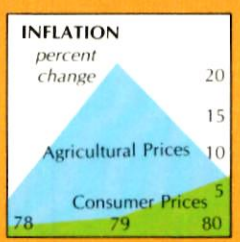
	1977	1978	1979	1980	Percent change	1981	Percent change
State budget revenues	¥87.45 $47.07	¥112.11 $66.59	¥110.33 $70.95	¥108.52 $72.42	–1.6 2.1	¥105.86 $64.16	–2.5 –11.4
State budget expenditures	¥84.35 $45.40	¥111.09 $65.98	¥127.39 $81.92	¥121.27 $80.93	–4.8 –1.2	¥108.58 $65.81	–10.5 –18.7
Of which: Investment	¥29.48 $15.87	¥39.50 $23.46	¥36.00 $23.15	¥53.9 $35.97	49.7 55.4	¥25.06 $15.19	–53.5 –57.8
Defense	¥14.91 $8.03	¥16.78 $9.97	¥20.23 $13.01	— —	— —	¥16.87 $10.22	— —
Administrative expenses	¥4.33 $2.33	¥4.91 $2.92	— —	— —	— —	¥7.24 $4.39	— —
State budget deficit (–) or surplus (+)	¥3.10 $1.67	¥1.02 $0.61	–¥17.06 –$10.97	–¥12.75 –$8.51		–¥2.72 –$1.65	
Money supply (end of period, billion yuan)	¥58.01 $31.23	¥58.04 $34.47	¥73.66 $43.75	¥91.93 $54.60	24.8 24.8	¥89.1* $52.12*	–3.1* –4.5*
Of which: Currency in circulation	¥19.54 $10.52	¥21.20 $12.59	¥26.77 $15.90	¥34.62 $20.56	29.3 29.3	¥32.2* $18.94	–7.0* –7.9*
Official price index (1975 = 100.00)							
Of which:							
Consumer goods	103.0	103.7	105.7	113.6	7.5	—	—
Agricultural goods**	100.2	104.2	127.2	136.3	7.2	—	—

*Estimates

**Based on state purchase prices of agricultural products and byproducts, which excludes free market prices.





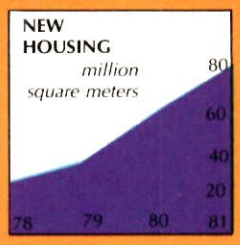


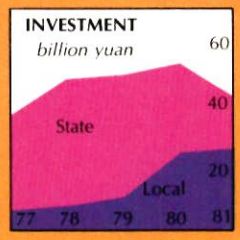
CAPITAL CONSTRUCTION

(Billion yuan unless otherwise indicated)

	1978	Percent change	1979	Percent change	1980	Percent change	1981	Percent change
Total investment	¥47.90 $28.45	31.3 44.9	¥50.00 $32.15	4.4 13.0	¥53.9 $36.0	7.8 12.0	¥41.7 $24.5	–22.6 –31.9
Of which:								
National budget	¥39.50 $23.46	34.0 47.8	¥39.50 $25.40	0.0 8.3	¥28.1 $18.8	–28.9 –26.0	— —	— —
Budgets of provinces, prefectures, and counties	¥8.40 $4.99	20.0 32.4	¥10.50 $6.75	25.0 35.3	¥25.8 $17.2	145.7 154.8	— —	— —
Residential building* (million square meters)	90.2	—	120.0	33.0	145.0	20.8	—	—
Of which:								
Housing for industrial workers and staff	37.69	35.6	62.56	66.0	82.3	31.6	—	—

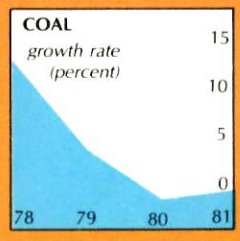
*Including public facilities such as parks, hospitals, and housing.

