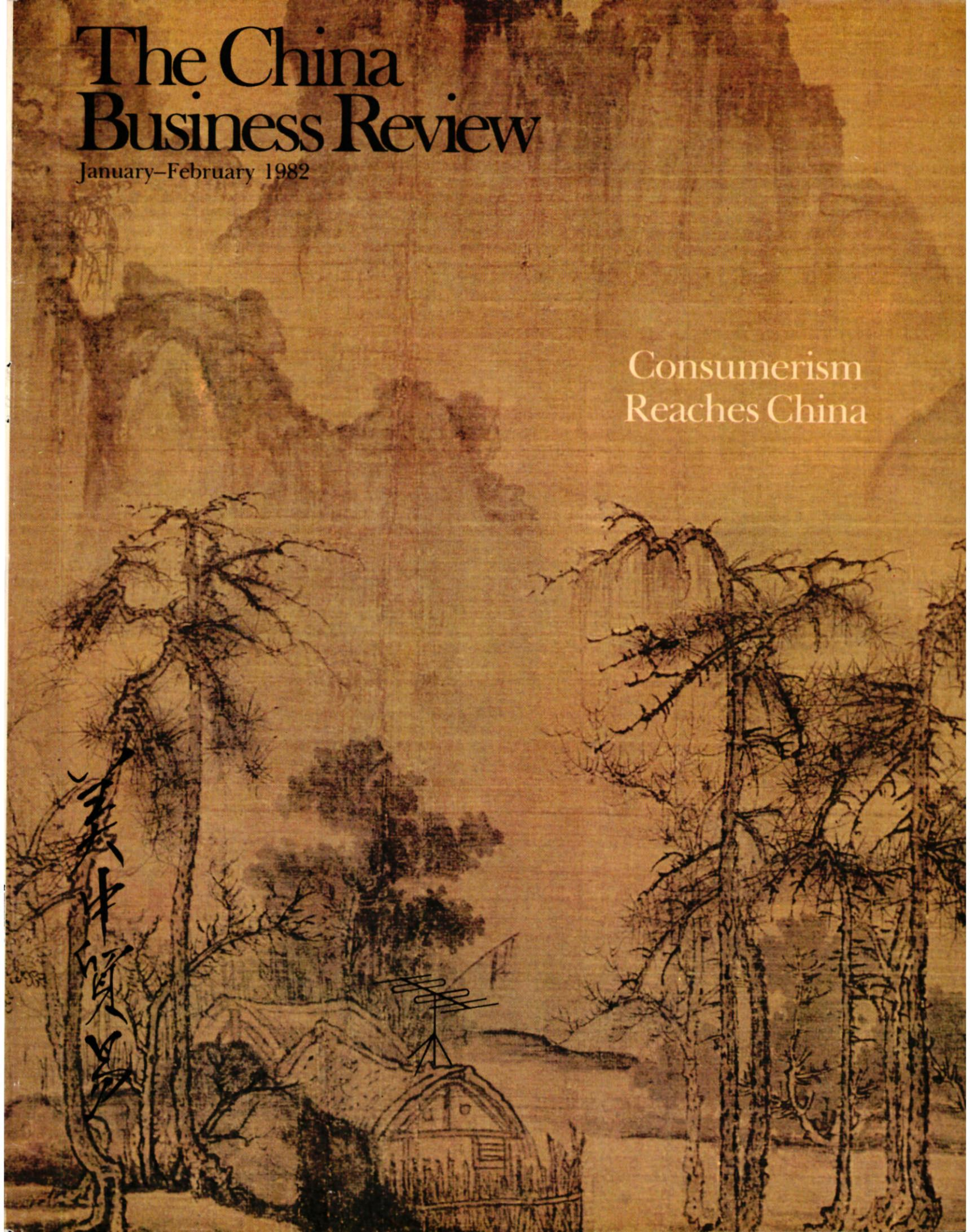
The China Business Review

January–February 1982

Consumerism Reaches China



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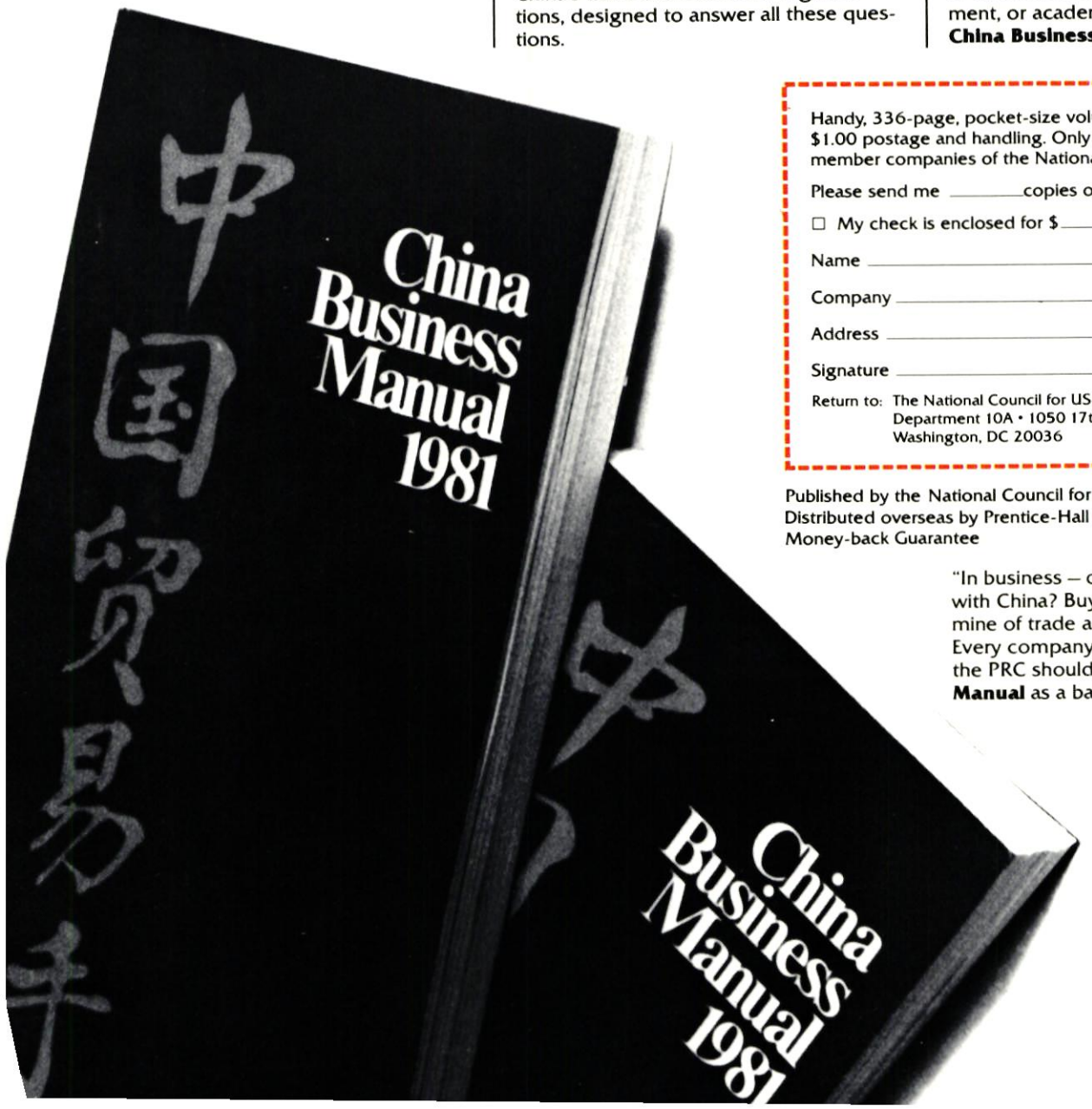

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The China Business Review

The Magazine of the National Council for US–China Trade

January–February 1982 Volume 9, Number 1

Cover: Rarely has a socialist state clamped down so hard on heavy industry in order to free up resources for consumer goods, p. 19. *Sung Dynasty painting attributed to Kuo Hsi, Freer Gallery of Art. Adaptation by John Yanson.*

Energy: Conservation is now the watchword in China. Hopes for economic growth and increased living standards rest largely on the success of China's far-reaching program to save energy, p. 12.

Business: The NIKE Company of Beaverton, Oregon has four factories in China and a fifth planned. One day it hopes to source one-quarter of its world output of athletic shoes from China, p. 42.

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The China Business Review welcomes articles from outside contributors. Manuscripts submitted for consideration should be typed, double-spaced, and normally may not exceed 5,000 words. They should be sent to the editor, *The China Business Review*, 1050 17th Street, NW, Suite 350, Washington, DC 20036, USA.

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Council Director Joins Commerce

Stephanie Green, director of the National Council's Programs and Government Relations Department, in February became special assistant to Eugene K. Lawson, deputy assistant secretary of commerce for East Asian and Pacific affairs.

During her six and one-half year tenure at the Council, Green held several positions. From 1975 to 1979, she was assistant editor and later deputy editor of *The China Business Review*, writing on such subjects as shipping, petroleum, importing, and exporting to China. She has continued to contribute articles to *The CBR* on an occasional basis.

In early 1979, Green became co-director, with Richard Glover, of the newly established Delegations Department, which handled the surge of delegation activity that followed the normalization of relations with China. She assumed the title of director when Glover became the Council's Beijing representative in the fall of 1979. One year ago, in response

Stephanie R. Green

to the changing situation in US–China trade, she became director of the Department of Programs and Government Relations. In that capacity, one of her major functions was the establishment of the Council's highly successful program of member company briefings.

Green traveled extensively for the Council. Between 1977 and 1981 she visited China six times, escorting five petroleum engineering delegations and one metallurgical delegation. She visited many PRC oilfields and other industrial sites, and met with officials from China's ministries, corporations, and commissions.

Green received an M.A. in East Asian Studies from Harvard in 1975, and a B.A. in history from Tufts in 1973.

At the Commerce Department, Green will be part of a major reorganization, in which internal bureaus of the International Trade Administration are being realigned to correspond to world regions. Eugene Lawson, in charge of East–West trade until last month, will now take on the role of supervising East Asia and the Pacific, including China, Japan, North and South Korea, Taiwan, Southeast Asia, Australia, and New Zealand. Green will work with him on both policy and administrative matters.

The Council's returning Beijing representative, Scott Seligman, has taken over Green's position, under the new title of director of development and government relations. The department has been modified slightly to include the Council's membership promotion and development programs.

摘要

SWORDS INTO PLOWSHARES

Recent visitors to the Xi'an Aircraft Engine Plant in Shaanxi report that it is making bicycle handlebars, leafsprings, and washing machine parts—instead of fighter plane engines for the Chinese air force. The plant is equipped with hundreds of millions of dollars of the world's most sophisticated equipment to build British-designed Spey engines under a 1976 licensing agreement with Rolls Royce. But, after producing a few Spey engines, the program was discontinued, due in part to the inability to design an airframe to match the engine.

BYPASSING BEIJING

One reason that only 28 joint equity venture contracts have been signed is that Chinese negotiators—like their US counterparts—want to avoid Beijing's red tape. Hence the growing popularity of "cooperative enterprises" or "coproduction enterprises." Though they resemble joint equity ventures, the foreigner's investment is not counted as equity, so these ventures do not require the lengthy approval process stipulated in China's 1979 joint venture law.

ROUGH ROADS

"China's roads are actually getting worse rather than better," admitted one PRC official. The main artery between the capital of Anhui and the province's largest port is still dirt, and Sichuan's main north-south highway linking the province of 100 million people to north China allows only two passing vehicles to squeeze by.

The decision to turn road maintenance and construction over to local authorities in the 1960s meant that "few roads were built," the official explained. With only 890,000 kilometers of highway—one seventh of the US total—it is not surprising that the government has made transportation one of China's top investment priorities.

IN DEFENSE OF FOREIGN TRADE

Closing the door on foreign trade is like "not eating for fear of choking," one Chinese official recently quipped. Chiding leftists for their self-reliance views is part of the government's stepped-up media campaign to create a favorable climate for foreign trade and investment. One of the government's more forceful arguments: The average Chinese worker in 1980 produced $686 worth of goods, while the work of 20 million producers of the nation's exports was valued at $910 per worker.

FARM MACHINERY RUNNING OUT OF GAS

The drop in agricultural machinery output in recent years has puzzled China watchers, particularly since agriculture is ostensibly top priority. Now *The CBR* has learned that the state's allocation of diesel fuel to rural areas in 1979 came to only 63 kilograms per horsepower of agricultural machinery, a sharp fall from 78 kilograms in 1975 and 103 kilograms in 1971. Stringent rationing probably will continue, inasmuch as China's petroleum output has just suffered its second straight year of decline.

US THIRD LARGEST TRADE PARTNER

Japan's share of the China market fell three points to 22 percent last year, but the US share stayed about the same at 12 percent, according to preliminary IMF data. Hong Kong's huge 70 percent increase in exports to the PRC made it the big gainer—boosting its share from 15 to 17 percent.

DIVVYING UP THE PIE

Who gets the approximately $44 billion in foreign exchange that China earned last year and $53 billion expected this year? Many organizations, one Beijing official told *The CBR*. For example, when the Ministry of Metallurgical Industry or the First Ministry of Machine Building exports directly, 80 percent of the foreign exchange revenues goes to the central government, 6 percent to the ministry, 2 percent to the ministry's trading arm as a management fee, 6 percent to the exporting factory, and 6 percent to the factory's home province. But the ministries that are manufacturing military hardware—the Second, Third, Fifth, and Seventh ministries of Machine Building—reportedly can keep all the foreign exchange earned from export deals they negotiate themselves.

DOING MORE BUSINESS ABROAD

Instead of "doing business from behind the counter," China's foreign trade personnel are being told to work the turf of their trade partners. One result: China plans to participate more in international exhibitions (including the Knoxville World's Fair). And to discourage the stay-at-home attitude, the biannual Guangzhou Trade Fair has been shortened from one month to 20 days. Henceforth the spring fair will run from April 15 to May 5, and the fall fair from October 15 to November 5.

CHINA INVESTMENT BANK CREATED

Described by one World Bank official as "the foreign exchange window of the Construction Bank," the new China Investment Bank set up on December 23 is designed to show other lending institutions in China how to make sound investment decisions. Significantly, it is expected to reverse China's traditional reluctance to spend hard currency on foreign consultants and engineering services. The CIB's immense capital base of ¥4 billion ($2.3 billion)—10 times that of the Bank of China—will be used to make medium and small ($3-$5 million) loans to capital construction projects, conduct feasibility studies using World Bank investment criteria, and invest in joint equity ventures with foreign companies. The CIB already is negotiating its first World Bank loan, and will soon seek low-interest loans from other international institutions. The CIB is in fact part of the People's Construction Bank of China, an arm of the Ministry of Finance created in 1954 and reestablished in 1979 to channel budget grants and loans to investment projects. The CIB's first chairman, Wu Boshan, is president of the Construction Bank; most other top CIB officials also wear two hats.

CALENDAR

事历

BUSINESS

☐ **Chicago, Thursdays, February 4–March 11.** A series of lectures on the culture of business with China. For information, contact the Field Museum of Natural History, Adult Education Program, Roosevelt Rd. at Lake Shore Dr., Chicago, IL 60605; (312) 322–8855.

☐ **Milwaukee, March 4.** World Trade Association dinner meeting. Deputy Assistant Secretary of Commerce for East-West Trade Eugene A. Lawson will speak. For information, call Pete Beitzel, executive secretary, the World Trade Association, (414) 273–3000.

☐ **Washington, DC, March 11.** National Council briefing for members only, "Changes in the Legal Environment for Business in China," to be held at the Capital Hilton Hotel. The briefing will review China's evolving legal structure and progress in various legal areas. For information, contact Ken Boman, Development and Government Relations Department, (202) 828–8320.

☐ **Hong Kong, April 22–23.** Conference, "Reassessing Business With China," at the Hong Kong Sheraton Hotel. National Council members are eligible for a 10 percent registration discount. For information, contact Cangioli Che, conference director, Management Resources International, 10th floor, Rhenish Center, 248–250 Hennessy Rd., Hong Kong; tel., 5-8913168.

☐ **Chicago, May 18–19.** Conference, "How to Become a Partner with China," cosponsored by Oyez Seminars and China Trade Corporation. For information, contact Elizabeth Brownfield, (202) 332–0380.

EXHIBITIONS

☐ **Guangzhou, February 24–March 6.** New South Wales (Australia) exhibition of miscellaneous products, organized by the New South Wales Government Overseas Trade Authority.

☐ **Beijing, March 15–25.** "CHINA INDUSTRATEX '82," a light industrial machinery and equipment exhibition, to be held in the Beijing Cultural Palace of Nationalities. The organizers: China Market Publishing Co. and Adfield Advertising Co. (HK). For information, contact the latter: telex, 61963 ADFADX HX.

☐ **Guangzhou, March 29–April 5.** "China Leather '82," a leather fair organized by the Hong Kong-based China Industry and Trade Consultant Corporation. For information, contact C.H. Tsao, 15/F Unit C, Thomson Commerce Bldg., 8 Thomson Rd., Wanchai, Hong Kong; telex, 61011 PKTC HX.

☐ **Singapore, April 6–9.** "Asia Marine '82," an international maritime exhibition for Asia, to be held at the World Trade Center. For information, contact Jerry Tan, Eurotech Managements (Pte) Ltd., Suite 825, World Trade Center, 1 Maritime Sq., Singapore 0409; tel., 2703911; telex, Rs 26435 EURTEC.

☐ **Tianjin, June 14–20.** "EduEquipex," an international education equipment and scientific instrument conference, cosponsored by the PRC Ministry of Education and the Tianjin Municipal Educational Commission, and organized by Sun Hung Kai International Services, Ltd. For information contact the organizer, 43/F, Hopewell Center, Wanchai, Hong Kong; tel., 5–8215204; telex, 72075 SHKIC HX; cable, SASCO.

☐ **Guangzhou, June 24–30.** "EDUCMAT '82," an educational materials and equipment exhibition organized by Edit Expo of France and the Adsale People. For information, contact the latter, Room 301–2, 57–59 Lockart Rd., Hong Kong; tel. 5–283088; telex, 63109 ADSAP HX.

☐ **Beijing, November.** "CHINACOM 1982," telecommunications, electronics (including military electronics), and computers exhibition organized by Clapp & Poliak International, endorsed by the Department of Commerce and the National Council for US–China Trade, and sponsored by Electronic Industries Association. For information, contact Clapp & Poliak International, 7315 Wisconsin Ave., Suite 1147N, Bethesda, MD 20014; (301) 657–3090.

☐ **Beijing, November 7–12.** Conference on energy, resources, and the environment, cosponsored by the Society of Engineering Science and the China Society for Energy Research. For information about submitting papers and about the conference, contact Professor S. W. Yuan, School of Engineering and Applied Science, The George Washington University, Washington, DC 20052; (202) 676–6665 or 676–6749.

☐ **Hangzhou, November 8–10.** Conference and technical exhibition, "The Production and Applications of Less Common Metals." For information, contact K. L. Wakelam, marketing director, The Metals Society, 1 Carlton House Terrace, London SW1Y 5DB; tel., 01–839–4071; telex, 8814813.