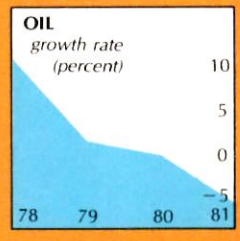


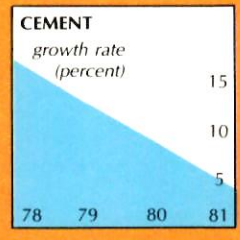


INDUSTRIAL OUTPUT

(Million metric tons unless otherwise indicated)	1978	Percent change	1979	Percent change	1980	Percent change	1981	Percent change
Steel	31.78	33.9	34.48	8.5	37.12	7.7	35.58	–4.1
Rolled steel	22.08	35.2	24.97	13.1	27.16	8.8	26.668	–1.8
Pig iron	34.79	38.9	36.73	5.6	38.02	3.5	34.185	–10.1
Coal	618.0	12.4	635.0	2.8	620.0	–2.4	617.0	–0.6
Crude oil	104.05	11.1	106.15	2.0	105.95	–0.2	101.179	–4.5
Natural gas (billion cubic meters)	13.73	—	14.51	5.7	14.27	–1.7	12.57	–11.9
Electricity (billion kilowatt-hours)	256.55	14.8	281.95	9.9	300.6	6.6	306.6	2.0
Cement	65.24	17.2	73.9	13.3	79.86	8.8	83.3	4.3
Sulfuric acid	6.61	23.0	7.0	5.9	7.64	9.1	7.763	1.6
Chemical pharmaceuticals (thousand metric tons)	40.7	15.6	41.7	2.5	40.1	–3.8	38.0	–6.4
Chemical fibers (thousand metric tons)	285.0	50.2	326.0	14.4	450.0	38.0	524.0	16.3
Cotton yarn	2.38	8.0	2.63	10.5	2.93	11.4	3.167	8.2
Machine-made paper and paperboard	4.39	16.4	4.93	12.3	5.35	8.5	5.242	–1.9
Chemical fertilizers (based on 100 percent effectiveness)	8.693	20.1	10.654	22.6	12.32	15.7	12.491	1.4
Of which: Nitrogenous	7.637	—	8.821	15.5	9.99	13.3	9.867	–1.3
Phosphate	1.033	—	1.817	75.9	2.31	26.9	2.613	13.2
Potash (thousand metric tons)	21.0	—	16.0	–23.8	20.0	25.0	11.0	–45.5
Chemical insecticides (thousand metric tons)	533.0	16.6	537.0	0.8	537.0	0.0	507.0	–5.5

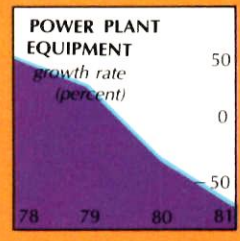


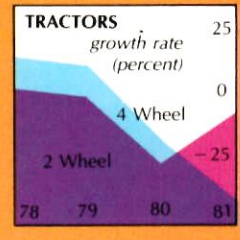




EQUIPMENT OUTPUT

	1978	Percent change	1979	Percent change	1980	Percent change	1981	Percent change
Machine tools (thousand units)	183.0	–8.0	140.0	–23.5	134.0	–4.3	100.3	–25.2
Power generating equipment (million kilowatts)	4.838	52.1	6.212	28.4	4.193	–32.5	1.467	–65.0
Motor vehicles (thousand units)	149.1	18.9	186.0	24.8	222.0	19.4	175.1	–21.1
Locomotives (units)	521.0	77.8	573	10.0	512	–10.6	398	–32.3
Railway passenger coaches (units)	783.9	—	856.0	9.2	1,002	17.1	1,159	15.7
Railway freight wagons (units)	16.95	165.0	16.042	–5.4	10,571	–34.1	8,779	–17.0
Tractors (thousand units)	114.0	14.8	126.0	10.5	98.0	–22.2	52.9	–45.9
Hand tractors (thousand units)	324.2	1.2	318.0	–1.9	218.0	–31.4	196.5	–9.8

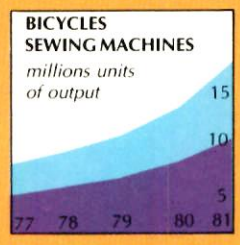


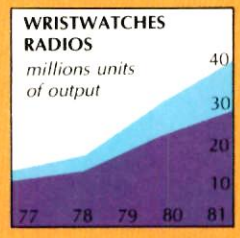


CONSUMER GOODS OUTPUT

(Million units unless otherwise indicated)

	1978	Percent change	1979	Percent change	1980	Percent change	1981	Percent change
Bicycles	8.54	14.9	10.09	18.1	13.02	29.0	17.45	39.0
Sewing machines	4.86	14.6	5.87	20.8	7.68	30.8	10.198	32.8
Wristwatches	13.51	22.4	17.07	26.4	22.16	29.8	28.821	27.1
TV sets (thousand units)	517.0	—	1,329.0	157.1	2.492	87.5	4.842	94.3
Radio sets	11.68	—	13.81	18.2	30.04	117.5	39.515	31.6
Cameras (thousand units)	178.95	—	238.0	33.0	373.0	56.7	596.0	60.0
Light bulbs	760.3	—	850.0	11.8	950.0	11.8	960.5	1.1
Cotton cloth (billion square meters)	10.286	8.6	11.43	11.1	12.80	12.0	13.4	5.0
Woolen piece goods (million meters)	88.84	—	90.17	1.5	101.0	12.2	112.9	11.8
Silk textiles (million meters)	610.35	—	663.45	8.7	759.0	14.5	852.4	12.3



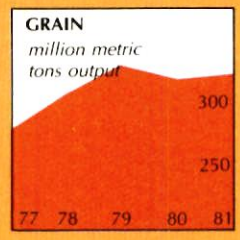


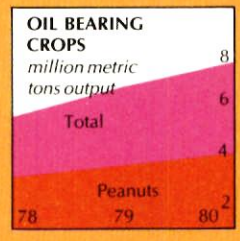
AGRICULTURAL OUTPUT

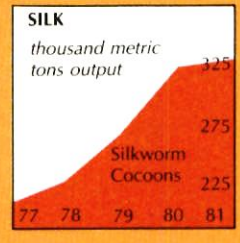
(Million metric tons unless otherwise indicated)

	1977	1978	Percent change	1979	Percent change	1980	Percent change	1981	Percent change
Grain	282.75	304.75	7.8	332.115	9.0	318.22	−4.2	325.0	2.1
Of which:									
Paddy rice	—	—	—	143.71	—	139.255	−3.1	—	—
Wheat	—	—	—	62.75	—	54.155	−13.7	—	—
Tubers*	—	—	—	28.47	—	27.845	−2.2	—	—
Soybeans	—	—	—	5.05	—	7.88	5.6	—	—
Cotton	2.049	2.167	5.8	2.207	1.8	2.707	22.7	—	—
Silk	—	29.69	—	29.749	0.2	35.4	19.2	35.9	1.3
Silkworm cocoons (thousand metric tons)	216.0	228.0	5.6	271.0	18.9	326.0	20.3	330.6	1.3
Sugar cane	17.753	21.117	18.9	21.508	1.9	22.807	6.0	—	—
Processed sugar	1.816	2.27	25.0	2.5	10.1	2.57	2.8	3.079	19.8
Oil-bearing crops	4.015	5.218	30.0	6.435	23.3	7.691	19.5	—	—
Of which:									
Peanuts	—	2.377	—	2.822	18.7	3.6	27.6	—	—
Rapeseed	—	1.868	—	2.402	28.6	2.384	−0.7	—	—
Sesame (thousand metric tons)	—	322.01	—	417.0	29.5	259.0	−37.9	—	—
Tea (thousand metric tons)	252.0	268.0	6.3	277.0	3.4	304.0	9.7	—	—
Hogs slaughtered (million heads)	—	—	—	187.72	—	198.607	5.8	—	—
Timber (million cubic meters)	49.7	51.62	3.9	54.39	5.4	53.59	−1.5	43.105	−19.6

*Five kilograms of tubers is equivalent to one kilogram of grain.