☐ **Beijing, November 23–28.** "China '82," exhibition and conference on China's manufacturing, processing, and technology, cosponsored by International Conferences and Exhibitions, Inc. and China Trade Corporation. For information, call (212) 489–9245.

☐ **Guangzhou, November 24–28.** A business equipment exhibition, organized by Industrial and Trade Fairs (ITF) International, Ltd. For information contact ITF, Radcliffe House, Blenheim Court, Solihull, West Midlands, UK, B91 2BG; tel., 021–705–6707; telex, 337073.

UPDATE

The March 1982 process control technical sales seminar, cosponsored by the China Council for the Promotion of International Trade and the Department of Commerce, has been rescheduled for September 26–October 9 (*see* above).

The spring multi-industrial catalogue exhibition, organized by CHINATRANS and DHL Corporation, has been canceled. (*see The CBR*, May–June 1981, p. 3).

The October 1981 telecommunications fair, organized by Clapp & Poliak International, has been rescheduled for November (*see* above).

Addendum, Nov.–Dec. *CBR*

The CBR would like to thank I-Chuan Chen, the Council's special assistant for liaison and language services, for the calligraphy used on pages 44, 48, and 52.


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1982 and Beyond

"Steady and realistic" growth in industry and agriculture will permit a rapid expansion of consumer goods production.

Nicholas H. Ludlow

"We need five years or more to make further readjustments. . . it will be impossible for our economy to grow very rapidly during the Sixth Five-Year Plan. . ." Premier Zhao Ziyang's report to the fourth session of the Fifth National People's Congress divulged few actual figures, but it did clarify the government's future economic policies.

China's planning process itself is singled out for continued sweeping changes. Companies can expect a series of reforms, as listed by Zhao, to take place in China during the next five years in planning, statistics, taxation, pricing, banking, commerce, distribution of resources, foreign trade, labor use, and the wage system.

Instead of rigid plans fixed for five years, it appears that future emphasis will be on better long-term planning by commissions, ministries, and provinces. The central government's plan will play more of a guiding and supporting role than in the past, and will be changed whenever necessary to better coordinate the local and industrial plans.

And the government itself will continue to reorganize. "The State Council has adopted a decision to restructure the administration, beginning with the departments under the State Council itself, and to ensure accomplishment within a specified time limit," said Zhao.

Zhao's other revelations in his November 30 and December 1 speeches to the congress:

Main Goals. China's long-term aim is to quadruple industrial and agricultural output by the year 2000. This implies an ambitious annual 7.2 percent growth rate in real terms over the next 20 years—not out of line with the 8.5 percent and 7.2 percent growth rates achieved in 1979 and 1980, but much above the 3–4 percent rate forecasted by the Chinese for 1981, and the 4 percent increase planned for 1982. In short, slow growth at a "steady and realistic rate," to use Zhao's words, is projected while readjustment continues.

The population is expected to reach 1.2 billion by the year 2000, implying a yearly increase of 1.0 percent over the next two decades, depending on the results of next year's census. With recent annual population growth rates running at 1.3 percent in 1979, 1.2 percent in 1980, and 1.2 percent (estimated) for 1981, the population target will be tough to attain. Zhao was adamant about the need to enforce stringent family planning measures: "Control population growth while raising the quality of the population." In other words, quality not quantity.

Decentralization will continue. Foreign companies can look forward to increased separation of policymaking bodies from endusers.

For another five years "or a little longer," readjustment, restructuring, consolidation, and improvement will continue as basic policies, Zhao said. The specific policies to be pushed:

▶ Revamping of the commodity distribution system into an open system to let market forces operate more effectively.

▶ Establishment of regional eco-

nomic networks based on 15 designated cities.

▶ Increased economic independence for economic units. (There are already 19 trading corporations under the First and Sixth ministries of Machine Building and the Ministry of Metallurgical Industry, plus 28 integrated industry and trade corporations under the First Ministry alone, according to Kai Xun in the October 1981 *Economic Reporter*.)

Defense. Zhao hinted that more of the state budget will go to defense. Modernization of the military should be accelerated, he stressed, and the People's Liberation Army should "sharpen its sense of preparedness against war" and strengthen military and political training. Recommendations to modernize defense and increase weapons research, and to prepare a comprehensive defense development plan, were first aired at a November meeting of the Office of National Defense Industry and the National Defense Scientific and Technology Commission. Obviously China's defense establishment has Zhao's ear.

Consolidation of the defense industries by the Ministry of Defense appears to be well advanced, according to one Chinese source. The Second, Third, Fifth, and Seventh ministries of Machine Building, under Bo Yibo's Machine Building Commission as of late 1980, no longer answer to Bo. These ministries are responsible for nuclear weapons, conventional armaments, and guided missiles, and represent the core of the defense industry establishment in China.

Consumer Goods. With reduced capital accumulation and increased consumption as continuing policies, consumer goods production, consumer-oriented services, and construction will be given priority for "a long time yet." As Zhao says, the potential for growth of China's consumer goods industry is "immense."

Targets for growth of household chemicals production through 1985, released earlier: 20 percent yearly for perfume, 9 percent for soap, 12 percent for detergent, 78.5 percent for photographic film, 74.4 percent for photographic paper, and doubling of cosmetics output.

Heavy industry, agriculture, foreign technology, and science and technology will all be directed toward the consumer in China in the next five years. Better quality goods of all kinds will be emphasized.

Transportation. While Zhao believes that transportation and energy should proceed "hand in hand," transportation should "start up a bit earlier." Transportation's top-priority status suggests that in China's constrained budgets for the next few years it may be given more funds from the central government than the electric power or energy sectors.

The main points of China's transport plan: Rail-passenger carrying capacity is to increase 6 percent yearly through 1985; rail freight will at least double by the year 2000, according to a delegate from the Ministry of Railways; a stepped-up program of inland dredging by the ministries of Communications and Water Conservancy will "greatly increase" the development of inland waterways; the number of deepwater berths will more than double by 1990; and the length of paved highways will double by 1990 as well.

Growth of other types of communications, including postal and telecommunications, will be "hastened." But stress in the years through 1985 will be on expanding existing telecommunications lines, rather than on constructing new systems.

Construction. Construction priorities in 1982–1984 will be on energy, transportation, building materials industries, and on "basic construction in urban areas." A senior official warned that if China does not "promptly increase capital investment in these sectors, there will be a much smaller increase in production in the ensuing three to five years than in the past few years."

During the next two or three years, however, the scale of construction is likely to remain at about the 1981 level—¥38 billion ($22 billion). Thirty or so large and medium projects under construction by ministries and provinces accounted for 80 percent of that sum.

During the 1981–1985 period and in successive plans, there will be development of a "few backbone projects," including the Pingshuo 15-million-ton open-pit coal mine. From now on, thorough feasibility studies are seen as essential. As Zhao says, "We must . . . make meticulous feasibility studies and bear economic results in mind."

Agriculture. In agriculture, land management and scientific farming will be the chief ways by which agriculture yields will be increased in the 1980s, for, Zhao says, investment in agriculture will not be increased by much. Cash crops such as cotton, silk, tea, tobacco, and fruit will be given prominence, along with grain production. The stress in the future will be on rational land use—"to treasure and use every inch of land rationally." Agricultural resources will be surveyed and plans for dividing land into administrative districts will be prepared in the next five years.

Foreign Trade. Zhao affirmed China's "open-door" policy toward foreign trade, but urged greater "self-reliant action." Having announced this, Zhao then said "we must abandon once and for all the idea of self-sufficiency." Among the key foreign trade policies espoused by Zhao:

▶ Low-interest loans from governments and international organizations will be used for infrastructure developments for energy and transportation; commercial loans will go to export-oriented, small- and medium-sized light-industrial enterprises that can "repay the money fairly quickly."

▶ Exports of processed nonferrous or rare metals will be especially expanded in the next few years.

▶ China's coastal areas will be built up as export centers, especially the cities of Shanghai, Tianjin, Guangzhou, Dalian, Qingdao, Fuzhou, and Xiamen, "among other cities," Zhao said.

Among the 17 laws to be reviewed by the NPC was the patent law. But because copying foreign technology is such an entrenched practice, and due to disagreement over which organization will administer the law, no decision has been made.

Zhao's statement on the subject sug-

gests that a patent law may be some time coming. "From now on," he said, "China should mainly import technology and single machines or key equipment which cannot be produced domestically. We should not import complete sets of equipment every time and must avoid duplicating imports. We should not import equipment without know-how, or fail to assimilate the imported technology and to popularize what we have learned from it." Exporters, take heed!

Energy. China will continue to give equal emphasis to energy development and conservation, "while giving priority to saving energy now and in the future." Zhao admits that China's "shocking" waste of energy will be remedied in the future only by improved management and conversion of existing plants. Until now, conservation has been achieved primarily by the reduction in emphasis on heavy industry.

A 10-year energy conservation program proposed by the State Council includes measures to replace oil consumption by coal, save petroleum for domestic processing (two new coastal refineries are being built), and boost production of consumer-oriented petrochemical products such as chemical fibers, plastics, and synthetic rubber.

The plan for coal production, already in effect since late 1980, focuses on transforming existing mines. Its main points: transforming and expanding existing underground mines in the next few years; opening new small- and medium-sized underground mines only where small investment, short construction cycles, and quick returns are possible; staggering the development of large, open-pit mines so that coal can be extracted in the most efficient sequence in the shortest time span.

With regard to oil output, Zhao pooh-poohed the World Bank's warning that, if energy conservation measures were unsuccessful, China might turn into an oil importer rather than an exporter. "I can assure you," Zhao told NPC deputies, "that this definitely will not happen."

But it still will be difficult to maintain an output of 100 million tons yearly in the next few years, Zhao confessed. China will try to "muster up funds" for opening up new fields, probably including the Dengpu field in Hubei, now producing about 1.5 million tons yearly (slated for World Bank project assistance), and the Yanchang field in Shaanxi. China will proceed to build up new offshore fields "as soon as possible."

The 1982 Plan. China's 1982 budget calls for expenditures of ¥113 billion ($65 billion), or 4 percent above the 1981 figure. A ¥3 billion ($1.2 billion) deficit is expected in 1982.

Industrial and agricultural output is targeted to rise 4 percent, accompanied by a "substantial expansion" in light industry. Consumption is projected to increase by 5.7 percent, and retail sales by 8 percent (one percent less than the 1982 increase). State investment in capital construction will go up by 5.7 percent to about ¥26.5 billion ($15.6 billion). Expenditures for education, science, culture, public health, and physical culture are expected to rise 5.9 percent, to about ¥18 billion. The 1981 budget was revised three times, and was not announced until two months into the year. It may be the same in 1982.

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Energy Conservation

By restructuring industry and updating its technology, China hopes to get a grip on energy waste.

Robert P. Taylor

Since China inaugurated its first national energy conservation month in 1979, saving energy has become a top priority. Growth in energy production has stagnated in recent years, even though the nation possesses rich energy reserves. During 1979 and 1980, primary commercial energy output grew by less than 2 percent. And though output may pick up in the 1980s, energy production is not expected to grow by more than 2.2 percent per year between now and 1985.

Of course, China's energy conservation program has important implications for traders. First, the energy efficiency of equipment already is an important factor in Chinese import decisions. Second, opportunities for the sale of conservation-related technology can be expected to expand. Such technologies include equipment for monitoring energy consumption, air preheaters, cogeneration turbines, heat exchanges, and heat pumps.

China has shown an almost total disregard for energy efficiency in the past. That, coupled with the fact that much of the country's obsolete equipment consumes fuel at a high rate, means energy efficiency figures are appallingly low. In 1979, China consumed approximately 2.5 kilograms of coal equivalent for every US dollar of gross national product—about two and one-half times more than other developing countries. Only about 30 percent of the commercial energy that China consumed was actually converted to useful energy. In the industrial sector, which accounts for 72 percent of the nation's primary commercial energy consumption, about 40 percent was converted to useful energy. That figure in industrial countries would be about 70 percent.

Recognizing that critical energy shortages will hold back their economic plans, China's leaders have begun a major program to increase the efficiency of energy use. The program, which could have a significant impact on the economy, already has enjoyed some success. In 1979, some 24 million metric tons of coal equivalent (MTCE) were saved relative to output. In 1980, achievements were even more impressive: China saved 35 million MTCE. And while the amount of energy available for consumption dropped by about 1 percent in 1980, China's GNP increased by almost 7 percent. During the first six months of 1981, China saved 14.6 million MTCE; it expects to meet its conservation goal of 24 million MTCE this year.

Leaders hope that at least 20 million MTCE can be saved every year during the Sixth Five Year Plan. While China may be capable of attaining this goal, substantial energy savings will be increasingly difficult (and expensive) to achieve as the potential for energy conservation through relatively easy methods is gradually reduced.

Western economists estimate that in order to achieve GNP growth rates of 5 percent during 1980–1985 and 6 percent during 1985–1990, China must decrease its energy consumption per unit of GNP by about 20 percent by 1990 (*see* chart). In 1980 alone, energy consumption per unit GNP dropped 6.9 percent. While this is an important accomplishment, most of the energy savings were achieved by restructuring industry and improving management—methods which will have increasingly limited potential. During most of the 1980s, energy savings will have to come from technical renovation and transformation.

Restructuring Industry

Restructuring the industrial structure and product mix is one of the most important readjustment objectives. China's pursuit of the highest output value per unit of energy is a crucial issue in this restructuring.

Reducing the ratio of heavy to light industry. Between 1952 and 1979, China's emphasis on heavy industry resulted in the rapid growth of this sector relative to light industry. This emphasis has had critical implications for energy consumption in industry, since heavy industry requires far more energy per unit of output than light industry. In 1979 heavy industry accounted for 28 percent of national income and 60 percent of total energy consumption, while light industry accounted for 18 percent of national income and only 10 percent of total energy consumption—one-fourth the energy per unit of output used in heavy industry.

In late 1978, China began to emphasize light industrial growth in order to achieve a better balance between industrial sectors. Light industrial growth outpaced heavy industrial growth for the first time in 1979. The shift was even more dramatic in 1980. Light industrial output grew by 18.4 percent, while heavy industrial output grew by only 1.4 percent. At the same time, the share of light industry in gross industrial output rose from 43.1 percent in the previous year to 46.9 percent. Savings in energy were impressive in 1980—about 22 million MTCE, or two-thirds of the total energy savings that year.

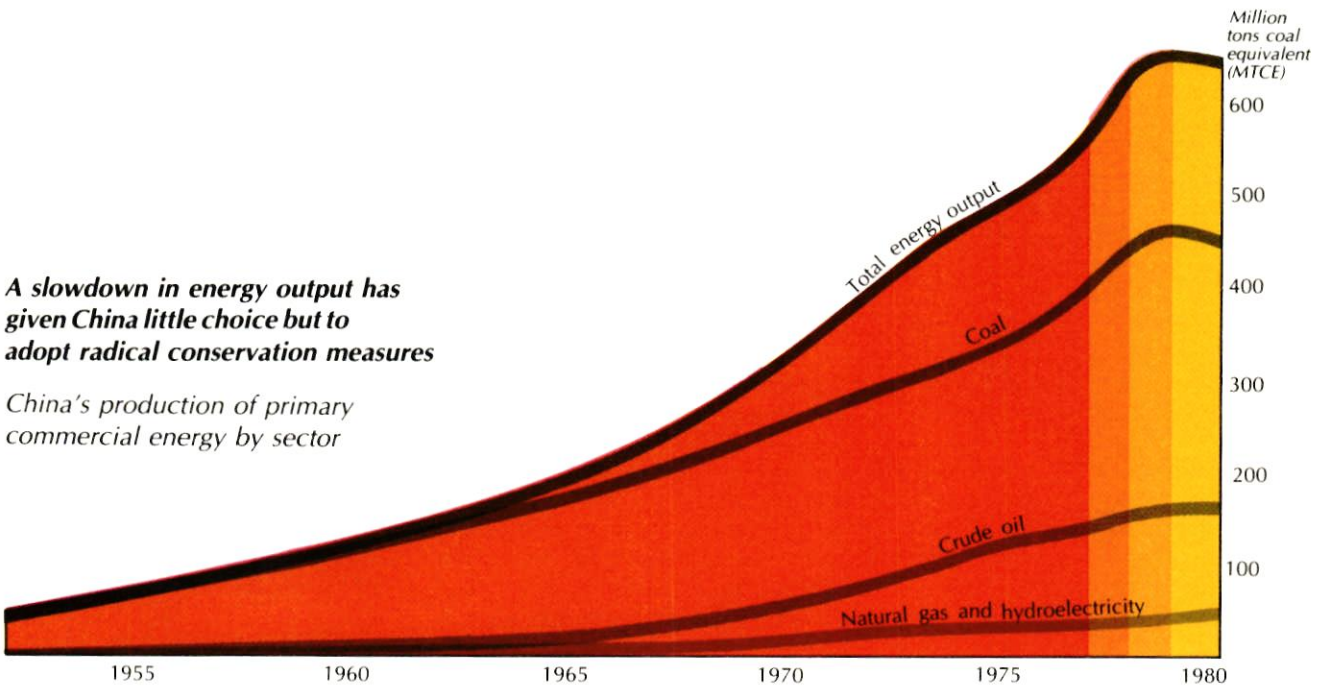
Based on the 1980 results, the Chinese estimate that about 6 million MTCE can be saved every year for each percent increase of light industry in total industrial output. But heavy industry can only be reduced so much before there is a new imbalance. Thus, increasing energy efficiency by stressing light industrial growth can be relied on only over the short term.

Priority energy allocations for the most efficient plants. Energy efficiency, product quality, and profits and losses vary greatly from plant to plant in many industries. Discrepancies are particularly marked between large, relatively modern plants, and small-scale plants located primarily in small towns or suburbs. To increase energy efficiency and raise product quality, Chinese leaders have placed emphasis on developing key plants and ensuring their ability to operate, and have set tight controls on small, less efficient plants. Given a situation in which there are acute energy shortages, supplies are guaranteed to the most efficient plants. Less efficient plants are given the choice of reforming management methods and improving technical levels, or stopping operation.

In the nitrogenous chemical fertilizer industry, China's large imported plants consume about 1.43 MTCE per

A slowdown in energy output has given China little choice but to adopt radical conservation measures

China's production of primary commercial energy by sector



ton of synthetic ammonia—about par with standards in industrialized countries. But small factories consume about 3.71 MTCE per ton of synthetic ammonia. Thus, the average rate of energy consumption in China's nitrogenous fertilizer industry as a whole is about 2.84 MTCE per ton of synthetic ammonia, or roughly 2.4 times the average rate in Japan. Similarly, large, key plants in China's steel industry consume about 1.4 MTCE per ton of steel, while small plants consume 2.5 to 3 MTCE per ton. The average rate of energy consumption in China's steel industry is 1.6 MTCE per ton of steel, twice the average rate in Japan.

By ensuring steady production in key plants and gradually phasing out or transforming small inefficient plants, China should be able to save large amounts of energy. Closing or transforming small plants probably will have to occur gradually in many sectors, however, so that overall production will not be seriously disrupted.