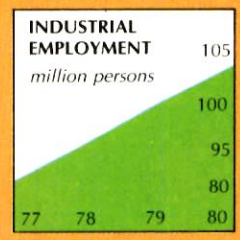


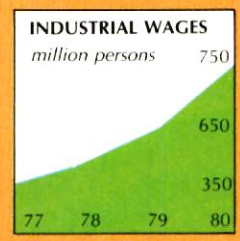




EMPLOYMENT AND WAGES

	1977	1978	Percent change	1979	Percent change	1980	Percent change
Workers and staff (year end, million persons)	91.12	94.99	4.2	99.67	4.9	104.44	4.8
Of which: State-owned units	71.96	74.51	3.5	76.93	3.2	80.19	4.2
Urban collectively owned units	19.16	20.48	6.9	22.74	11.0	24.25	6.6
Individual businesses	—	—	—	0.310	—	0.810	161.3
Total wage bill (billion yuan)	¥51.5 $27.7	¥56.9 $33.8	10.5 22.0	¥64.7 $41.6	13.7 23.1	¥77.3 $51.6	19.5 24.0
Of which: State-owned units	¥42.6 $22.9	¥46.9 $27.9	10.1 21.8	¥53.0 $34.1	13.0 22.2	¥62.8 $41.9	18.5 22.9
Urban collectively owned units	¥8.9 $4.8	¥10.0 $5.9	12.4 22.9	¥11.7 $7.5	17.0 27.1	¥14.5 $9.7	23.9 29.3

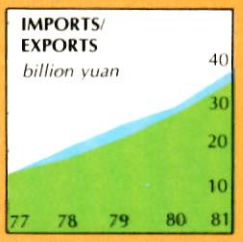




FOREIGN TRADE
(Billion current yuan unless otherwise indicated)

	1977	1978	1979	Percent change	1980	Percent change	1981*	Percent change*
Exports (fob)	¥13.97	¥16.79	¥21.20	26.3	¥27.2	28.3	¥38.1	40.1
	$7.52	$9.97	$13.63	36.7	$18.2	33.5	$22.4	23.1
Imports (cif)	¥13.28	¥18.75	¥24.30	29.6	¥29.1	19.8	¥33.7	15.8
	$7.15	$11.74	$15.63	40.3	$19.4	24.1	$19.8	2.1
Total trade (fob/cif)	¥27.25	¥35.54	¥45.50	28.0	¥56.3	23.7	¥71.7	27.4
	$14.67	$21.11	$29.26	38.6	$37.6	28.5	$42.2	12.2
Total reserves (period end, million US dollars)	$2,889	$2,141	$2,744	28.2	$3,116	13.6	$4,315	38.5
Of which:								
Foreign exchange	$2,345	$1,557	$2,154	38.3	$2,545	18.2	$3,800	49.3
Gold**	$544	$584	$590	1.0	$571	−3.22	$515	−9.8
Gold reserves (million fine troy ounces)	12.8	12.8	12.8	0.0	12.8	0.00	12.8	0.0

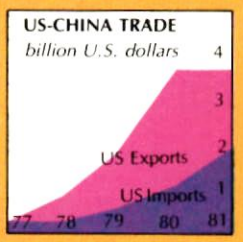
*Estimates
**Valued at SDR 35 per fine troy ounce and converted into US dollars at end-of-period dollar/SDR exchange rate.

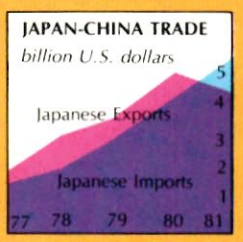


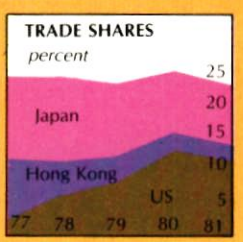
FOREIGN TRADE WITH SELECTED COUNTRIES
(Million US dollars)

	1977	1978	1979	1980	Percent change	1981*	Percent change*
United States							
Exports (fas)	$171.3	$823.6	$1,716.5	$3,749.0	118.4	$3,599	−4.0
Imports (customs value)	$202.7	$324.1	$592.3	$1,058.3	78.7	$1,895	79.1
Total	$374.0	$1,147.7	$2,308.8	$4,807.3	108.2	$5,494	14.3
Share of China's total two-way trade	2.5	5.4	7.9	12.8		12.3	
Japan							
Exports (fob)	$1,955	$3,074	$3,674	$5,109	39.1	$5,097	−0.2
Imports (cif)	$1,560	$2,045	$2,933	$4,346	48.2	$5,292	21.8
Total	$3,515	$5,119	$6,607	$9,455	43.1	$10,389	9.9
Share of China's total two-way trade	23.9	24.0	22.5	25.2		23.1	
Hong Kong							
Exports (fob)	$44	$63	$82	$1,249	227.0	$1,629	30.4
Imports (cif)	$1,735	$2,249	$3,021	$4,401	45.7	$4,729	7.5
Total	$1,779	$2,312	$3,403	$5,650	66.0	$6,358	12.5
Share of China's total two-way trade	12.1	10.9	11.6	15.1		14.4	
W. Germany							
Exports (fob)	$501	$995	$1,493	$1,145	−23.3	$674	−41.1
Imports (cif)	$288	$367	$534	$808	51.3	$673	−16.7
Total	$789	$1,362	$2,027	$1,953	−3.7	$1,347	−31.0
Share of China's total two-way trade	5.4	6.4	6.9	5.2		5.2	

*Estimates

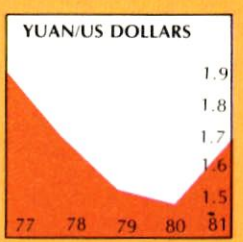


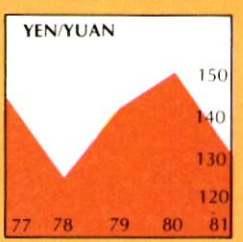




EXCHANGE RATES
(Period averages)

				1981				1982
	1978	1979	1980	QI	QII	QIII	QIV	QI
Yuan per US dollar	1.6836	1.5550	1.4984	1.60	1.71	1.76	1.74	1.8
US cents per yuan	59.4	64.3	66.7	62.5	58.4	56.7	57.4	55.6
Japanese yen per yuan	125.0	140.9	151.3	129.2	128.4	131.5	129.1	128.3
Hong Kong dollar per yuan	2.772	3.201	3.329	3.32	3.26	3.35	3.33	3.27
Yuan per pound sterling	3.23	3.30	3.50	3.64	3.56	3.24	3.28	3.33
W. German marks per yuan	1.193	1.179	1.213	1.30	1.33	1.38	1.29	1.31





SOURCES: State Statistical Bureau, Ministry of Finance, Bank of China, *International Financial Statistics* (IMF), *Direction of Trade Statistics* (IMF), *and US Commerce Department.*

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UNITED STATES AGRICULTURAL SCIENTIFIC/EDUCATIONAL INSTRUMENTATION & EQUIPMENT LITERATURE EXHIBITION AGRO LIT EXPO '82

The "United States Agricultural Scientific/Educational Instrumentation and Equipment Literature Exhibition" (Agro Lit Expo '82) is the first exhibition of its kind representing the entire American agricultural industry. The scope of the exhibition ranges from suppliers of raw materials to manufacturers of finished products (including analytical instrumentation, laboratory instrumentation, equipment for experimental farms, audio-visual teaching facilities, and computers) in the following industries: agriculture, animal husbandry, fisheries, and forestry.