The switch from oil to coal. After peaking at 106 million tons in 1979, crude-oil production in China began to decline. A significant growth in production looks doubtful over the next decade. Thus, it has become critical for China to divert available oil supplies to sectors where they are essential or will yield the greatest economic return. The demand for motor fuel is expected to rise sharply in the coming decade, especially with rapid development of the transportation sector. China also will need additional oil supplies as a feedstock for petrochemicals, plastics, and synthetic fibers. Finally, oil that is not essential for the domestic economy can provide valuable foreign exchange as an export item. The country's leaders have given high priority to substituting coal for oil as a direct fuel whenever possible.

During the late 1960s and most of the 1970s, industrial oil consumption grew rapidly, running parallel to the oil production boom. Indeed, many plants converted from coal to oil. In 1979, a total of about 40 million tons of oil were burned as a direct fuel—about 17 million tons in thermal power plants, 19 million tons in other boilers, furnaces, and kilns, and most of the remainder in petroleum refining.

In 1979 the government began to call for strict oil conservation measures and a switch from oil to coal. Following poor results, the State Council issued a sharp decree on October 27, 1980. It requires that all furnaces, boilers, and kilns that were converted from coal to oil *reconvert* to coal by May 1985. (About 9.5 million tons of oil were burned in such furnaces or boilers in the power industry alone in 1979.) Furnaces and boilers that were designed to burn oil should also be converted to coal if possible.

Quick and total decontrol of energy prices probably would disrupt the Chinese economy. A strategy in which above-quota prices are raised dramatically, below-quota prices are raised gradually, and quotas are slowly tightened may prove fruitful.

The decree further stipulates: "For units which are allowed to use oil, a fixed amount of oil should be approved and a permit for burning oil should be issued, with which a person can get a fixed amount of oil. For a unit whose boilers or furnaces are to be converted to coal burning within a definite time, a temporary permit should be issued to it for oil burning. If the unit fails to convert its boilers or furnaces after the time limit, its temporary permit for oil burning shall be revoked or its oil supply shall be stopped. Without authorization and without a permit or temporary permit for oil burning, no unit shall be supplied with oil."

As a final measure, the order states that no unit is allowed to design, manufacture, build, or import oil-burning equipment or expand oil consumption without authorization.

The reconversion of plants designed to burn coal will be easiest to achieve, although it may prove to be expensive. The conversion of boilers and furnaces that originally burned oil will be more difficult; indeed, the conversion process could prove more expensive than building new facilities. One solution may be to use coal and oil mixtures in these plants. The Chinese Academy of Sciences has organized experimental studies on the use of such mixtures, and results apparently have been encouraging.

The government has recognized the costs involved in conversion, and conversion projects have been included in state plans. Materials and equipment are to be guaranteed under capital construction allocations.

Progress in converting from oil to coal has been slow so far. According to Yang Bo, deputy of the State Energy Commission, the amount of oil burned as fuel in 1979 and 1980 increased at a rate that surpassed oil savings in those years. Perhaps the new, stricter measures adopted by the State Council will produce better results. The stakes are high; it has been estimated that if oil production does not grow before 1990, China will have to cut oil use from the present rate of 40 million tons to something like 13 million tons in 1990 in order to achieve economic growth rates of 5 percent during 1980–1985 and 6 percent during 1985–1990.

Improving Energy Management

Until recently, very little attention was given to energy management in China. Indeed, many enterprises had little idea of how much energy they actually consumed. Nor did they care. In the current drive for energy conservation, high priority has been given to increased control over energy allocations, to energy accounting, and to the creation of incentives to promote enthusiasm about conservation.

Tighter control over energy use. To direct energy allocations according to state priorities and place greater control on energy consumption, China has tightened up energy quotas. Particular attention has been given to setting strict quotas for enterprises that consume more than 50 thousand tons of coal equivalent per year. After an initial period in which energy consumption patterns are investigated and quotas are fixed, enterprises must keep consumption below state quotas. Energy supplies that exceed quotas will be cut off or supplied at a higher price.

According to orders issued by the State Council in May 1981, electricity and finished petroleum products will be subject to especially strict rationing. Enterprises have been given until the end of 1982 to lower electricity consumption, or they will be faced with

either restrictions on electricity supply or higher power rates. Ration cards have been issued for the supply of motor fuel for transport vehicles, and no fuel will be supplied above fixed rations.

In addition, progress in energy conservation work is being included as one of the items by which an enterprise is evaluated. China's leaders have called for the establishment of a unified system of bonuses and punishments to be given according to achievements in energy conservation. An enterprise that has made progress in energy conservation also may receive tax breaks and preferential treatment regarding loans and subsidies.

Improved enterprise management. To reduce energy consumption and conform with state quota demands, enterprises must first determine exactly how much energy they actually consume.

The government has ordered all enterprises to finish installing energy measurement instruments by the end of 1982. (Electricity meters are being installed in households for the first time, as well.) In the past, many plants were not properly equipped with energy measurement devices, and many of the instruments used were obsolete or in ill repair. As one noted engineer from Liaoning Province wrote, "Many furnaces in plants do not have gauges, and no tests have been performed to find out how much fuel they burn, what their thermal efficiency is, and what the heat loss is. How can energy be saved under these conditions?"

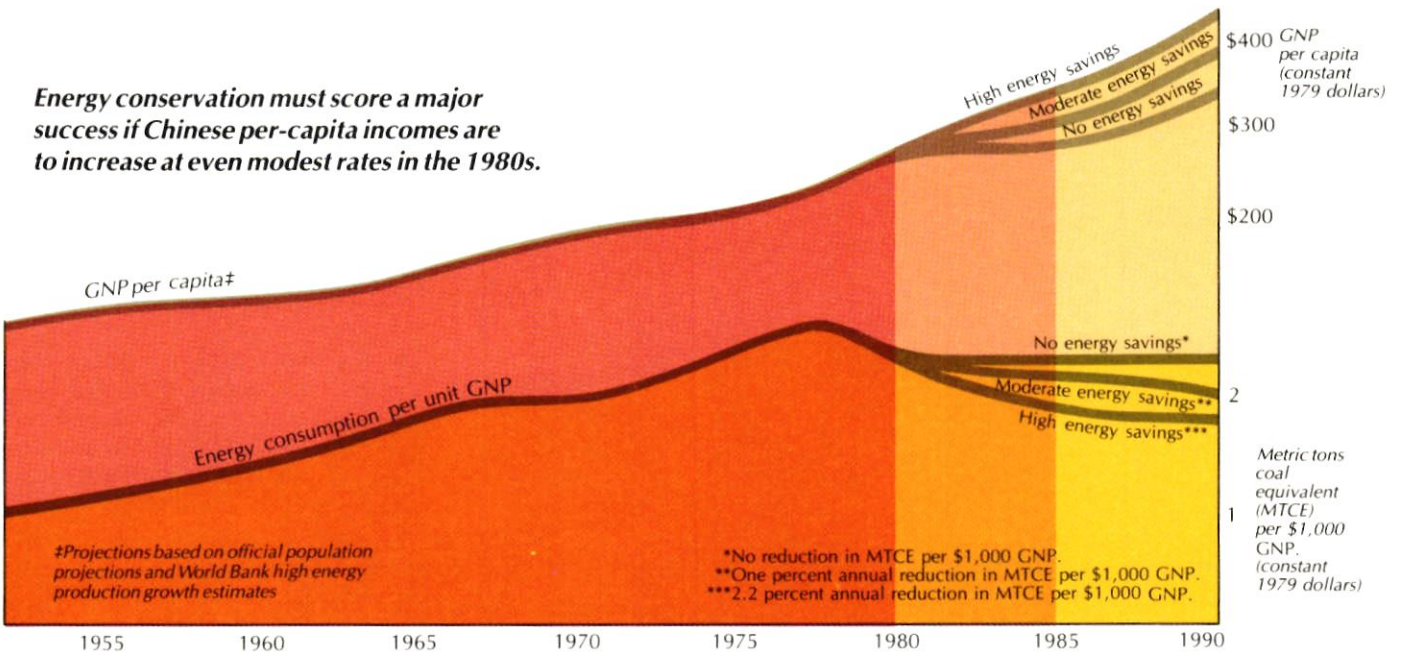
In addition to having measuring equipment installed, enterprises will be assisted by work teams in investigating energy consumption patterns, computing thermal efficiencies for different processes or equipment, identifying opportunities for conservation, and constructing short-term and long-term energy-saving plans. Work teams also have trained equipment operators in efficient operation techniques. In March 1980, some 350 experts from various ministries were sent out by the State Council to organize work teams. Various scientific institutes and most fuel corporations have organized work teams to assist enterprises as well.

In addition, the government has organized a variety of training classes on how to properly investigate energy utilization and conduct energy accounting. In 1980, more than 1,400 factory directors, technicians, and management cadres attended 27 classes in Guangdong alone.

Enterprises now are required to set up special energy management organizations that have the responsibility to inspect energy measurement devices and comprehensive energy accounting. Specific groups or individuals are supposed to be identified or organized at the plant, workshop, and section levels. At some plants, various production units have been given fixed energy consumption quotas. After regular inspections, the units have been punished or rewarded according to how well energy consumption matches the quotas.

Reforming the energy price structure. In 1979 the Chinese government raised the price of natural gas 25 percent and coal 29 percent for nonhousehold users. Nevertheless, the prices for fuel oil, crude oil, coal, and industrial electricity are well below international levels (*see* chart). In several respects the relative prices of different fuels reflect neither domestic scarcity nor government conservation priorities. For example, in terms of calories, fuel oil is actually cheaper than coal, and kerosene (supplied for agricultural purposes) is in many places cheaper than firewood.

Thus, even after the price hikes in 1979, the low prices of energy in China



may result in a lack of proper incentive for conservation. Indeed, a clear price disincentive exists for the substitution of coal for fuel oil in industrial enterprises—fuel oil is not only more convenient to use, but it is also cheaper. This fact may be the primary reason why China thus far has achieved little progress in switching from oil to coal.

Quick and total decontrol of energy prices probably would be too disruptive, but a strategy in which above-quota prices are raised dramatically, below-quota prices are raised gradually, and quotas are slowly tightened may prove fruitful. There are indications that the Chinese are heading in this direction. In addition, as several Chinese experts point out, it is imperative that the country change the relative prices of different fuels, particularly of fuel oil and coal.

Integrated management. Largely because of bureaucratic obstacles and policies that encouraged the establishment of self-sufficient "industrial kingdoms," China's economy has long suffered from a lack of coordinated specialization. If China's current leaders are successful in their attempts to build a more specialized, but also a more integrated economy, a great deal of energy could be saved.

A good example can be found in the transportation sector. In theory, specialized transport companies handle most civilian freight. However, many enterprises have built up separate fleets so that their self-sufficiency in that area can help them avoid bureaucratic delays in securing those companies' services. But the savings in time can cause even greater waste in energy, because vehicles often travel empty.

In Sichuan Province, less than 17 percent of the civilian freight-hauling vehicles belong to specialized transport companies, while some 83 percent are nonprofessional. Vehicles owned by transport companies were found to consume 9.4 liters of gasoline for every 100 tons of freight moved one kilometer, but nonprofessional vehicles consumed 13.8 liters of gasoline for the same.

A traffic check conducted one day in 1978 on two roads in Xi'an revealed that out of 3,102 trucks, 2,102 were empty. If each truck traveled 100 kilometers and consumed 25 liters of gasoline, over 52,000 liters of gasoline would be wasted.

Technical Renovation

While restructuring industry and improving energy management are important, particularly over the short term, the key to the conservation program's ultimate success seems to be the gradual renovation of old and obsolete equipment and the adoption of new, energy-saving technology. China has just begun the process of technical renovation and transformation.

The improvement of energy efficiency through this method is viewed as an integral part of the general drive to modernize the economy. In 1980, the government allocated about ¥1.2 billion ($0.7 billion) specifically for technical renovations aimed at energy conservation (including conversion from oil to coal). In 1981, allocations apparently were slightly larger, perhaps about one-third more. Funds are being used according to the basic strategy of "beginning with the easiest and most urgent, and moving on to the more difficult and less urgent."

Replacing old boilers and furnaces. Between one-third and one-half of China's 180,000 industrial boilers and furnaces are considered to be outdated, in ill repair, or both. Average thermal efficiencies are 40–50 percent, compared with 70–80 percent in industrialized countries. Indeed, in the furnaces of some steel rolling mills, thermal efficiencies run as low as 8–10 percent.

Since China's industrial boilers and furnaces currently consume more than 200 million tons of coal every year, there is great potential for energy conservation through the renovation or replacement of "coal tigers" and "oil tigers"—the terms the Chinese have given to particularly old and inefficient boilers or furnaces.

Some of the measures the Chinese are adopting:

- improvement in the insulation of the furnace body, installation of insulation wrapping around water pipes, and installation of furnace doors and covers;
- installation of air preheaters (the Combustion Engineering Air Preheater Company in October signed an agreement with the Chinese to transfer technology for manufacturing air preheaters);
- modification of burner tips and nozzles to allow more complete burning;
- removal of boiler scale; and
- reduction of boiler or furnace capacity to match the capacity of other equipment.

While China is stressing the renova-

Energy Price Comparisons

By keeping heavy fuel oil prices very low, the government is undermining its own efforts to increase the consumption of coal.

Energy source	Unit	Average Chinese price[1]	Price in international trade
Coal (7,000 kcal/kg)	$/ton	$19–$33[2]	$41[2]
Crude oil	$/ton	$90	$250
Gasoline (70 oct)	$/ton	$533	$310
Kerosene	$/ton	$453	$360
Diesel fuel	$/ton	$280	$320
Heavy fuel oil	$/ton	$37	$220
Electricity	¢/kwh	$4.3	$5.2[3]
Average household lighting	¢/kwh	$10–$13	$5.2[3]
Average heavy industry	¢/kwh	$4.0	$5.2[3]

[1]Chinese prices converted at ¥1.5 = $1.0.
[2]The Chinese price is ex-mine, whereas the international price is fob Australia.
[3]Estimated cost of electricity from large, coal-fired plants with 1980 investment and fuel costs.
SOURCES: Ministry of Petroleum Industry, Ministry of Electric Power, and World Bank.

tion of existing boilers and furnaces, it is hoping to gradually replace the smallest and most inefficient ones. In cases where it is technically feasible, the Chinese are attempting to replace sets of separate, small boilers with district systems relying on one large, centralized boiler. In order to ensure that old "tigers" are not replaced with new ones, standards are being set for new equipment, and new boiler and furnace designs are being pursued.

An article in the *Liaoning Daily* recently illustrated the potential for energy conservation. Leaders of the Shenyang No. 3 Steel Rolling Mill were paying absolutely no attention to energy conservation. Indeed, "flames coming out of the furnace and billows of smoke coming out of the chimney were mistaken as normal phenomena." An average of 180 kilograms of oil were consumed for every ton of rolled steel—about five times the amount consumed in China's more advanced plants, and six times the national average for the steel rolling industry in Japan. Not surprisingly, the mill in 1979 was criticized and dubbed an "oil tiger."

That summer the mill furnace was shut down for two weeks for modifications. Judged far too large for the capacity of the plant's other equipment (a situation described as "a big horse pulling a small wagon"), the furnace was divided in two by a hastily constructed wall so that only one side of the furnace would be used. In addition, insulation wrappings were installed around the furnace's water pipes. With just these preliminary modifications, oil consumption per ton of rolled steel dropped from 170 kilograms in the first half of the year to 80 kilograms during the fourth quarter.

Despite these improvements, the energy consumption rate was still judged as too high, and more detailed modifications had to be made in the summer of 1980. One major water pipe was eliminated and heat-resistant steel tracks were installed on the two remaining water pipes. Air preheaters and new burner nozzle tips were also installed. After these changes, oil consumption per ton of rolled steel dropped to 54.8 kilograms in the last quarter of 1980. While the consumption rate was still high by advanced standards, it had been decreased to less than one-third of the original level, by taking energy conservation seriously for the first time and making relatively simple modifications.

Using residual heat and cogeneration. According to preliminary Chinese estimates, at least 50 million MTCE of industrial residual heat (primarily hot flue gases, steam, and hot water) could be used every year in China for industrial processes, for space heating in factories or nearby residences, and for electricity generation. Today, only about 10 percent of this waste heat is being utilized.

In Liaoning Province, where more commercial energy is consumed than in any other province, more than ¥30 million has been invested since the beginning of 1980 in residual-heat recovery projects and cogeneration (the use of steam to supply both industrial process heat and electricity). Twenty-one electric power plants using residual heat already have begun operation. Together the plants can generate 400 million kilowatt-hours of electricity per year, saving about 200,000 tons of coal.

In addition, major district heating projects have been undertaken in Shenyang, Anshan, Fushun, Dalian, and Jinzhou, using hot water from industrial cooling systems. In Shenyang, first-stage construction was completed last year, providing water at 75°C for heating in more than 20,000 households—a total area of about one million square meters. When the systems are finally completed in the five cities, heating will be provided for an area of about 6 million square meters, and about 300,000 tons of coal formerly used for space heating will be conserved.

In Guangdong Province, 32 cogeneration projects were completed between 1978 and 1980. Together, the new facilities have an installed capacity of 33,000 kilowatts.

Energy waste in transportation. In 1979, China's transportation sector consumed 34 million MTCE of primary commercial energy, accounting for only about 5 percent of the national total. In the next decade, however, energy consumption in transportation is expected to rise rapidly, as the Chinese have put special emphasis on the development of this sector. By 1990, energy consumption in transportation may be double the present rate, and most of the additional energy will be in the form of petroleum. The greatest opportunity for energy conservation, outside of improvements in management, lies in the adoption of new, more energy-efficient equipment.

In railway transportation, which currently accounts for roughly 40 percent of the energy consumed in transportation, the Chinese hope to gradually phase out steam locomotives, many of which are far less efficient than models in other countries. Plans call for emphasizing diesel locomotives over the short term and popularizing electric locomotives over the long term.

Leaders of the Shenyang No. 3 Steel Rolling Mill were paying absolutely no attention to energy conservation. Indeed, "flames coming out of the furnace and billows of smoke coming out of the chimney were mistaken as normal phenomena."

In 1979, motor vehicles accounted for about 47 percent of total energy consumption in the transportation sector. Most automobiles and trucks are basically imitations of foreign models developed from the 1930s to the 1960s, and they consume 10–20 percent more fuel than current foreign models. China hopes to gradually replace old cars and trucks with newer models that are more energy efficient. Production of the worst gas guzzlers, such as Red Flag sedans, already has been halted.

Energy can also be saved by putting greater emphasis on water transportation, which is generally more energy efficient than road or rail.

Other energy-saving opportunities in industry. In China's steel industry, current technological levels are about par with advanced world levels of the 1940s and 1950s. Considerable energy efficiency could be achieved just by raising technical levels, especially by replacing open-hearth furnaces with more energy-efficient revolving furnaces. Open-hearth furnaces are still used for about 40 percent of total steel output, whereas in Japan they had

been totally phased out by 1977. Energy can also be conserved by the adoption of new technologies such as coke dry-quenching, coal-powder spraying devices, and continuous ingot casting. Finally, conservation opportunities exist through greater use of scrap steel as opposed to pig iron in steel smelting. The ratio of iron to steel in China's steel industry is about 1.07 to 1, while the ratio is close to 0.7 to 1 in industrialized countries.