The scheduling of Agro Lit Expo '82 is especially opportune for businesses interested in exploring trade opportunities in the China market. This year China is eligible to receive several substantial World Bank loans for acquisition of agriculture-related equipment and technology. Agro Lit Expo '82 will give important exposure to products and services of participating companies as the Chinese gather information with which to make well-informed purchases.

The Chinese have also requested that technical seminars be presented at Agro Lit Expo '82. Chinese end-users are anxious to exchange ideas on agricultural technology with American experts and representatives.

CHINESE GOVERNMENT ENDORSEMENT

The China Council for the Promotion of International Trade (CCPIT) is the official Chinese organizer for Agro Lit Expo '82. CCPIT was established in 1952 to promote economic and trade relations between China and other countries. It is the sole authority responsible for all exhibitions held in China.

The China Agricultural Scientific and Educational Instrumentation Corporation is the official Chinese co-sponsor for the exhibition. CASEIC was established in 1978 to meet instrumentation needs in the agricultural sector and has branches in 29 provinces in China. Its work is divided into three areas: 1) scientific research, 2) education, and 3) soil survey.

AMERICAN SPONSOR

The sponsor of Agro Lit Expo '82 is China Translation and Printing Services-USA (SF), Inc. Established in 1979, CTPS-USA is an American company providing high-quality technical translation, printing, and dissemination of American product literature to the People's Republic of China. CTPS-USA is affiliated with CTPS-Hong Kong with branch offices throughout Europe. CTPS-Hong Kong was founded in 1965 and has a proven track record of providing high-quality translation and exhibition catalogs for over 30 major exhibitions held in China.

EXHIBITION CITIES

Agro Lit Expo '82 will be held in the month of June in three of China's major agricultural research centers:

Beijing	15-19 June 1982
Xi'an	19-23 June 1982
Shanghai	23-27 June 1982

GENERAL DESCRIPTION

You are invited to supply 25 kilograms (55 pounds) of your catalogs, handbooks, technical manuals, or brochures on products, processes, or services of interest to the Chinese. Price sheets included with your literature will enable Chinese buyers to respond with orders sooner. CCPIT will distribute your materials to the related end-users throughout China. The material need not be in Chinese. However, CTPS-USA highly recommends that introductory letters and brief product and service summaries be provided in Chinese to facilitate inquiries.

Fifteen copies of each title will be on display for the more than 21,000 technicians, end-users, managers, and officials from agriculture-related ministries and bureaus invited to Agro Lit Expo '82.

Participating American companies will be listed in the official Chinese-language "Agro Lit Expo '82 Directory". The official Directory and literature request cards will be distributed to all attendees to facilitate on-the-spot inquiries regarding specific American products. Your company can also increase its reach by advertising in "Agro Lit Expo '82 Directory".

All arrangements in China including publicity, invitations, hall rental and staff collection of inquiries will be handled by CTPS-USA. Staff from CASEIC and CTPS-USA will also be present for the entire exhibition.

AGRO LIT EXPO '82

CTPS

For more information, contact Russ Lowe

China Translation & Printing Services-USA (SF), Inc.
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DEERE TO RENOVATE FOUR PLANTS

As part of a major licensing agreement with the Ministry of Agriculture, Deere and Company is providing design and technical assistance to modernize four Chinese plants that will manufacture combines and machinery parts. Deere joined the National Council as a charter member in 1973.

The two combine plants (in Jiamusi, Heilongjiang, and Kaifeng, Henan) will together produce about 2,000 combines per year. Chinese technicians already have been sent to Germany for training. Deere also will assist the Ministry of Agriculture's renovation of two additional factories to manufacture hydraulic and transmission components. Deere will buy back about $1 million worth of the factories' components annually for 10 years beginning in 1982.

CCN'S UNIQUE ARRANGEMENTS

Deliveries of Chinese machine tools to the US are about to begin under a unique compensation arrangement orchestrated by China Consultants Northwest, Ltd., of Portland, Oregon. Under the agreement between EQUIMPEX, Tree Machine Tool Co. of Racine, Wisconsin, and the Nantong Machine Tool Plant in Jiangsu Province, the US manufacturer has provided design and know-how at no charge to the Chinese plant to produce vertical milling machines of two and three axes. In exchange, the Nantong plant will provide Tree with at least 10 finished machines per month at favorable prices over a five-year period. Prices will rise by only 5 to 8 percent annually during that time.

SELLING ON CONSIGNMENT

Council member NL Industries, the pioneer in what may become an important mode of supplying offshore drilling equipment, is about to begin operations through its second warehouse in Dagang. The new warehouse was set up by NL Baroid to stock specialty chemicals to be sold on consignment for use in mud drilling. An NL representative stationed in Dagang will market the chemicals to foreign companies operating offshore, and to China's inland oilfields.

Meanwhile, NL's first warehouse (also in Dagang) is operating successfully. That warehouse has been in operation since late 1980 and stocks spare parts and testing equipment sold on consignment to petroleum operations in China. Following NL's example, Christensen Inc. also is planning to set up a warehouse in Dagang.

MAJOR LICENSING CONTRACT

After lightening-fast negotiations resulted in a licensing agreement between Standard Thomson (a subsidiary of member company Allegheny International), and China Machine Building International Corp., the US company and its representative, Bear Stearns, are poised to follow up with a joint venture agreement. Bear Stearns' Dr. George Koo arranged a visit to China last year for Standard Thomson and drafted a memorandum of understanding within one week. Months later, a contract was negotiated and signed at Standard Thomson headquarters in Waltham, Massachusetts. The contract calls for the US manufacturer to provide know-how and technology for the Chinese to manufacture passenger-car and truck thermostats and related temperature control products. Standard Thomson will receive both front-end payment and royalties.

Also stated in the agreement is the intention to negotiate a joint venture. The contemplated joint company would be owned 60 percent by the First Ministry of Machine Building, and 40 percent by the US company. The thermostats and related products will be produced at a facility in Shiyan, Hubei Province.

DH&S RETURNS TO SHANGHAI

Deloitte Haskins & Sells, the first foreign accounting firm to audit a joint venture in China, has opened a representative office in Shanghai. The company first opened its doors in the Chinese business metropolis in 1919, but left China in 1942 when Japanese forces occupied the region.

In its new office, DH&S plans to specialize in auditing services for foreign companies involved in joint ventures in China. The firm was employed three years ago to audit the fixed assets of a Chinese enterprise and the technology contributed by an American automotive manufacturer in a proposed joint venture. "To the best of our knowledge," a company spokesman said, "this was the first time China had appointed an international accounting firm for such work." The Shanghai office also engages in management consulting for foreign companies, and training for Chinese accountants.

PRICE WATERHOUSE OPENS BEIJING OFFICE

Price Waterhouse, a major New York accounting firm, has opened an office in China's capital to offer tax consultation to foreign firms in China, as well as financial, management, and auditing services to US companies and Chinese organizations. Price Waterhouse has signed a cooperation agreement with the China International Trust and Investment Corporation, and already advises the Bank of China on how to open branches abroad. Price Waterhouse joins Ernst & Whinney, Coopers & Lybrand, and DH&S as the only US accounting firms currently represented in the PRC.