In 1979, China's thermal power stations consumed an average of 2,954 kilocalories of energy per kilowatt-hour. While this consumption rate is low by the standards of other developing countries (about 9 percent lower than the rate in Indonesia, for example), it is about 17 percent higher than the current rate in the US. Conservation opportunities exist not only in the improvement of boilers and better matching of boiler and generator capacity, but also in the gradual phasing out of small-sized power plants (under 50 mw), which currently account for a major share of thermal power production but produce electricity less efficiently than larger plants.

In the cement industry, energy consumption per ton of cement is roughly double the rate in advanced industrialized countries, largely because wet process technology is still used—even in the rotary kiln plants built in China. A substantial amount of energy could be conserved through gradual conversion to dry processes.

Potential energy savings also may be large in petroleum refining, through greater adoption of techniques such as hydrocracking. And in those industries using heat-treatment processes, such as the textile, printing, and dyeing industries, adoption of far infrared heating techniques can save energy. Far infrared heating processes heat the desired product without heating the surrounding air. In 1980, some 800 million kilowatt hours of electricity were conserved using these processes.

Finally, improvements regarding the transportation of energy may be an important focus for China. At present, much of China's coal is shipped raw, without preparation, washing, or sorting. If coal was properly prepared and sorted before shipping, energy requirements for transportation could be reduced. Moreover, proper preparation and sorting of coal could enable more efficient use of coal (many plants currently burn unprepared coal) and better matching of types of coal to various end uses. Coal liquefaction and gasification—which are being considered—also may enable more efficient transportation and use of coal. In addition, the Chinese are giving some thought to the use of coal-slurry pipelines, and they have begun to emphasize construction of coking facilities and thermal power plants at coal mine sites. The establishment of large power plants at mining sites, however, will require substantial improvements in technology for electricity transmission.

In transporting oil, the Chinese are attempting to popularize new techniques for shipping oil through pipelines at normal temperatures or intermittently, to reduce evaporation loss.

Saving Residential Energy

Commercial energy use by households and commercial establishments was 87 million MTCE in 1979, or 14 percent of the national total. Coal is used almost exclusively; most of the energy is consumed in cooking and heating. Actual use may be much higher, because much of the coal consumed in rural areas is produced from small, local coal mines and is difficult to estimate. In addition, noncommercial energy resources, such as firewood, charcoal, crop byproducts, leaves, and grasses provide about 85 percent of the energy consumed by rural households, equivalent to about 300 million MTCE.

The major opportunity for energy conservation in households is in the improvement of heating and cooking systems. In urban areas, most homes do not have central heating, and both cooking and heating are done with small coal stoves. These have thermal efficiencies of only 15–18 percent. If the efficiency of these stoves could be raised, through improvement of designs or improvement of the coal briquettes commonly used, significant amounts of energy could be saved. Energy also could be conserved by expanding central heating, particularly through district heating systems in cities, or by improving the furnaces used in existing central heating systems.

In rural areas, huge quantities of energy are consumed by households for cooking and heating, but most of this energy is noncommercial energy. Problems encountered in its use are serious, but fundamentally different from those associated with coal, oil, or natural gas. The use of firewood (including brush, shrubs, and grass) and charcoal has helped cause deforestation, thus bringing on water and soil conservation problems, while the use of crop byproducts as a fuel prohibits their use as organic fertilizer or animal fodder.

To alleviate these problems, China has emphasized new, more ecologically sound means of supplying fuel for rural cooking and heating, such as biogas systems and fuelwood plantations. In the development of biogas, China has been particularly successful—some 7 million household units have been built in about 10 years.

Opportunities in Agriculture

Primary commercial energy consumption in agriculture (excluding energy consumption in the production of chemical fertilizers) currently accounts for only about 6 percent of the national total. While energy consumption is expected to rise with greater mechanization, water control, and use of high-yield variety seeds, opportunities for energy conservation are nonetheless limited. Deploying more energy-efficient tractors and other types of farm equipment which use diesel oil may make some difference in the future, but perhaps the greatest opportunity for energy savings is in the strengthening of management and the improvement of maintenance and operation techniques.

By taking advantage of the economy's vast opportunities for energy conservation, China could reduce energy consumption per unit of final output by about 20 percent by 1990. The key to effective energy conservation, though, probably lies in China's ability to create adequate incentives for energy conservation efforts within enterprises. Through the establishment and refinement of a strict and fair rationing system, or the modification of energy prices, or, probably, through both of these measures, enterprises must be forced to save energy—especially petroleum. Only by rigorously pursuing the measures already begun will China be able to alleviate the serious energy crisis it now faces.

Robert P. Taylor is a consultant on China's energy development. He recently completed a book entitled Rural Energy Development in China *(Johns Hopkins University Press for Resources for the Future).* *The author wishes to thank Robert L. Abedon, a student at Harvard University, who conducted much of the research for this article.*

China's Consuming Interest

The government's decision to gear up consumer goods industries has led to spectacular achievements as well as some real growing pains.

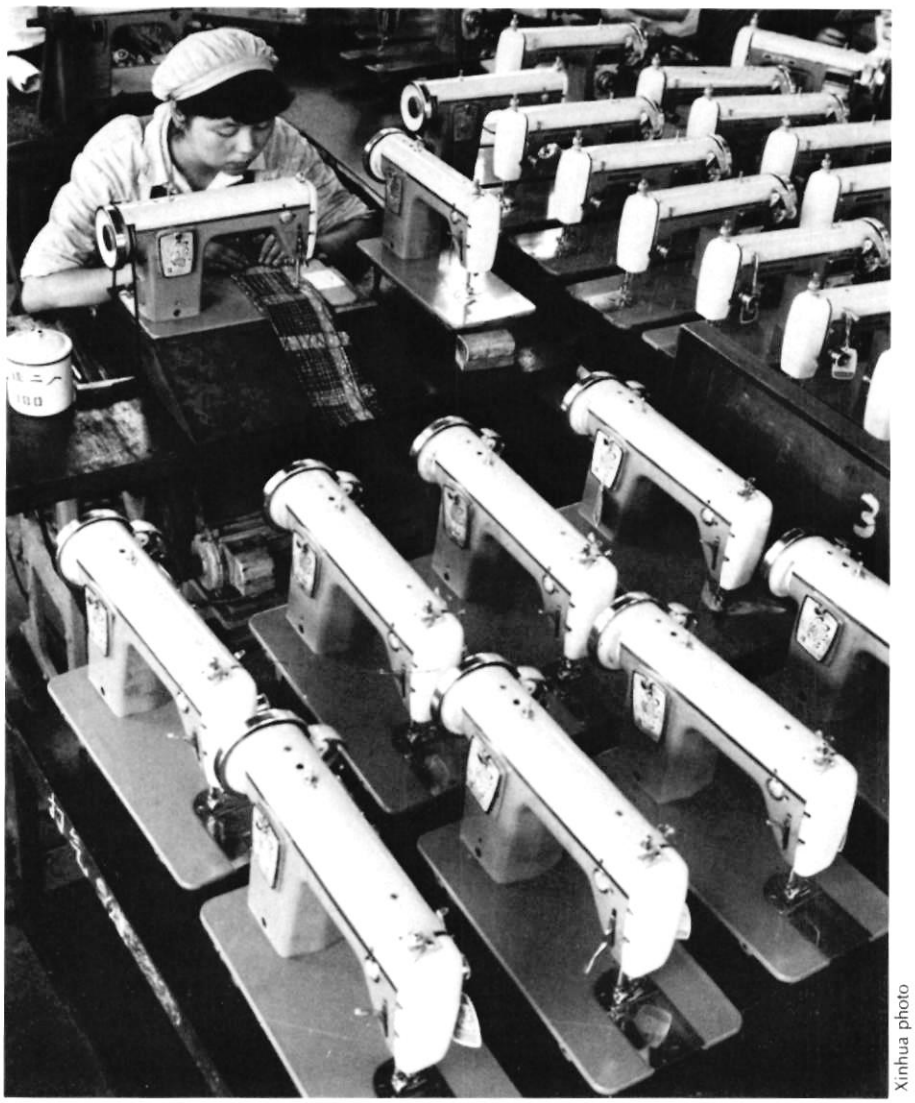
Martin Weil

Encouraging people to acquire more consumer goods is normally not a preoccupation of a socialist government. But in China, the government has given consumer goods production top priority over other sectors of the economy. This is reflected most conspicuously in the stunning production increases in recent years in the output of consumer durables—goods which, while not among life's necessities, certainly count among its pleasures.

Even as heavy industrial production plummeted in 1981, the manufacture of bicycles, sewing machines, watches, and radios—the traditional "big four" popular items—rose by an average of 33 percent. Output of new items on the market, such as televisions, cameras, and cassette recorders, rose by an even more spectacular average of 80 percent, albeit from a lower base.

The immediate impetus for the recent spurt in consumer durable goods production is the growth in popular demand. This has its origins in a more relaxed political atmosphere on the one hand, and increased urban wages, higher state purchase prices for agricultural goods, and greater economic freedom for peasants on the other hand.

Moreover, China's political leaders cannot ignore the challenge posed by the disparity between living standards on the mainland and in Taiwan and Hong Kong. The large-scale smuggling of consumer goods from the ter-



Xinhua photo

Butterfly brand sewing machines are tested at the Shanghai No. 2 Sewing Machine Factory.

ritories to the mainland gives a pretty good indication where China's tastes lie.

The strong demand for consumer goods is somewhat surprising at first glance, given the very high prices attached to such coveted items as watches, bicycles, and sewing machines. Each costs about two to three months' wages of the average worker. But the very low prices for daily necessities in China mean that relatively affluent people have considerable amounts of available cash.

The prices of some consumer goods are falling. Recently, for example, some brand name 12-inch TVs were marked down from around ¥410 to ¥380, and well-known mechanical watch brands are now sold for ¥85–¥100, down from ¥120–¥125. The government also seems more willing to let factories charge lower prices than the norm for the industry if their costs are lower.

Today half of China's households possess at least one bicycle, a sewing machine, and a watch. These are the items Beijing has done most to develop, and they remain among the items most in demand. Newer products like television sets and cassette recorders are becoming popular on the urban scene. One urban family in eight now owns a TV set, according to the State Statistical Bureau, and probably one in 20 owns a tape recorder. By mainland standards these are notable achievements.

Using what appears to be the Chinese estimate of a total of about 30 million urban households (under one-fifth of the population), it can be calculated that urban demand for bicycles watches, sewing machines, and radios are all about one-third of 1981 production. For TVs, however, it can be conservatively estimated that urban demand is slightly greater than the country's total 1981 production level, and for tape recorders, demand is at least three times the national production level.

The specific makeup of demand was revealed in a recent consumer survey of 6,500 families in 34 major Chinese cities. The results:

Item	Demand per 100 households*
Bicycles	21.2
TVs	10.6
Wristwatches	9.6
Sewing machines	7.7
Electric fans	7.4
Tape recorders	5.1
Radios	4.7
Cameras	0.6

*Defined as willingness to buy if supply is unlimited.
SOURCE: Japan External Trade Organization (JETRO), China Newsletter No. 34, Sept.–Oct. 1981.

Goods are even scarcer in the countryside. There the per-capita supply ranges, according to State Statistical Bureau estimates, from about one-fourth the urban level in the case of bicycles, to one-ninth in the case of watches or TVs. The proportion of output shipped to villages under the Ministry of Commerce's allocation system actually declined in the case of bicycles: from 36.6 percent of the total in 1978, to 30.7 percent in 1980.

So great is the peasant demand for consumer goods that the central government recently decided to use them as rewards for rural productivity. In Jiangxi Province, for example, the reward for selling to the state 2.5 tons of grain, 500 kilos of ginned cotton, 50 kilos of peanuts, or three live pigs is one provincially produced bicycle or sewing machine. Sales of 10 tons of grain, one ton of cotton, or 200 kilos of peanuts earn a wristwatch plus either a bicycle or a sewing machine.

Imports of consumer goods and parts have shot up in recent years as domestic industries struggle to catch up with demand (*see* chart). About two-thirds of China's domestically produced TVs in 1981 contained imported picture tubes or glass bulbs (some of them from Taiwan and South Korea). Almost all the important components for cassette recorders were bought from abroad in 1980—$6 million worth from Japan. In addition, large numbers of washing machines and camera kits or parts have been flowing in, mainly from Japan. And most of the components used in the one million-plus digital watches made in China

Grounded "Pigeon" Bicycles: What's in a Name?

Most Chinese consumers are acutely aware that goods made in different parts of the country show great variations in quality. Shanghai and Tianjin tend to have the best reputations by far, and for this reason, many factories in these cities have adopted brand names to identify and protect their products from imitators. The following story, which appeared in the *People's Daily* of October 24, 1981, shows just how much significance Chinese consumers attach to these brand names that sound so quaint to Western ears:

"The Commercial and Industrial Administrative Management Office has cracked a case in Miaotan Commune of Gucheng County, Hubei, involving the illegal sale of falsely labeled Flying Pigeon bicycles. It seized 43 falsely labeled bikes, and confiscated 5,200 yuan.

"In the beginning of July the retail sales department of the commune sent a man to Pingxiang County in Hebei to sell 200 falsely labeled Flying Pigeon bicycles (made in Tianjin), announcing: "whoever wants to buy a Flying Pigeon bicycle must submit money for a coupon; afterward he will get a bike." This created a sensation; within a week, the masses had ordered 51 bikes at 180 yuan each, for a total of 9,180 yuan. On July 14, the Flying Pigeon bikes arrived on the market. In the selling process, the matter was investigated by the Commercial and Industrial Administrative Management Office, and the bikes were detained.

"In the course of investigation, it was proved that this group of Flying Pigeons were all falsely labeled and that they were pieced together from old, low-quality odds and ends. For example, the triangular frame was old material disguised as new; the fender was pounded together by hand from sheet iron; the seat pole was made from cans and boxes; the trademark was illegally pasted on; quite a few of the ball bearings were old, and some only had three steel balls. The masses were unable to ride these bikes, and even had trouble pushing them. They said: These are truly 'cheat the people' vehicles!

"Recently, with the approval of the Gucheng County People's Government, economic sanctions were ordered: money was confiscated, the bogus bicycles were sold at reduced prices, the sellers had to make up the deficit, and the manager of the retail sales department was fined 200 yuan."

each year come from abroad, notably from Hong Kong and Japan.

By the end of 1980, imports of consumer durables had probably risen well above $500 million, mostly to the benefit of exporters in Japan, Taiwan, Hong Kong, and Singapore. One reason for the surge in imports in 1980 was increased buying by provincial organizations. In that year, local units began to directly purchase foreign consumer goods using foreign exchange retained under foreign trade reforms.

The booming sales situation, however, has aroused the ire of more conservative forces in the Chinese leadership, as well as the protectionist sentiments of domestic Chinese enterprises. In February 1981, an editorial tantamount to a policy announcement was issued in the *People's Daily*, calling for the end of imports of luxury items such as TVs that could be made domestically. Although import statistics in the first half of 1981, which reflect contracts signed in 1980, do not show any downturn, some observers see the new policy as a real threat to future consumer goods imports. They point to the fact that no known new contracts have been signed for cameras, televisions, or cassette recorders. How well the central government will be able to enforce the "no imports" policy remains open to question, given the apparently unsatiable demand of urban residents for high-quality foreign goods.

For the first time ever, PRC planners are drafting long-term development plans for consumer durables, based on market research into demand. According to a vice-minister of the State Machine Building Commission, the production of bicycles, sewing machines, wristwatches, clocks, TV sets, and electric fans will increase by 100–200 percent during 1981–1985, cameras by 300 percent, and washing machines by 1,300 percent.

Translating these targets into concrete development plans is another matter, though. One obvious problem will be coordinating China's vast array of bureaucracies that are involved in consumer durables production.

The sprawling Ministry of Light Industry has responsibility for production of wristwatches, bicycles, and sewing machines. The First Ministry of Machine Building is the main entity in charge of cameras. The State Bureau of Broadcast and Television Industries, which is loosely affiliated with the

The Camera Picture: Developing Slowly

In light of the obvious passion of Chinese at home and abroad for snapping commemorative photos of one another, it would appear surprising at first glance that demand for cameras is so low. Part of the answer lies in the high retail prices of about 500 yuan and up, significantly higher than those for watches, bicycles, and sewing machines. In addition, urban Chinese have easy access to rental cameras.

China's camera production is scattered among 17 factories. The country's largest plant, located in Shanghai and completed in 1978, has an annual capacity of about 300,000. Camera models range from larger, old-style 120-mm cameras that look like the 1950s Rolleiflex, to replicas of vintage Japanese 35-mm cameras. These include single lens reflex instruments such as the Peafowl, and Shanghai's Seagull, China's largest volume camera. Other range-finder brands include the Pearl River and Phoenix.

Camera development centers on 35-mm technology, an area US companies generally have ceded to Japan. The two US firms that still manufacture cameras domestically—Kodak and Polaroid—have specialized in the development of small cameras with cartridge film (such as the Eastman-Kodak Instamatic brand name). China is not interested in developing this type of camera because of its inability to manufacture the cartridge film and the reluctance of US film manufacturers to transfer the technology.

So far, the central government does not appear to have accorded high priority to obtaining foreign camera technology. The one known deal involves the Beijing Optical Company, which is assembling lens-shutter cameras (less sophisticated than single-lens reflex types) with technical assistance from Canon Inc. of Japan. The output is being marketed in China. But Canon, which plans to double output to 20,000 units in 1982, hopes to buy back some of the Chinese output eventually.

In addition, several Chinese factories are seeking lens-grinding technology. China bought 280,000 cameras (mainly lens-shutter type) from Japanese suppliers in 1980, including Ricoh, Konishiroku, Fuji, Yashica, and Minolta. This appears to have been a one-time only purchase, though key parts continue to be bought from Japan.

That China can make its own 35-mm black-and-white film provides a key reason for going the 35-mm route. It has attempted to manufacture color film, but so far has failed to reach a high volume. (Interestingly, one of China's earliest joint ventures was the Yiguang color film studio in Fujian, involving a Hong Kong company.)

Wristwatches: Catching up with the Times

China's watch production—at 29 million in 1981—ranks fourth in the world, after Japan, Hong Kong, and Switzerland. In 1980, Shanghai alone produced eight million watches in factories under the Shanghai Watch and Clock Company; Tianjin factories, which make the popular Seagull watch, among other brand names, probably turned out more than two million watches. Another four million watches were produced in Guangzhou, Beijing, Shenyang, and Xi'an, whose solid timepieces are advertised as "earthquake proof."

The vast majority of Chinese-made watches are of the jewel-levered mechanical variety, which use jewels to activate the balance wheels inside the watch. Pin-levered watches, using steel instead of jewels, have been manufactured in smaller numbers, but have proved unpopular with Chinese consumers because of cosmetic reasons and poor durability.

A number of the major mechanical watch factories are equipped with the small, specialized machine tools manufactured in Switzerland specifically for the watch industry. But observers indicate that although many Chinese factories are well tooled, they are not getting near the maximum productivity from their machines.

Sales of Chinese automatic-winding watches, in which the inner workings are activated by arm motions, have been hampered by their comparatively high prices. In addition, the desire of owners to keep them safe reportedly means that they are ensconced in handbags, thus defeating the entire purpose of the watch. Nonetheless, Seiko recently reached agreement with a Hangzhou plant to supply technology and parts for consignment production of 180,000 watches over a six-month period, with the Chinese to supply the nonmovement parts.