INCREASED INSURANCE ACTIVITY

A new Council member, Marsh and McLennan, reports a promising response to its recently opened office in Beijing. The firm is one of 8 foreign insurance companies (and one of 37 foreign financial institutions) represented in the PRC, and is the only American insurance broker authorized by the People's Insurance Company of China to do business in China, according to Marsh and McLennan's chief liaison officer in Beijing, Jack Sha. —Chris Brown

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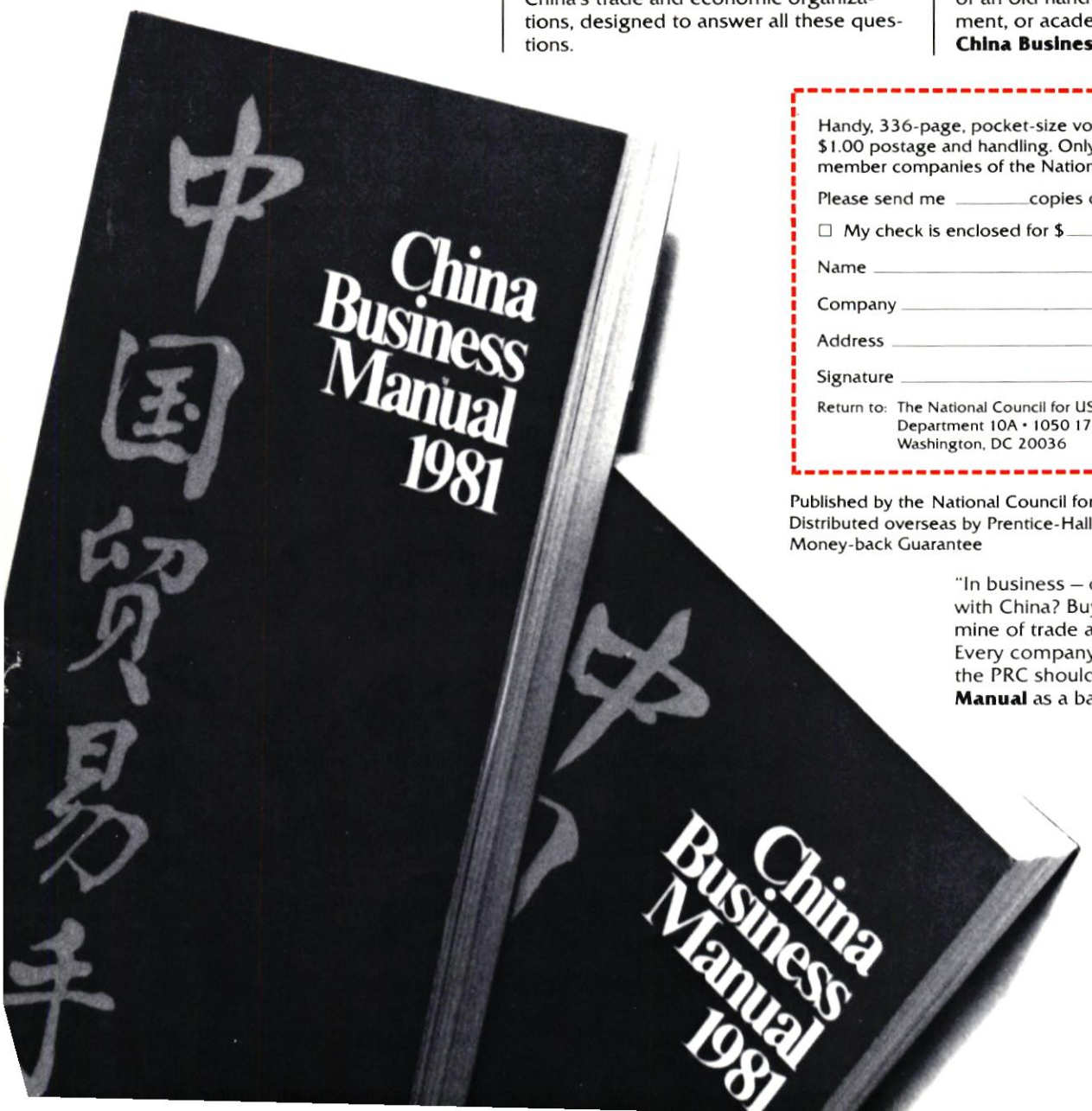

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