In 1978, in line with the prevailing spirit of catching up with the world's most advanced technology, China made a tentative decision to move into electronic watch production. Several factories that year, including the Shanghai No. 2 and the Tianjin No. 2 watch plants, began assembling digital watches using Japanese and Hong Kong components, such as quartz resonators, semiconductor chips, and liquid-crystal displays. Probably well over three million sets of parts entered China in 1980.

At the same time, the Ministry of Light Industry began to gear up production of parts in China. A battery plant was purchased from Hitachi Maxell, and four chip-testing machines were obtained from Accutest in Boston. Overtures were made to Japan for the purchase of liquid-crystal-display (LCD) manufacturing facilities. Perhaps the biggest step was to try to obtain a high-volume facility to manufacture semiconductor chips; Shanghai signed a tentative contract with a US firm for this purpose in 1980.

But the drive for electronic watch technology began to encounter problems. The Foreign Investment Commission reportedly vetoed the chip plant deal at the end of 1980, probably for reasons of cost.

The cool domestic reception given electronic watches undoubtedly had a lot to do with this development also. Unsold inventories in Beijing stand at 600,000, a situation which is undoubtedly typical of other cities. Despite two recent price decreases, electronic watch prices remain at about twice the level of mechanical watches. Additional reasons for their unpopularity, according to the *Beijing Daily*, include the fact that older people are not used to the new style, and that repair facilities and spare parts are virtually nonexistent. Battery replacements, according to visitors, are particularly hard to obtain.

Thus, the decision to go electronic has apparently been reversed, at least with regard to production for the domestic market. As Ministry of Light Industry representatives euphemistically told the National Council's Beijing representative, electronic watches are still in "trial production" after three years.

Foreign Trade

China has, however, become a major assembly base for Hong Kong watch companies, which utterly dominate the world market in cheap electronic watches. Almost three million electronic modules went from China to Hong Kong in 1980 (a large number, but still a small proportion of the approximately 85 million watches Hong Kong exported that year). Guangzhou, Shanghai, and Tianjin factories, among others, have tie-ups with Hong Kong firms.

China's mechanical watches have proved attractive to Hong Kong companies, many of which may be marketing Chinese products under their own labels. Probably eight million mechanical movements went from China to Hong Kong in 1981, along with at least several hundred thousand finished watches. Remex, a subsidiary of Time Products Inc. of London, has provided equipment and management expertise to Guangzhou factories and is taking six million assembled movements a year back to Hong Kong in a five-year deal. During that time Remex will pay about half of the going Hong Kong price for such assembly.

China also is exporting a limited number of mechanical watches on its own, mainly the Tianjin Seagull and Shanghai Spring Thunder brands. Sears reportedly is beginning to bring some into the US.

Styling Problems

The very unattractive, bulky styling of Chinese watches is undoubtedly one major reason why China is shipping so many more movements than finished watches to Hong Kong, and why its direct exports are so limited. Until a few years ago, there was virtually no differentiation between men's and women's styling. It was with great pride that Shanghai Factory No. 3 announced in 1979 that it would begin producing special watches for women. (Output is now around half a million units per year.) Moreover, the wristbands for many brands are still made of flimsy, unattractive nylon.

A desire to improve this situation undoubtedly lies behind the decision to import a watchcase manufacturing facility from Seiko, which will produce over one million units per year in Xi'an. Its output, however, is apparently committed to Seiko for five years. Similar considerations lie behind the establishment of one of China's first joint ventures, a factory in Tianjin 70 percent owned by the Hong Kong Wa Hing Dial Factory, which will manufacture 2.4 million "high and intermediate class" watch dials and hands per year. More than 60 percent of the output is intended for export.

Since China has been importing watches longer than any other consumer durable, watch imports are likely to survive the current anti-import policy. At least five million units were imported in 1980, nearly 25 percent of China's domestic production level. Most came from Japan, which muscled into what was formerly Swiss territory. Swiss watches now account for about 28 percent of known Chinese watch imports. Hong Kong watches (about two-thirds mechanical) account for about 50 percent of the market, although a large proportion of these may have originated in Japan. Nonautomatic mechanical watches dominate Chinese imports, and a disproportionate number are women's watches. China in fact reportedly strained Japan's production capacity in 1981, when it bought a total of 2.4 million women's watches.

One sign that foreign watches are in China to stay is the growing number of foreign watch sales and repair shops. Seiko has won the right to a store of its own in Beijing, and Swiss manufacturers have jointly opened shop in Beijing and Shanghai. In all such stores, goods are sold on consignment, at prices set by the Chinese.

Fourth Ministry of Machine Building, has primary responsibility for TVs, radios, and tape recorders, although the Fourth Ministry itself is responsible for electronic components. Ministries three through seven that produce military equipment—particularly the Third Ministry (aircraft), and the Fifth Ministry (land armaments)—have been encouraged to use their idle capacity to produce a wide variety of consumer goods. In fact, military factories were targeted to supply 640,000 bicycles, 340,000 sewing machines, and 159,000 washing machines in 1981.

Regulating all of these groups—many of which are eager to expand into each other's turf—is difficult enough. Adding to the confusion is the traditionally strong role of provinces in consumer goods manufacturing. All provinces except Tibet reportedly are producing or preparing to produce bicycles, sewing machines, wristwatches, TV sets, radios, and washing machines. And it seems clear that a substantial part of the production expansion in recent years has come from these plants, rather than from centrally operated ones.

Among the disadvantages of this system:

▶ *Low technology and poor quality.* The provincial production lines tend to rely on unsophisticated, small-scale technology, and as a result run at a loss. Chinese consumers, like those anywhere, are not blind to cost and quality when they buy. Hence, large quantities of poor-quality consumer goods are sitting in warehouses at the same time that there is an obvious shortage in overall supply.

▶ *Shortage of parts.* Many plants only worry about how to produce parts and components *after* they've set up an assembly line (generally the simplest part of the manufacturing process). Thus, the "inverted pagoda" phenomenon. In the TV industry, for example, assembly capacity exceeds picture tube capacity, which in turn exceeds glass bulb capacity.

▶ *Wasteful duplication.* Economies of scale are completely lost, as every bureaucratic organ and province tries to develop its own source of supply. The problem is strikingly apparent in the case of semiconductor C-MOS chips used in TVs, electronic watches, pocket calculators, and cameras. Despite the fact that the Fourth Ministry of Machine Building has the bulk of China's electronic expertise, the Ministry of Light Industry is trying to develop its own semiconductor manufacturing capability for watches, and several municipalities are trying to enter the act as well. No Western semiconductor manufacturer could survive producing for a market of just a few watch factories.

▶ *Overproduction.* The biggest danger of all is that if consumer durable development continues its unplanned acceleration, production could well exceed popular purchasing power by a wide margin by 1985.

Components are being assembled at the Nanjing Radio Factory.

National Council packaging delegation

Bicycles: China's Mass Transport

One of the indelible images travelers bring back from China are the crowds of bicycles on city streets. It is not surprising, then, that China's output of 17 million bicycles in 1981 made it the world's number-one producer.

Shanghai probably accounted for more than four million of this total under its well-known Phoenix and Forever brand names. Tianjin is next, producing more than three million Flying Pigeon and Red Flag bikes. Qingdao (Golden Deer), Guangzhou (Five Sheep), and Shenyang (White Mountain) all make 500,000 to 1 million bikes per year. Altogether, 330 bicycle plants operate under the Ministry of Light Industry.

Authority over total production, however, is dispersed. As one commentary in late 1980 disparagingly put it, ". . . Military industries, machine building, and farm machinery departments, provinces, prefectures. . . and even communes and production brigades, have been repetitiously building bicycle factories." These organizations reportedly acquire their bike-making expertise from advanced Shanghai companies, which apparently have little choice but to sell their drawings. In return, these plants compete with Shanghai for raw materials.

Heavy But Durable

The vast majority of Chinese domestic bikes are one-speeds, equipped with old-fashioned rod brakes that push down on top of the wheel, instead of cable brakes that grip the wheel. Many Chinese bikes have 40 spokes per wheel, as opposed to the 36-spoke standard in the US. Models for the countryside are designed for sturdiness. One glance at photos of peasants pedaling to market with a load of cotton or live pigs in tow reveals why.

Urban dwellers prefer somewhat lighter vehicles. The new No. 4 Shanghai Bicycle Plant makes 20-inch bikes that are reportedly one of China's best sellers. Another popular model, according to one Western businessman and bike aficionado, is the lightweight PA-21 model made by the Shanghai Forever Factory; bike enthusiasts apparently will do everything in their power to get ration coupons for this model.

Variety is somewhat limited by the raw materials used—mainly high carbon or manganese steel, rather than the lighter chrome-molybdenum alloys used elsewhere in the world. The Fifth Ministry of Machine Building is attempting to solve the weight problem by developing the world's first all-aluminum bike.

Three-speeds are not serially made for the domestic market. To obtain one, a customer must pay an extra ¥40 for the retail salesperson to replace a one-speed hub with a three-speed hub. It is perhaps a reflection of China's inexperience in manufacturing three-speed hubs that they elected in late 1980 to purchase 40,000 such hubs from Raleigh.

Exports

Shanghai and Tianjin have always exported some bicycles; by 1979, the total from Shanghai had already reached about 550,000. But these went mainly to Third World countries.

Efforts to export to developed countries began in earnest in 1980. Great Eastern Company in Greenwich, Connecticut has been instrumental in opening up the US market. It reached an agreement in 1980 with the Shanghai Forever and Phoenix factories to design three- and 10-speeds for the US. This coincided with Shanghai's desire to begin manufacturing 10-speeds and racing bikes. Although Shanghai has begun to operate a small derailleur factory, Great Eastern arranged to import Japanese derailleurs, as well as brakes and other parts, given Shanghai's inexperience. The company also took steps to ensure that the Shanghai product meets Consumer Product Safety Commission standards.

The first shipments, so far quite small, are marketed by TRAC in Atlanta. But a significant breakthrough may have been made recently with the conclusion of an agreement for Shanghai to supply Sears with 25,000 10-speeds under a similar arrangement with Great Eastern. Thus far Sears, a major retailer of low-priced bikes, has been buying mainly from Japan. Another US company in the lower price range, Huffy, also is beginning to buy Shanghai-made bicycle parts.

A Shanghai company spokesman recently told the National Council that it hoped to use all its new capacity in the next few years for export. Given the pressures to increase supply, however, and the popularity of well-built bicycles at home, it seems unlikely that the ministries of Light Industry and Commerce would allow this to happen.

The central government is well aware of these problems. The State Council issued a circular in May forbidding construction of new consumer durables manufacturing facilities. The ruling requires central approval for the conversion of existing factories to consumer durables production, as well as the expansion of existing factories.

The government's broad strategy for the future, the circular revealed, is to expand and upgrade existing large-scale plants producing famous Chinese brand names. This means new investment in Shanghai, which accounts for one-third or more of China's output of TVs, bicycles, sewing machines, and wristwatches, and where products have the best reputation in China for quality. Tianjin seems likely to remain the second most important center.

Another aspect of the strategy is to break down administrative barriers between plants and establish integrated companies that will promote more specialized and efficient production. A notable example comes from the recent formation of the Shanghai Broadcasting and Television Industrial Corporation, composed of 44 enterprises under various central and local organs in Shanghai, which will produce TVs, radios, radio cassette recorders, and parts. This enterprise includes some of China's best consumer electronics plants, such as the No. 18 Radio Factory under the Fourth Ministry (the country's largest TV assembly plant), the No. 2 Radio Plant (a budding radio-cassette producer), and the Shanghai No. 101 Plant under municipal control (the country's largest radio producer).

How these integrated companies will work in practice remains to be seen. In many of these new coordinating companies, such as the Nanjing Radio Company, the subordinate enterprises continue to maintain ties to their old parent bureaucracies. They still market their output along old channels, and submit only a portion of above-target profits to the company. With financial powers that weak, it is uncertain to what extent such companies can direct the operation of the subordinate enterprises.

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TV Production: Interference in the Industry

In a country where live entertainment is relatively limited, it is hardly surprising that television has become extremely popular. About one out of every two families in major municipalities such as Beijing and Shanghai reportedly owns a set. In the countryside, where TV watching has become a communal activity, complaints have been brought against schoolteachers who do not allow peasants to enter school property to watch.

The government is encouraging television viewing as a method of both education and ideological communication. It still hopes to establish a nationwide system of television universities, and is preparing to introduce UHF transmitting technology from abroad as part of this effort.

Organization of Production

Shanghai is by far the most important center of television receiver production at present, probably accounting for about one-third of the three million TVs produced in 1981. Production there is scattered among eight or so separate assembly plants, the largest of which are Radio Factory No. 18 and Television Plant No. 1.

Beijing and Tianjin, the next most important production centers, turn out several hundred thousand sets apiece each year.

Beyond those locations, China's TV industry is scattered and fragmented. It is nominally administered by the State Bureau of Broadcasting and Television Industry, which now reports directly to the State Council. (The bureau was carved out of the Fourth Ministry of Machine Building in 1978.) The continued close link between the bureau and the ministry—its source for many electronic components—is demonstrated by the fact that the bureau's head, Li Yuanru, is concurrently a vice-minister of the ministry.

TV Receiver Imports

(units)

Nearly half of China's TV imports came from Japan in 1981, though Hong Kong and Taiwan were not far behind.

	1979	1980	1981
Japan	694,000	1,207,000	604,200[1]
Of which:			
Color	133,000	100,000	52,200[1]
Singapore (black and white only)	0	406,000	252,000[2]
Hong Kong (including Taiwan re-exports)	89,000	733,300	558,000[2]
Of which:			
Color	24,000	44,300	17,000
Other[3] (mainly Eastern Europe)	650,000	270,000	NA
Total	1,433,000	2,616,300	NA

[1]First 6 months
[2]First 3 months
[3]Estimated on basis of Chinese press report that imports during 1979–80 were 9 percent higher than domestic production.
SOURCE: Trading partner statistics.

But in practice, much of the authority over TV plants is vested in governments at or below the provincial level. The local governments have been the primary source of investment funds in most cases. They also control the bulk of the industry's profits.

Each province, and many prefectures and counties, consequently have developed their own small-scale, usually inefficient, production lines. There are probably well over 50 television receiver assembly plants in operation today—many of them crude copies of more advanced facilities in major cities.

So far the bureau has been unable to stop provinces from setting up their own, often unprofitable, TV plants Bureau officials, well aware of the absurdity of the situation, would like to establish 100,000 as the minimum annual capacity of assembly plants, and reduce the total number of plants to around 50. Many assembly plants do not have component-manufacturing facilities, and would go under if the bureau cut off their outside supply sources. The power to withhold supplies is in fact the bureau's trump card.

Nonetheless, the bureau so far has been unable to overcome stiff resistance from local political interests.

Color TVs

China's TV production thus far has been almost all black and white. Only 60,000 color sets were made in 1981, and virtually all of these were made using imported parts.

It was the industry's ambition to go color at least as early as 1974, when negotiations began with US companies for a complete facility to produce color sets. The project was derailed by Mao's wife, Jiang Qing, who took a special interest in all forms of cultural entertainment and propaganda. It is reported that Jiang interpreted a gift of snails to a visiting Chinese TV delegation by a US firm as a subtle message that China could only "trail behind other countries at a snail's pace."

When the project was revived in the more favorable climate of 1978, it was the Japanese who won the contracts: Hitachi to supply a plant to make one million picture tubes per year (including glass, shadow masking, and other component-manufacturing facilities) at a greenfield site near Xi'an, and Toshiba to build a facility to assemble 28 million integrated circuits per year at Wuxi.

Three TV set assembly lines were bought from Hitachi, Matsushita, and Japan Victor for existing plants in Shanghai, Beijing, and Tianjin. Tuners and modulator facilities, as well as transformer and colloid-graphite plants, were later bought and installed in separate facilities.

This giant assembly project has encountered a number of problems. One is the location of the picture tube plant in Xi'an. It is difficult to imagine any reason, apart from political motives, for the selection of Xi'an rather than a more established electronics center such as Beijing, Nanjing, or Shanghai. Transportation poses a problem there, as does the recruitment of skilled workers. The plant was already behind schedule when it began trial production in late 1981, and it will certainly be several more years behind before it reaches full capacity.

Another problem lies in the scattered, piecemeal nature of the project—both in terms of the number of locations in China and the number of Japanese companies involved. This, combined with the lack of a main contractor, could well create some unnecessary technical difficulties.

The State Bureau of Broadcast and Television Industry, in fact, is still negotiating the purchase of equipment for manufacturing as many as 17 components, including switch sockets, UHF tuners, resistance potentiometers, and transistor triodes for the tuner, not to mention medium-density fiberboards for the television frames.

There is, finally, one problem with the project that is not the responsibility of the Chinese—namely, the production of the semiconductor chips for the integrated circuits.

Selected Television Assembly Plants in China

Facility	Capacity (units per year)	Comments
Beijing TV Plant	120,000	Black-and-white, 12-inch Mudan (Peony) brand TVs
	150,000	Color, 14- and 22-inch TVs
Beijing Dongfeng TV Plant	240,000	Black-and-white, 12-inch Kunlun brand TVs
	60,000	Color TVs, Chinese equipment. Formerly a clothing factory.
Chengdu No. 1 Radio Plant	50,000	Black-and-white and color Chengdu brand TVs, 12- and 19-inches. Is assembling Japanese parts, uses some Japanese black and white technology; all transistor and integrated circuit.
Fujian-Hitachi Plant, Fuzhou, Fujian	180,000 200,000	Black-and-white, 14- and 22-inch TVs; color, 14 and 22 inches. Joint venture probably has not reached full capacity yet.
Jiamusi No. 2 Radio Plant, Heilongjiang	NA	Black-and-white, 12-inch TVs
Liaoning No. 8 Radio Plant, Shenyang	250,000	Black-and-white 12-inch TVs
Mudanjiang Television Plant, Heilongjiang	NA	Black-and-white, 12-inch TVs
Nanjing Radio Plant	NA	Black-and-white, Panda brand TVs
Nei Mongol Broadcasting Equipment Plant	100,000	Black-and-white, 12-inch Swan brand TVs. May produce small numbers of color TVs.
Dongfeng Radio Plant, Ningbo, Zhejiang	NA	Black-and-white, 12-inch, Silver Dove brand TVs. Some picture tubes imported.

In 1978, US export control policy, as enforced through COCOM, did not permit the Chinese to buy technology for the chips from the West. But now, in the supposedly improved climate of US–China economic and strategic relations, the Fourth Ministry of Machine Building is moving to acquire US equipment to manufacture the chips in Wuxi. Although the US government does not oppose this in principle (the semiconductors are for medium-scale integrated circuits, or MSI, a vintage 1975 product), advocates of export controls seem prepared to veto certain advanced pieces of manufacturing equipment that would increase efficiency considerably. This could sabotage the entire deal, or give it to the Japanese.

Given these difficulties, the Chinese will be doing well if they achieve their original color-TV production target of one million units by 1985. Domestically built color TVs are not selling very well anyway. A color set is generally twice as expensive as a black and white set (roughly ¥800 versus ¥400). Hence, to meet China's overall output target of 6 million receivers by 1985, nearly all of the increase will have to be in black and white sets.

Black and White Development

China produced approximately 3 million black and white sets in 1981 (mostly 12-inch screens). But this number presents a deceptive picture of the country's true capabilities, as about two-thirds of the picture tubes for these sets had to be imported—mainly from Japan, as well as from Taiwan (several hundred thousand), and Eastern Europe.

Facility	Capacity	Comments
Huanghe Machinery and Equipment Plant, Shaanxi	60,000	Black-and-white, 12-inch TVs; test manufacturing color
Shanghai No. 18 Radio Plant	300,000	Black-and-white, 12-inch, Feiyue brand TVs
Shanghai Broadcast Equipment Factory	200,000	Black-and-white and color TVs, 14 and 19 inches, Shanghai brand. Uses imported picture tubes.
Shanghai No. 4 Radio Plant	100,000	Black-and-white, 12-inch TVs, Kaige (Victorious Song) brand
Shanghai No. 1 Television Plant	66,000	Black-and-white, 12-inch TVs, Jinxing (Golden Star) brand. Uses Shanghai No. 4 Electronic Tube Plant picture tubes. Formerly a fountain pen factory.
	200,000	Color, 14- and 22-inch TVs
Shenyang No. 12 Radio Plant	NA	Black-and-white, 12-inch TVs, Baihua brand
Suzhou Television Factory	NA	Kongque (Peacock) brand TVs
Tianjin Radio Plant	60,000	Black-and-white, 12- and 19-inch TVs. China's oldest assembly plant.
	150,000	Color, 14- and 22-inch TVs

NOTE: There are many other assembly plants in China, but most of them are smaller. Tianjin has three other plants, combined capacity probably about 120,000. Jiangsu Province has a capacity of more than 300,000 in plants in Nanjing, Suzhou, and Wuxi. Fushun, Dandong, and Dalian all have plants, as do all of China's provinces excepting Tibet, Ningxia, and Qinghai.
SOURCE: Various Chinese media reports. Table prepared by Judith Habegger.

China's domestic picture tube plants, located in Shanghai, Beijing, Qingdao, Shijiazhuang, and Wuxi, were able to produce only about one million units, generally of mediocre quality.

Steps to remedy this situation were taken in 1979, when China purchased two picture-tube assembly lines from Nippon Electric and Matsushita for installation in Tianjin and Shanghai. The lines have a combined annual capacity of 2.5 million units. It would seem to be more than coincidence that the plants are located in China's largest, wealthiest municipalities, which were among the first to secure permission to buy directly from foreign companies. (Part of the import bill therefore was probably picked up by the cities themselves.) These facilities will provide China with its first mass-produced 14-inch tubes as they enter into normal production in 1982.

But the root of the picture tube problem really lies not so much in assembly line technology as in the glass bulbs—the major picture tube component. China's only semimodern, mechanized glass-production facility was built by the Soviets in Chengdu in the late 1950s, and produces only 500,000 low-quality bulbs per year. The remaining, small-scale facilities use the hand-dipping method, which means that the tubes cannot be used in mechanized assembly lines.

Only in 1980 did the Chinese tackle the glass bulb problem. In that year a contract was reached with Corning Glass (US) to build a facility to produce 4 million glass bulbs in Shanghai (*see The CBR*, Mar.–Apr. 1981, p. 27). This plant was purchased with foreign exchange controlled by Shanghai, demonstrating the extent to which the bureau has to work with local interests.

The bureau also is hoping to purchase modern glass bulb technology and equipment for facilities in Nanjing and Tianjin (where a Chinese facility completed in 1980 is barely able to function). In the meantime, China will have to continue importing large quantities of glass bulbs.

In addition to picture tubes and glass bulbs, China has purchased equipment from Japan for black and white tuners and printed circuit boards. The circuit board development indicates that integrated circuits, which are not currently used in black and white TVs on a large scale, will be used more often in the future. The bureau, in fact, is negotiating the purchase of integrated circuit facilities for black and white TVs from

Toshiba, Nippon Electric, and Phillips.

The bureau would welcome discussion with US firms as well. As the chips are less sophisticated than those for color TVs, there presumably would be fewer problems with the US government.

Many other negotiations involving both color and black and white TVs are being pursued by the localities. Almost all of these involve compensation trade, component assembly, or joint ventures. One of the few of these that has won bureau approval is a 50/50 joint venture between Hitachi and Fujian Province to assemble 200,000 color TVs and 180,000 black and white sets per year, mainly for export. The plant began production in late 1981. In addition, the Dongfeng plant in Beijing and the Beijing TV Plant are assembling Victor and Sanyo receivers for export.

Deals with cities and provinces are hard to negotiate, however. A US firm, one of several US companies that has been frustrated in its efforts to sell to China, hoped to make China an important supply source for the US domestic market, but finally had to go to another country due to foot-dragging and bureaucratic squabbling on the Chinese side. Another highly publicized deal, an arrangement to assemble Telefunken color sets under license in Beijing, likewise has failed to bear fruit.

The government's decision in early 1981 to restrict TV imports, which had soared to more than 2.5 million units by 1980, will naturally affect TV supplies in China. Another practical effect will be to switch imports from finished receivers to kits and chassis for assembly. Japanese kit exports to China, for example, rose from a total of 306,500 in all of 1980 to almost 500,000 in the first half of 1981 alone. Even US firms shipped about $4 million worth of TV receiver kits to China in the first half of 1981.

In any event, the decision to reduce imports is not expected to stem the tide of gift TVs entering China in the luggage of overseas Chinese, or those TVs reportedly entering the Chinese market as contraband.

Foreign Participation in China's Television Industry

Only one US firm is in on China's purchase of more than $200 million in TV equipment.

Facility	Foreign company	Location	Annual capacity (units)	Cost (million dollars)	Startup date	Comments
Color TV assembly plant	Hitachi	Shanghai No. 1 Television Plant	200,000	$12.5	mid-1981	Complete plant to make 14- and 22-inch sets
	Hitachi	Fuzhou, Fujian	200,000	$2.0	mid-1981	15-year, 50/50 joint venture; plan to export up to 50 percent of output after 3 years
	Matsushita	Beijing Television Factory	150,000	$5.0	mid-1981	Complete plant to make 14- and 22-inch sets
	Victor Co. (Japan)	Tianjin Radio Factory	150,000	$4.0	1980	Complete plant to make 14- and 22-inch sets
Color picture tubes	Hitachi	Xianyang Color Kinescope Plant, Shaanxi	960,000	$76.0	mid-1981	Complete plant includes assembly line, glassmaking facilities, and shadow-masking equipment
Integrated circuit assembly line for color TVs	Toshiba	Wuxi, Jiangsu	26,000,000	$58.0	1982	Complete assembly plant plus auxiliary facilities
Flyback transformers for color TVs	Sanyo	Suzhou Television Module Plant, Jiangsu	500,000	NA	early 1981	Complete plant
	Victor Co. (Japan)	Beijing No. 3 Television Component Plant	500,000	NA	mid-1981	Complete plant
Black and white TV assembly line	Hitachi	Fuzhou, Fujian	180,000	NA	mid-1981	Part of joint venture described above
Black and white picture tube assembly line	Matsushita	Shanghai Electric Bulb Factory	1,600,000	$5.5	mid-1981	Complete plant to produce 12- and 14-inch tubes
	Nippon Electric Co.	Tianjin Picture Tube Factory	720,000	NA	late 1981	Complete plant to produce 12- and 14-inch tubes
Black and white television glass bulb production facility	Corning Glass (US)	Shanghai Kinescope Glass Works	4,000,000	$25.0	1984	10-year agreement to design, equip, and provide technical assistance
Black and white printed circuit board facility	Matsushita	Shanghai No. 20 Radio Factory	NA	$5.0	1982	Complete plant
Tuner and modulator production lines	Nippon Electric Co.	Shanghai No. 13 Television Factory	1,000,000	NA	NA	Complete plant to produce half VHF, half UHF tuners
	Nippon Electric Co.	Dandong Television Fittings Factory	500,000	NA	NA	Complete plant

SOURCES: Chinese and Western media reports.

Chart prepared by Judith Habegger.

The Export Trading Company Act

Banking on an Old Idea

Kermit W. Almstedt

Most American traders who have stood in the Asian marketplace at one time or another have seen the large, long shadow of the Japanese "Sogo Shosha" in every facet of foreign trade. Often it seems that the presence of these huge, government-supported trading companies—like Mitsubishi—extends everywhere, leaving many small and medium-size manufacturers lamenting the fact that they can't get a hold in the market.

Few businesses here want to forge as strong an alliance with their government as is common in Japan. What they do want is the ability to cooperate with other US companies in promoting their goods and services abroad.

Statistics show the need for such cooperation. The Commerce Department estimates that only 10 percent of the 250,000 manufacturing firms in the US export their products. Since 1970 their export volume has increased as a percentage of the GNP, from 4 percent then to 8 percent today. But during the same period, the United States' share of the total export market has *declined*, from 15 percent to 12 percent.

Producing competitive products is not the main problem. Managing exports *is*. Just one percent of American companies accounts for 80 percent of our exports, and these are primarily large companies with the resources to manage their own international marketing. Small and medium-size companies seldom have the capital or the experience to cope with the range of decisions involved in exporting to China or to any other country, such as transportation, distribution, finance, insurance, and after-sale service. Confusion over American antitrust law has further contributed to companies' hesitancy in forming cooperative ventures that could handle the export of particular goods.

US banks may step into some new territory if the Senate-passed bill makes it through the House.

What these companies need, many business executives believe, is a "one-stop shop" to handle everything from marketing through sales and service. That is the concept Congress is promoting with the Export Trading Company (ETC) Act,[1] which unanimously passed the Senate last spring and is now working its way to the House floor. The ETC Act would encourage exports by small and medium-size companies by facilitating the development of vertical, full-service ETCs. It does this not by imitating structures developed in Japan and elsewhere. Instead, it merely removes obstacles that have been blocking the development of American ETCs, thereby allowing the marketplace to determine what works best.

The act addresses the two main hindrances to forming ETCs: prohibitions against bank investment, and uncertainty about the application of American antitrust laws to cooperative foreign trade activities.

Banking

An ETC needs credit, a network of contacts, and experience in international transactions. Banks have all three. Recognizing this, Japan, England, Hong Kong, France, Brazil and other nations permit banks to obtain partial or total ownership of ETCs. The Hong Kong and Shanghai Banking Corporation, for instance, controls a third of Hutchinson Whampoa Ltd. Credit Lyonnaise has an 80 percent interest in Essor PME, and the Banco de Brazil is the sole owner of the Beke Company.

The traditional separation between banking and commerce, expressed in several federal laws,[2] has kept American banks out of this business. Title I of the ETC Act would change this. Under it, banks may invest in ETCs whose principal business is exporting goods or services produced in the United States. Their involvement, however, will be kept in check by three accompanying categories of restrictions: limits on ownership, reporting and approval requirements, and limits on operation.

The ownership limits state that the aggregate investment by a bank in an ETC may not exceed 5 percent, and the historical cost of the bank's total investments in ETCs (including extensions of credit) may not exceed 10 percent, of the bank's capital and surplus. In other words, regardless of the percentage of a particular ETC that a bank holds, its total investment in *all* ETCs may not exceed a set percentage of the bank's own capital and surplus.

The reporting and approval requirements direct banks to report all investments in ETCs. The appropriate bank regulatory agency may set conditions on such investments and, in certain circumstances, disapprove them. In addition, if an investment either gives the bank a controlling interest in the ETC or exceeds $10 million, approval must come from the appropriate bank regulatory agency. Finally, any bank in-

vestment in ETCs may be terminated if the bank regulatory agency believes that the investment threatens the bank's security or contravenes sound banking principles.

Limits on operations are designed to allay the fears of many existing trading companies that bank-supported ETCs will benefit from unfair market advantages. Title I forbids banks from granting preferential credit to ETCs in which they have a financial interest. It also states that bank-associated ETCs may not take title to goods except in accordance with standards to be established by a federal bank regulatory agency. The bank and its ETC may not bear a similar name, unless the bank holds a majority interest in the trading company.

Finally, because Congress did not intend for ETCs to be set up purely as bank investments, Title I provides that banks with ETCs engaging in speculative activity—like trading in commodity futures—may be required to withdraw their investments from those ETCs.

The ETC Act does not mandate a particular investment arrangement for bank-ETC affiliation; that is up to the participants. But several arrangements seem likely to appear: ETCs owned by a group of regional banks; ETCs formed and owned by a single bank; and ETCs formed by banks and nonbank partners. For one-project turnkey ETCs, for instance, architects, construction companies, and major fabricating companies may be ideal partners. Long-term satellite ETCs could be built around export management companies, freight forwarders, ports, transportation companies, and manufacturing companies (*see* box).

Antitrust

American firms for years have been stepping into foreign markets with some trepidation, wondering whether business activities there would be subject to US antitrust laws. In theory, those laws are clearly designed to ensure a competitive domestic market for American consumers. In practice, uncertainties arise as to whether—and to what extent—a company's foreign activities affect the domestic market and thereby become subject to US laws.[3]

Some courts have said that a "direct" or "substantial" effect is necessary to invoke an antitrust claim.[4] Others have said the impact need only be more than "de minimus."[5]

Congress, recognizing the constraints that such uncertainty places on exporting enterprises, gave them a limited antitrust exemption by passing the Webb-Pomerene Act of 1918. Specifically, Webb-Pomerene excepts from the federal Sherman and Clayton laws any association of US competitors established for the sole purpose of engaging in export trade (provided they violate none of the act's provisions). By 1935, a total of 57 Webb-Pomerene associations accounted for some 19 percent of US exports. Today the number has dropped to the low 30s, with only a few of those associations actively engaging in exporting. Their share of the export market has fallen to less than 2 percent.

A major reason for the drop is that the Webb-Pomerene Act itself is uncertain. Not until a lawsuit is brought does a business discover the precise scope of its protection. And then it may be too late.

A past court case demonstrates this. In 1919 the major US producers of alkali products formed a Webb-Pomerene association to sell their goods abroad, after complying with the filing requirement. Twenty-five years later, the Justice Department charged the association with numerous antitrust violations.[6]

The inherent uncertainty prompted Sen. Lloyd Bentsen to tell his Senate colleagues last year that Webb-Pomerene is "so confusing, dated, and ambiguous that it actually discourages the formation of US consortia that can compete for major international contracts."

Title II of the ETC Act amends Webb-Pomerene to try to clear some of the roadblocks. First, it establishes a prospective clearance procedure that exempts export activities from antitrust prosecution *before* the exporting takes place. Webb-Pomerene left questions of antitrust protection wide open; all the prospective association had to do before beginning its operations was meet an information filing requirement.

Second, the act expands the Webb-Pomerene exemption to include all relevant federal and state antitrust statutes, and to cover ETCs formed under Title I. Webb-Pomerene as it now stands protects only a narrow range of possible cooperative agreements—basically, horizontal activities regarding solely export trade. To take an example, US timber producers would be allowed to band together under Webb-Pomerene to handle sales, promotion, market development, financing, insurance, licensing, foreign distribution, pricing, and other activities related to

Possible ETC Structures

The Export Trading Company Act, as passed by the Senate and being considered by the House, does not mandate a particular form for ETCs. But investors are apt to give serious thought to these options:

Bank-controlled ETCs. These could be controlled by one large bank or by several regional ones. Their specialization would be in creating financial packages to meet different clients' needs, with medium- to long-term repayment periods. If several regional banks were involved, joint control of the ETC could allow each to contribute its own knowledge and abilities in handling regional products and customer relations.

Product-specific ETCs. With either a national or regional base, these ETCs would specialize in particular products or product groups.

Geographic-specific ETCs. These would serve a specific foreign area from a national or regional base.

Consortium ETCs. With either bank or nonbank equity participation, consortium ETCs would concentrate on turnkey projects.

Piggyback ETCs. These would be built around the existing distribution and marketing systems of an American-based multinational company.

Trade association ETCs. Similar to the horizontal Webb-Pomerene associations permitted under current law, these ETCs could function in vertical, multiservice arrangements as well as in horizontal, industry-specific ones.

their products' export. But a fundamental question would arise if companies outside the timber industry wished to provide those same services: Would the inclusion of these vertical activities fall under Webb-Pomerene protection?

While Webb-Pomerene covers only export trade in products, Title II also would include trade in services—an important line item that now accounts for about 60 percent of the United States' GNP.

Another important aspect of Title II is its clarification of the standard used to determine the scope of the antitrust exemption. Only export activities having a "substantial" impact on the domestic market could be brought to court.

Finally, Title II would transfer the administration of the Webb-Pomerene Act from the Federal Trade Commission to the Commerce Department, thus transferring responsibility from a prosecutorial agency to one interested in the promotion of trade.

Under Title II, an export trading association or company seeking certification for its activities would file a petition with Commerce. DOC would determine permissibility under six standards, requiring that the ETC's activities:

- preserve or promote export trade;
- not result in substantial lessening of competition or restraint of trade within the United States, or in a substantial restraint of the export trade of any domestic competitor;
- not unreasonably enhance, stabilize, or depress the domestic prices of similar goods;
- not constitute unfair methods of competition;
- not include any act which results in the domestic resale of the exported goods and services;
- not include the licensing of patents, technology, trademarks, or know-how, except as is incidental to the sale of exported goods or services.[7]

Commerce would have 90 days to make a decision. If it decides that the standards have been met, it issues a certificate. Any activities then carried out in conformity with the certificate are absolutely immune from antitrust liability.

Enforcement agencies would retain one means of evaluating the activities of an association. If Commerce, Justice, or the Federal Trade Commission believes that certified activities no longer meet Title II standards, a certificate may be declared invalid. This would be accomplished by either an administrative proceeding before Commerce or a court suit brought by Justice or the FTC.

But even if invalidation were to occur, the loss of immunity would be prospective only; there is no liability for activities carried out pursuant to a certificate while it is in effect.

Private parties, in contrast to government agencies, may not challenge activities carried out pursuant to a certificate. Instead, they may challenge only an *ultra vires* activity—one outside the scope of the certificate.

In essence, under Title II a certified export trading association or company acting within the scope of its certificate would know that its activities are exempt from all American antitrust laws. This certainty would be lost only if the government invalidated the certificate. And even then the loss of antitrust immunity is prospective—for future conduct only.

The Immediate Outlook

The ETC Act is not a panacea for this country's trading problems. It does, however, represent a giant step toward revitalizing the United States' export business. Those of us who have worked on the ETC legislation for several years know it will not immediately transfigure US trade. Its enactment will be followed by a testing period, during which some firms will wait to see how the rest of the business community reacts. Overall, the consensus among banking and trading executives toward the legislation has been very positive, making it a pretty safe bet that some of the more innovative ones will experiment with the new trading structures that the ETC Act will make possible.

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Notes

[1]The export trading company concept originally was embodied in two separate pieces of legislation introduced in the 96th Congress: S.804, introduced by Sen. John C. Danforth; and S.1663, introduced by Sen. Adlai Stevenson. Hearings on these and other bills were held before the International Finance Subcommittee of the Senate Banking Committee on September 17 and 18, 1979; and March 17, 18, and April 3, 1980. On May 12, 1980 the Senate Banking Committee marked up a committee print of a single bill incorporating the concepts embodied in the Danforth and Stevenson bills. That single bill, S.2718, passed the Senate by a vote of 77 to 0 on September 3, 1980. However, the congressional term ended before a House vote could be held. In the 97th Congress similar legislation, S.144, was introduced by Sen. Danforth and Sen. John Heinz. Hearings were held on February 17 and 18 and March 5, 1981. The Senate Banking Committee reported out a clean bill on March 12. That bill—S.734, the Export Trading Company Act of 1981—passed the Senate by a vote of 93 to 0 on April 8, 1981.

During the Senate's consideration of export trading company legislation in the 96th and now the 97th Congress, the House of Representatives also considered export trading company bills. The House has before it several bills that would encourage the formation of export trading companies. Some of these bills are similar or identical to S.734.

[2]Three basic prohibitions implement the general policy of separating banking from commerce within the U.S. They are: (1) paragraph 6(c) of the Edge Act, 12 U.S.C. §615(c), which prohibits an Edge Act Corporation from investing in any corporation "engaged in the general business of buying or selling goods, wares, merchandise, or commodities in the United States. . ."; (2) section 16 of the Glass-Steagall Act, 12 U.S.C. §24, paragraph 7, which generally prohibits a national or state member bank from acquiring for its own account "any shares of stock of any corporation"; and, (3) section 4(a) of the Bank Holding Company Act of 1956, 12 U.S.C. §1843(a), which, with certain exceptions, prohibits a holding company from engaging in nonbanking activities or from owning or controlling shares of any company that is not a bank.

[3]The most important of the federal laws are the Sherman Act, 15 U.S.C. §§1–7; the Clayton Act, 15 U.S.C. §§12–27; and the Federal Trade Commission Act, 15 U.S.C. §§41–58.

[4]*See Mannington Mills, Inc. v. Congoleum Corp.*, 595 F.2d 1287, 1292 (3d Cir. 1979) (stating that "practices of an American citizen abroad having a substantial effect on American foreign commerce are subject to the Sherman Act"); *Todhunter-Mitchell & Co. v. Anheuser-Busch, Inc.*, 383 F. Supp. 586, 588 (E.D. Pa. 1974) *modifying* 375 F. Supp. 610 (E.D. Pa. 1974) finding an antitrust violation where a territorial restraint "directly affected the flow of foreign commerce"). *See also Restatement (Second) of Foreign Relations Law of the United States* §40 (1965).

[5]*See Dominicus American Bohio v. Gulf & Western Industries, Inc.*, 473 F.Supp. 680, 687 (S.D.N.Y. 1979).

[6]*United States v. United States Alkali Export Association*, 86 F.Supp. 59 (S.D.N.Y. 1949).

[7]S. 734, 97th Congress, 1st Session, §204, adding new 15 U.S.C. §62(a).

Railway Development: Moving on a Faster Track

Wang Peixian
China Features correspondent

A railway network embracing a total length of more than 51,000 kilometers of track now reaches all of China's provinces, municipalities, and autonomous regions, except for Tibet. And even there, a rail line is under construction.

Since factories and sources of raw materials are located throughout China's 9.6 million square kilometers of territory, long-distance transportation is a necessity. Moreover, the importance of railways is heightened by the limited development of China's shipping and highway transport. Railways today carry more than 61 percent of all public transport passengers and more than 72 percent of all cargo (*see* chart).

China has added an average of 1,000 kilometers of track annually since the founding of the PRC in 1949, and the volume of freight has increased by a factor of 10. However, there is only half a kilometer of track for every 100 square kilometers of territory, and railways are still regarded as a weak link in the expanding national economy. Some trunk lines are overburdened, particularly near the coastal ports where the growing pressure of foreign trade is felt most keenly. China is now giving priority to the renovation and maintenance of the lines that carry the heaviest traffic, the double-tracking or electrification of some of these lines, and the construction of some new lines, according to vice-minister of railways Liao Shiquan.

Railway Construction

Since 1949, China has added more than 100 new lines to the railway network, with total length exceeding 30,000 kilometers, in addition to double-tracking a number of lines and building many industrial sidings and railways in lumbering regions. The additional length is more than double that built in the 73 years between 1876 and Liberation, when China built its first 15-kilometer railway from Shanghai to Wusongkou. More than 8,000 kilometers of railway have been double-tracked throughout the country since 1949.

Formerly, most railways were concentrated in the coastal areas east of the Beijing–Guangzhou railway, and in north and northeast China. Railway lines in southwest and northwest Chi-

The Qianjin ("Forge Ahead") model steam locomotive came from the only plant in the world still making commercial steam locomotives—the Datong Rolling Stock Plant in Shanxi Province.

na, which now account for three-fifths of the country's territory, were of negligible length.

Plans were worked out in the early 1950s to remedy this imbalance. Over the past 32 years, China has spent more than 30 billion yuan ($18 billion) on the construction of 30 new lines with about 100 feeder lines, 70 percent of which are located in the vast western region of China.

Occupying a total area of 1.1 million square kilometers and inhabited mainly by national minorities, southwest China had only a little more than 800 kilometers of narrow gauge railway before 1949. Eight lines have now been completed there to form the basis of a regionwide network (*see* chart).

Electrified routes in China today exceed 1,600 kilometers in length. They include the lines of more than 1,000 kilometers from Baoji in Shaanxi Province to Chengdu in Sichuan Province, and in Shaanxi Province from Yangpingguan to Ankang. In addition, three railway sections have been electrified: between Shijiazhuang in Hebei Province and Yangquan in Shanxi Province on the Shijiazhuang–Taiyuan railway, between Baoji and Tianshui in Guansu Province on the Baoji–Lanzhou railway, and between Xiangfan in Hubei Province and Ankang in Shaanxi Province on the Xiang–Yu railway.

The major railways in the country are the:

Beijing–Guangzhou line: China's major north–south transportation artery links Beijing with Guangzhou. Length: 2,313 kilometers.

Beijing–Shanghai line: Starting from Beijing, the line moves through the northern port city of Tianjin to Shanghai, China's biggest industrial and commercial city. Length: 1,462 kilometers.

Beijing–Baotou line: This links the Chinese capital with Baotou, a steel center in Inner Mongolia. Length: 833 kilometers.

Beijing–Harbin line: Beijing is connected to Harbin, the capital of Heilongjiang Province in northeast China and a city known for its machine-building industry. Length: 1,388 kilometers.

Beijing–Chengdu line: This line connects Beijing with Chengdu, the capital of China's most populous province of Sichuan in southwest China and a center of measuring- and cutting-tools industry. Length: 2,048 kilometers.

Longhai line: China's major east–west artery stretches from Lianyungang, a seaport in Jiangsu Province, to Lanzhou. Length: 1,759 kilometers.

A new diesel for passenger trains rolls off the line at Beijing's February Seventh Rolling Stock Plant.

Xiang–Gui line: This runs from Hengyang in Hunan Province to Pingxiang in the Guangxi Zhuang Autonomous Region in south China. Length: 1,013 kilometers.

Locomotives and Equipment

China's 200,000-worker railway-equipment industry is well developed and includes 33 large plants producing locomotives, rolling stocks, and parts and accessories. In 1980, it produced 512 locomotives: 342 steam, 130 diesel, and 40 electric units. In addition, the industry manufactured 1,002 passenger cars and 10,571 freight wagons. It also performed all necessary repairs throughout the country.

In modernizing railway transportation, China has adopted the policy of developing both diesel and electric-traction units, with emphasis on the latter. But for at least the next decade, steam will remain the principal source of locomotive power.

The Sifang Rolling Stock Plant in Qingdao produced this Dongfanghong ("The East is Red") diesel locomotive.

Steam locomotives presently account for more than 70 percent of the country's total operating engines. Efforts will be made to improve and prolong their working life, although some of the aged American and Japanese veterans still pulling loads across the country will have to be retired.

China has made diesel engines since the late 1950s. Several models are running on the trunk lines. For instance the Dongfeng-4 locomotive, which is suitable for freight transportation, is one of the largest diesel locomotives in China. It has a 16-cylinder engine with a rated speed of 1,100 revolutions per minute, and a traction alternator. Several types of diesel locomotive have been imported from Romania, France, and West Germany.

With the exception of a few locomotives imported from France, most electric-traction power units in operation are designed and manufactured by the Zhuzhou Electric Locomotive Works in China. The class SS-1 electric locomotive with silicon rectifiers is one of the most widely used types. Its tractive effort is 33.7 tons per hour, the starting tractive force is 54 tons, and the velocity is 46.6 km. per hour, with a maximum speed of 95 km. per hour. In 1979, a new class of SS-3 electric locomotives using a thyristor to regulate voltage level in eight stages was successfully trial-produced. Its hourly rating is 4,800 kw (6,530 hp), hourly tractive effort is 34.4 tons, and speed is 49.9 km. per hour. After standardization, the class SS-3 electric locomotive will begin to replace the class SS-1 electric locomotive and become the principal type of electric engine on Chinese trunk lines.

China has designed many different kinds of cars which can meet railway transportation needs. The freight cars now being produced have four axles and a capacity of more than 60 tons each. These include gondola cars, box cars, and flat cars.

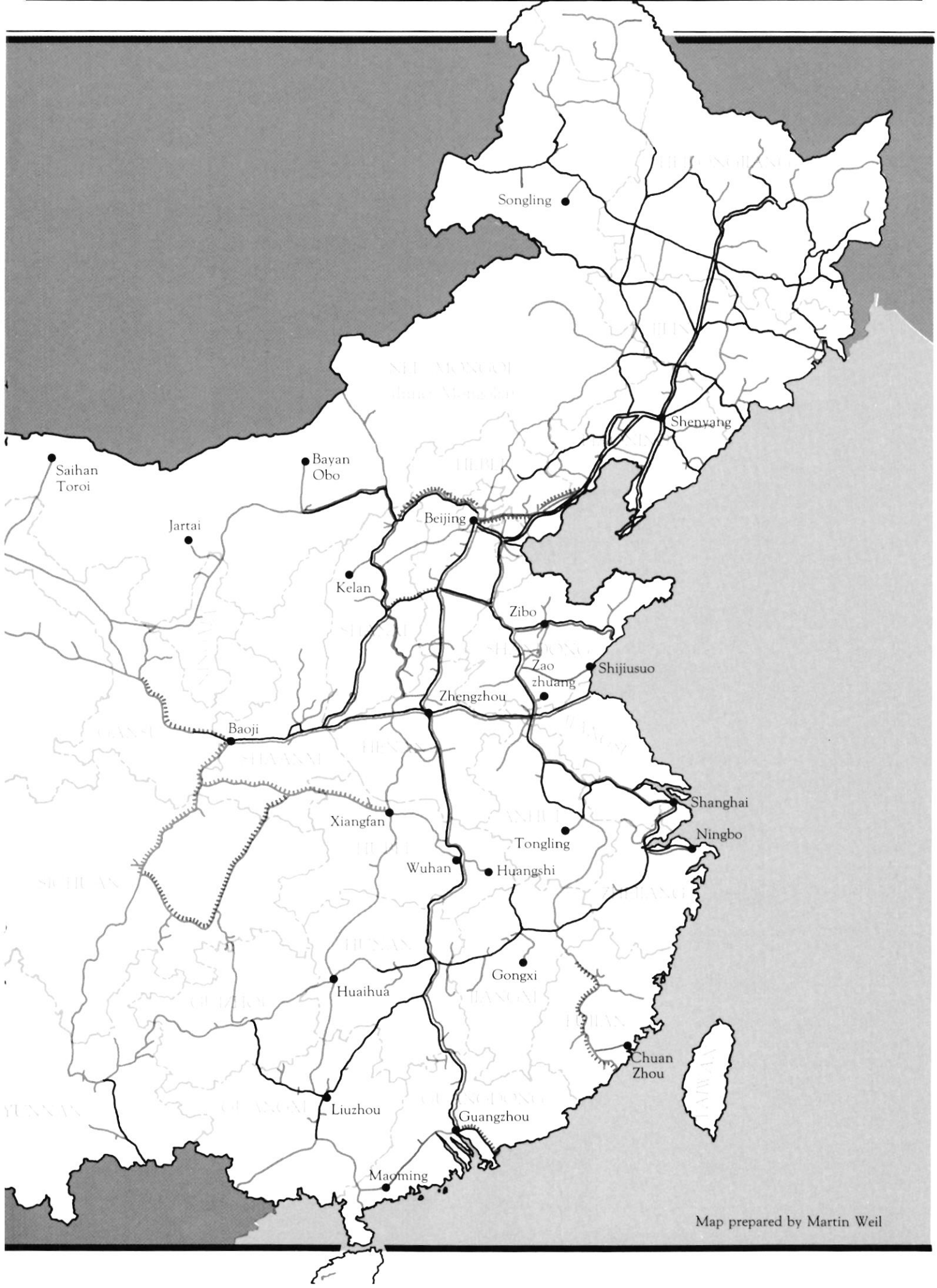
With regard to signaling systems, China chiefly uses automatic and semi-automatic blocking equipment, with the former accounting for nine percent and the latter, 75 percent, of the total equipment in use. Mechanical humps have been installed in big shunting yards, and electric centralized-control devices have been used at about one-fourth of the railway stations in the country.

China's Expanding Railway Network

Legend

- Line constructed prior to 1949
- Line constructed since 1949
- Line planned or under construction
- Double track
- Electrified lines, planned or built

SOURCES: Chinese Media Reports, Various Dates; Central Intelligence Agency Map, August, 1979; and Authors Notes.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Baoji
Shanghai
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Ningbo
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Huaihua
Chuan
Zhou
Liuzhou
Guangzhou
Maoming
Map prepared by Martin Weil

Foreign Trade in Railway Equipment

To accelerate the development of railway transportation, China since 1973 has imported machine tools, railway prospecting and construction equipment, scientific research equipment, and computers for railway management. These imports have come mostly from Japan, West Germany, the United States, Italy, Sweden, and Switzerland.

The chief imported machinery is:

▶ oil pumps, oil nozzles, superchargers, speed governors, crankshafts, and gears used for producing diesel locomotives; and processing equipment, instruments, and meters for making diesel engines;

▶ forging, cold processing, and heat-treatment equipment for the manufacturing of roller bearings of wagons and coaches;

▶ jumbo and auxiliary equipment, rock loaders, drillers, automatic plotting instruments, theodolites, dumpers, excavators, and butt welders for welding heavy rails;

▶ small-size computers for processing data and making forms; and

▶ 10 12-cubic-meter scrapers from the United States, some of which have gone into operation.

China has also bought mechanical refrigerator cars, oil tanks, passenger coaches, communication instruments and meters, electric instruments and meters, and testing and surveying instruments from East European countries.

China and Germany recently have signed an agreement on railway cooperation. According to the contract, the two sides will give specialized support in modernization, exchange railway information and specialists, and promote cooperative research on projects of mutual interest.

Workers assemble an electric locomotive at the Zhuzhou Rolling Stock Plant in Hunan Province.

Another agreement has been signed between China and Japan under which a new line is to be constructed from Yanzhou to Shijiusuo, in eastern China, from the Overseas Economic Cooperation Fund. When completed, the 300-kilometer railway will be a major transportation line for exporting coal from the port city of Shijiusuo in Shandong Province.

A few Chinese railway products are even appearing on the world market. In the 1970s, China exported diesel locomotives, and freight and passenger cars to several countries. In the first four months of 1981, it signed six contracts with foreign firms for approximately $2.2 million in exports of railway equipment such as bogie frames and axles. Last year, China exported $1.5 million worth of locomotives, cars, and equipment to the US, India, Japan, and France.

Industrial enterprises under the Ministry of Railways are holding negotiations with 26 companies from 16 countries and regions, including the US, Japan, Yugoslavia, France, West Germany, India, and Hong Kong. China wishes to export diesel and steam locomotives, passenger cars, and various freight wagons, as well as wheel axles, wheel-axle sets, and other railway equipment.

Development Plans

The greatest emphasis in the future will be on upgrading major lines to increase their carrying capacity and on building new lines, especially around important fuel bases.

Plans have been drawn up to double-track 10 railway lines, electrify five lines, and construct some new junctions in the next few years.

The main purpose of transforming old lines is to enable them to transport more coal out of Shanxi (which contains one-third of China's coal reserves), Henan, and Shaanxi, and to carry more goods and passengers to the sea ports.

Work has begun on upgrading the Hengyang–Guangzhou railway, the southern part of one of China's most important transportation arteries that links Beijing with Guangzhou. The existing single track was built 40 years ago, and has been running at capacity for years with outdated equipment and predictable delays. The northern part of the section, from Beijing to the industrial city of Hengyang in Hunan Province, already has been double-tracked.

The other main lines being double-tracked are the 180-kilometer Shi–De line from Shijiazhuang in Hebei Province to Dezhou in Shandong Province; the 391-kilometer Jiao–Ji line from Jinan, the capital of Shandong Province, to Quingdao, a port city in the same province; and the 129-kilometer Shang–Xu line from Shangqiu in Henan Province to Xuzhou in Jiangsu Province.

Other new lines under construction are the:

Lhasa–Xining line. China is now undertaking a railway line into Tibet, where the world's highest tableland averages more than 4,000 meters above sea level. Track-laying on the northern section from Xining to Golmu in Qing-

Railway Passenger and Freight Traffic

Rail services have not kept pace with demand, requiring more intensive use of existing facilities.

	1978	1979	1980	Jan.-June 1981
Passenger traffic volume				
Million persons	807	856	912	470*
Million passenger-km	109,100	121,400	138,100	—
Freight traffic volume				
Million metric tons	1,070	1,090	1,080	509**
Million metric ton-km	533,300	558,800	570,700	—

*54.5 percent 1981 annual plan.
**52.0 percent 1981 annual plan.
SOURCE: Ministry of Railways, Beijing.

hai Province has been completed. Now work is continuing on what is likely to be the most difficult section: south into Tibet.

Wan–Gan line. Stretching 540 kilometers from Huolonggang in Anhui Province to Guixi, a copper refining center in Jiangxi Province, the whole line will be open to traffic this year. The famous tourist attraction, the Huangshan Mountain in Anhui Province, is on the line. Tourists can now go from Huolonggang to Huangshan by train in two hours less time than it takes by bus.

Han–Chang line. Linking the city of Handan in Hebei Province to the coal-mining city of Changzhi in Shanxi Province, the 200-kilometer line should be completed in two or three years. So far, track-laying has been accomplished on a 100-kilometer section. The line will help transport coal from Shanxi to other parts of the country.

Among the railways to be electrified are the lines from Shijiazhuang, the capital of Hebei Province, to Taiyuan, the capital of Shanxi Province; from Lanzhou, the capital of Gansu Province, to Baoji, a city in Shaanxi Province; from Chengdu to Chongqing, two major cities in Sichuan Province; and the section between Fengtai, an industrial center in Beijing, and Datong, a major coal-producing city in Shanxi Province, on the Beijing–Baotou line.

When electrification projects on the lines are finished, China will have a total of 3,300 kilometers of electrified lines, forming an electrified railway network in the southwest and northwest regions.

In the long run, China plans to build more electrified lines—not only in the mountainous areas where gradients are steep and tunnels abound, but also on the plains where heavy railway transportation is essential.

Li Wenyi, deputy director of the Railway Construction Bureau under the Ministry of Railways, has noted several reasons for the high priority now accorded the policy of railway electrification. Electric traction can greatly save energy and money, has greater carrying capacity, and permits higher speeds, he says. In addition, electric engines do not pollute the air like the coal-fueled steam locomotive, nor do they require as many workers to operate.

Railway Ministry Organization

The Ministry of Railways is the governmental organ in charge of the country's railway construction, transportation, and rolling stock industries. Minister of railways Liu Jianzhang maintains his headquarters at No. 10 Fuxing Road, Beijing.

The ministry has a number of rolling stock manufacturing and repairing facilities directly under its control. These produce communication instruments, signaling devices, bridges, sleepers, and other railway devices and materials.

Also under the ministry are five railway surveying and designing institutes, five comprehensive railway-construction bureaus, four specialized railway-construction bureaus, three specialized research departments, and one scientific research institute. More than 500,000 workers and staff members are employed in these units, institutions, and plants.

The China Railway Foreign Service Corporation, set up last year under the ministry, is in charge of trade with foreign countries—including arrangements for cooperative production, compensation trade, and processing. The latter arrangements usually call for the production in China of parts or equipment designed by foreign companies. The Foreign Service Corporation also places commercial advertisements for foreign customers, organizes tourist activities, arranges mobile-commodity exhibitions, holds technical discussions with foreign engineers, and translates railway data into English, French, German, Japanese, and Russian. The corporation is located at the Ministry of Railways' address in Beijing. Cable: CRAFOSCO BEIJING; telephone: 8642845.

The Railway Ministry's China Civil Engineering Construction Corporation, also at No. 10 Fuxing Road, surveys, designs, and builds railways abroad for overseas customers. It can provide technical services and labor as well. Cable: CHICICON BEIJING; telephone: 8642714, 8643034. 完

Major Railway Lines Completed in Northwest and Southwest China

Name of line	Points connected	Length (kilometers)	Date open to traffic
Northwest China			
Tian–Lan	Tianshui–Lanzhou, Gansu	350	1952
Bao–Lan	Baotou, Nei Mongol–Lanzhou, Gansu	990	1958
Lan–Qing	Lanzhou, Gansu–Xining, Qinghai	180	1960
Lan–Xin	Lanzhou, Gansu–Urumqi, Xinjiang	1,890	1962
Yang–An	Yangpingguan–Ankang, Shaanxi	350	1972
Nanjiang	Turpan–Korla, Xinjiang	470	1981
Southwest China			
Cheng–Yu	Chengdu–Chongqing, Sichuan	505	1952
Bao–Cheng	Baoji, Shaanxi–Chengdu, Sichuan	660	1956
Qian–Gui	Guiyang, Guizhou–Linzhou, Guangxi Zhuang Autonomous Region	600	1958
Chuan–Qian	Chongqing, Sichuan–Guiyang, Guizhou	300	1965
Gui–Kun	Guiyang, Guizhou–Kunming, Yunnan	460	1966
Cheng–Kun	Chengdu, Sichuan–Kunming, Yunnan	1,080	1970
Xiang–Yu	Xiangfan, Hubei–Chongqing, Sichuan	850	1978

SOURCE: Ministry of Railways, Beijing, October 1981.

Touring Huiyang Prefecture

Jean Hoffman

The agricultural bounty of Huiyang, and its special role as the main food source of Hong Kong, has made this scenic prefecture one of the most prosperous in China.

Huiyang is located in southern Guangdong Province just north of the Shenzhen Special Economic Zone, which belonged to Huiyang until Shenzhen Municipality gained prefecture-level status in 1979. With direct river and rail access to the Hong Kong market, it is not surprising that Huiyang's prolific farms and vegetable gardens provide most of that city's $2 billion in annual food imports from Guangdong Province. In fact, this single prefecture earns more foreign exchange each year than most provinces—more than 5 percent of China's total hard currency exports. And it is the only prefecture to have sent its own trade delegation to the United States.

Huiyang enjoys considerable de facto autonomy in trade. Some Huiyang Foreign Trade Bureau officials travel frequently to and from Hong Kong, even spending a few months at a stretch working there on behalf of the prefecture's export interests. Such easy access to Hong Kong commenced one or two years ago.

Hong Kong's influence on Huiyang is evident in the forest of television antennas in Dongguan County (which adjoins Shenzhen), in the ample supplies of British 555 State Express brand cigarettes enjoyed by local officials, and in the ready availability of Johnny Walker Red scotch and Pabst Blue Ribbon beer.

Even Coca-Cola gets in, though by circuitous means. When a Hapag-Lloyd 18-wheel container truck was spotted during the author's visit in April 1981, local cadres explained that it contained Coke shipped in from Hong Kong. But when Coke executives in Hong Kong learned about their latest penetration of rural China, they had to confess that the Coca-Cola Company did not ship the drink into Huiyang. Someone else did—behind the company's back.

Agricultural products compose the bulk of Huiyang's direct sales to Hong Kong. Included are rice, poultry, fresh vegetables, and hogs. These are all handled directly by the Huiyang Foreign Trade Bureau.

Not only is Huiyang one of the 24 export commodity bases designated by the State Council, but it, Foshan, and Zhanjiang (also in Guangdong) are the only three such bases empowered to conduct trade directly. The bases are guided by the China Export Base Development Corporation, set up on February 1, 1981, to strengthen the operations of the Export Commodity Production Base Bureau, also under the Ministry of Foreign Trade.

Photos by Jean Hoffman

Huiyang officials stand with the author by Huizhou's West Lake. From left to right are: Chen Taobang, director of the Huiyang Foreign Trade Bureau's business department; Sun Yingwu, director of the Foreign Trade Bureau; Jean Hoffman; Zhao Debin, commissioner of Huiyang Prefecture; and Shi Chunhuei, head of Huidong County.

In support of the prefecture's growing exports, Huiyang leaders boast of a power surplus, despite Guangdong Province's overall power shortfall. A new hydropower plant reportedly is scheduled to open in Huidong County in about two years.

Its physical proximity to Hong Kong makes Huiyang an attractive site for Hong Kong investors. Their funds have gone into such endeavors as overseas Chinese state farms (administered by the Overseas State Farm Bureau) and the Tangquan (Hot Springs) Hotel being rebuilt with HK$380,000 of assistance from Wah Sun Travel Service of Hong Kong.

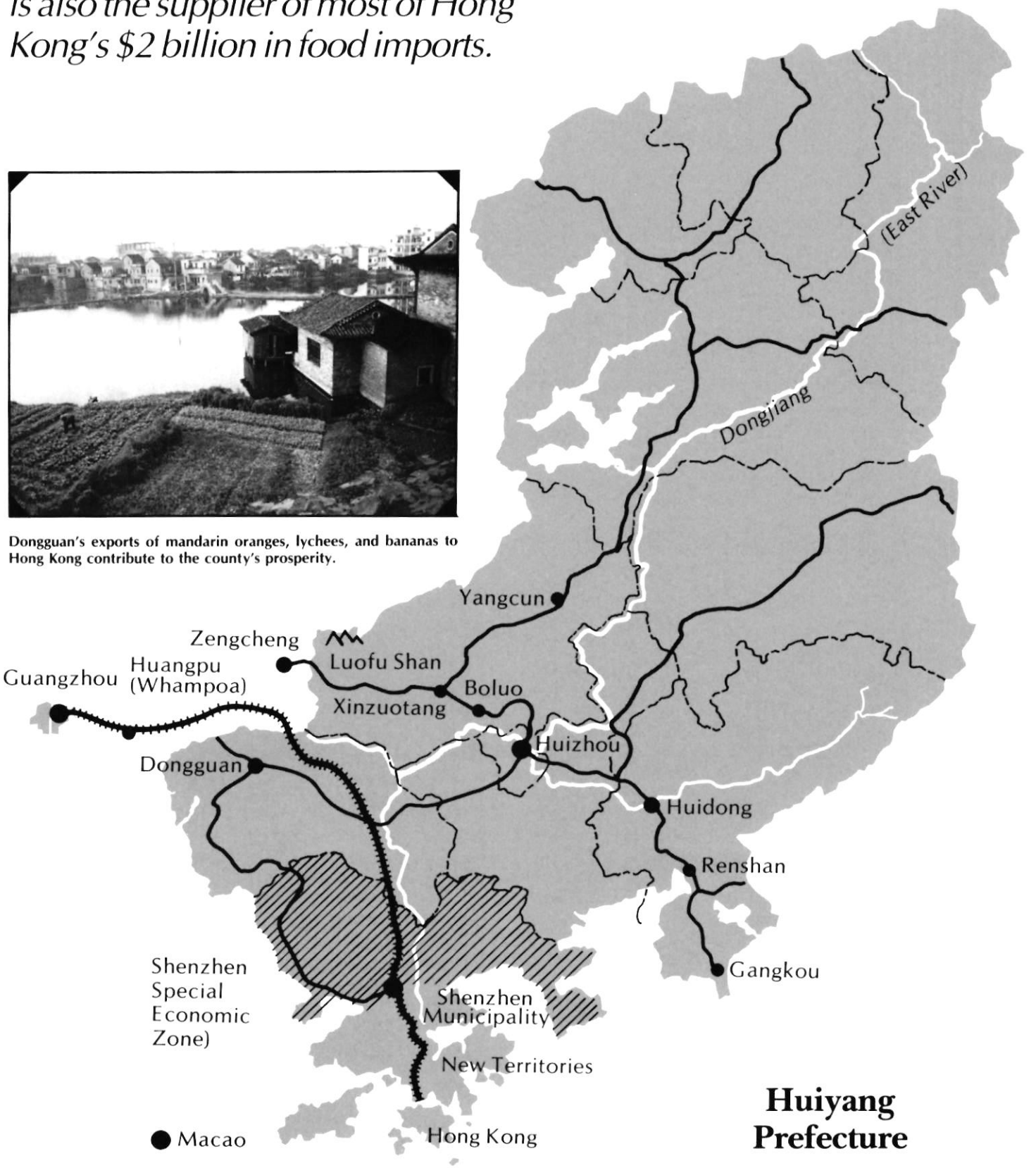
Under the guidelines of prefectural commissioner Zhao Debin, the Huiyang Foreign Trade Bureau is directed by Sun Yingwu out of the walled, yamen-like government compound in the prefectural capital of Huizhou. The bulk of business handled from this serene city of 250,000 people on the Dongjiang (East River) is transacted directly with Hong Kong. Bureau officials said that exports that can be transported directly to the buyer may be handled by their bureau—without going through the Guangdong provincial foreign trade apparatus or the network of Beijing-controlled foreign trade corporations under the Ministry of Foreign Trade.

The foreign exchange earned by the Huiyang Foreign Trade Bureau, and by Huiyang's county foreign trade departments, is used to import products from abroad, such as Japanese cars and trucks, pre-mixed animal feeds, agricultural chemicals and fertilizers, and consumer goods.

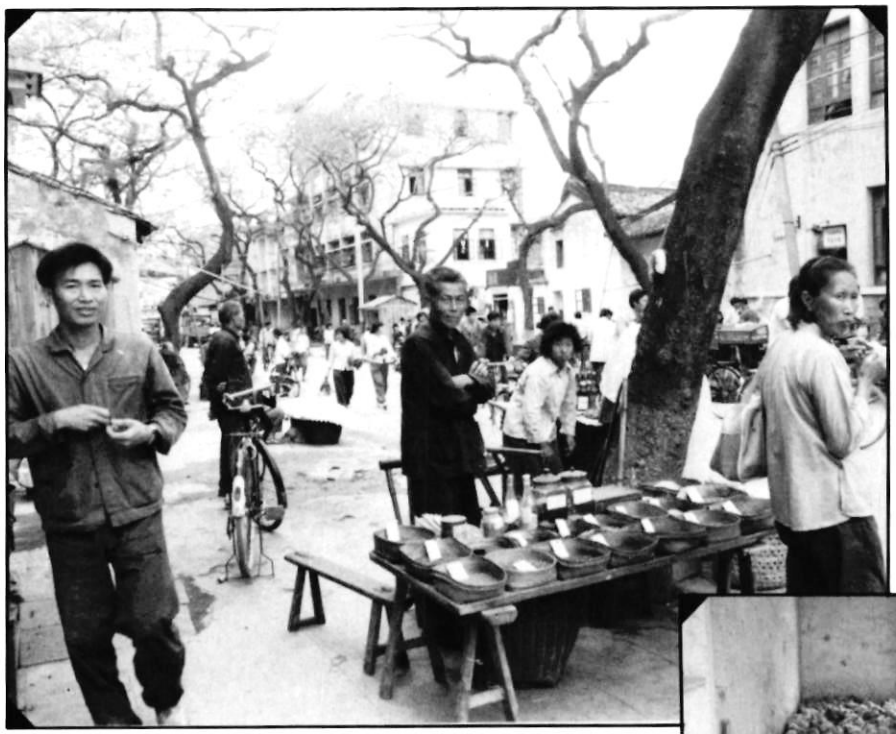
Prefectural and county officials, while sophisticated in their knowledge of agricultural production and Hong Kong market requirements for foodstuffs, are relatively new to the complex demands of other international markets. For instance, Dongguan leaders seldom know the price their goods sell

The home of Dongguan firecrackers is also the supplier of most of Hong Kong's $2 billion in food imports.

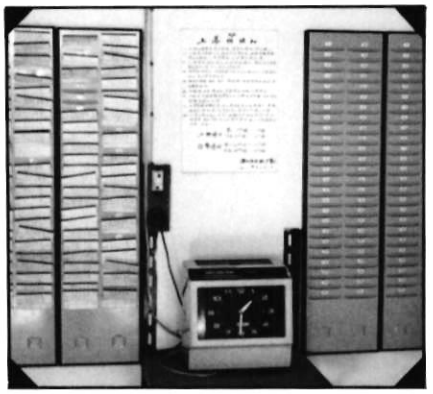
Dongguan's exports of mandarin oranges, lychees, and bananas to Hong Kong contribute to the county's prosperity.



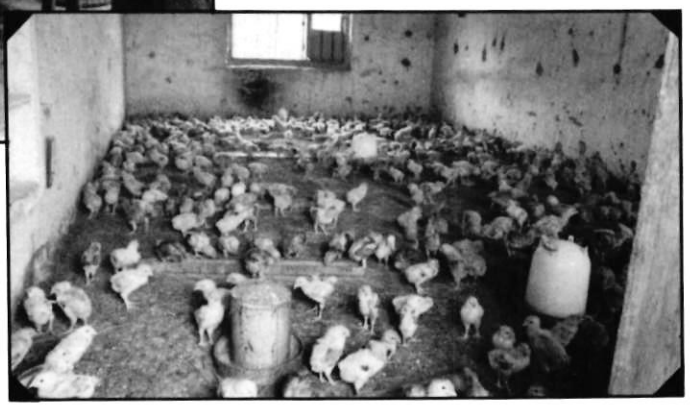
Huiyang Prefecture



Above: **A vendor sells herbs and tea in downtown Huizhou. Free markets have proliferated as in the rest of China.**



Workers at the Shenzhen Wool Textile Factory punch in on one of China's first time clocks, installed September 8, 1980. The posted hours are from 7 to 11 AM, and from 1 to 5 PM.



Right: **Three Yellow brand chicks destined for the Hong Kong market are fattened up at the Ma An Domestic Animal Institute's experimental farm.**

for abroad, or which items sell well and which move slowly. In 1980, Dongguan sold ¥165 million worth of goods to central-government trading corporations, and purchased ¥30 million worth of goods through the same corporations. Foreign sources estimate that prior to the imposition of a two-tiered exchange rate on January 1, 1981, these trading corporations probably sustained a loss approaching 50 percent on the sale abroad of Dongguan County products (excluding direct sales to Hong Kong).

To make Huiyang's trade personnel more familiar with foreign market requirements, a Huiyang Export Production Base delegation was sent to the US in June 1980. Evidence of the trip's value is clear: An experimental, scientifically managed chicken farm was constructed, incorporating ideas from Hubbard Farms in New Hampshire and Cal-Maine in Mississippi; two new aquaculture farms were inspired by the Farm Fish catfish operations in Mississippi; improvements were made in fireworks manufactured for export; and the Chinese gained greater appreciation for modern agricultural methods, including the use of agricultural chemicals and prepared animal feedstuffs.

Increased export opportunities for US firms have followed in the wake of this delegation's visit. For instance, Huiyang's Three Yellow purebred chickens at the Ma An breeding station (encompassing six farms), consume feedstuffs imported from Hong Kong that are formulated by Stockton Feed & Grain in California and purchased through Tai Sang Food Co., Ltd. of Hong Kong. Huiyang sold one million chickens to Hong Kong in 1980, and planned to sell one and a half million in 1981, indicating an increasing need for imported feeds.

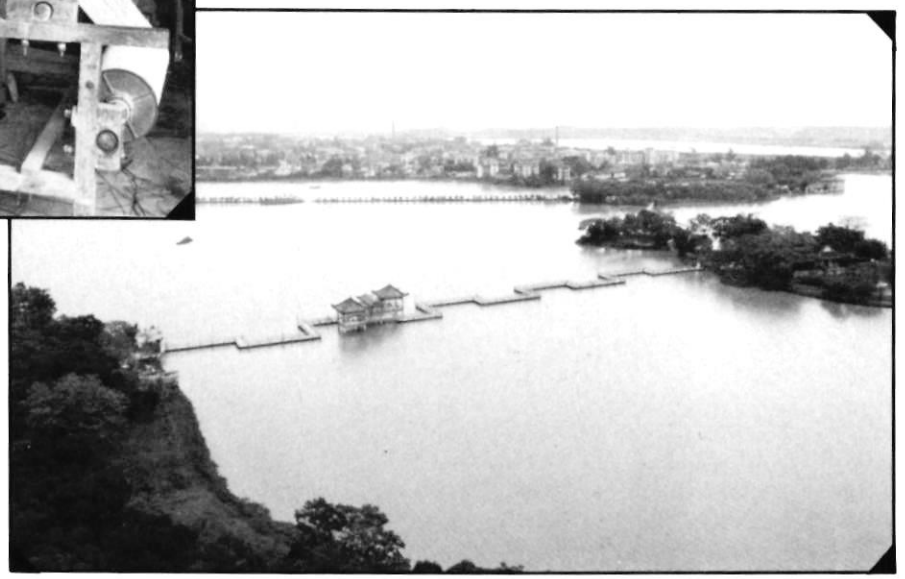
But Huiyang's first priority is to boost exports. And leading Huiyang's export campaign is one of China's most celebrated products—firecrackers. With more than 10 factories producing fireworks, Dongguan County earned a major share of the $18 million in fireworks sales to the US in the first nine months of 1981.

Dongguan's fireworks industry is about a hundred years old. One large factory visited by the author employs 1,500 workers at peak production. The factory is a conglomerate of workshops filled with Chinese workers meticulously assembling and packaging fireworks by hand or with the aid of simple machinery.

Class B fireworks, used for public, institutional displays, are the size of footballs. The explosive insides of these fireworks are nested into cardboard skins molded with glue on a hand-operated press that resembles a giant orange juice squeezer. The insertion of explosives into the globes takes place in rooms with open doors and windows on two sides. With exits on two sides of the room, the factory managers explained, the two fireworks assemblers in each 10-by-10-foot room could escape from whichever side was safer in the event of an explosion.

When Huiyang's foreign trade delegation returned from their National Council-sponsored trip to the US in 1980, steps were taken to solve the three key problems raised during their visit by members of the American Pyrotechnics Association. Dongguan

When asked about machinery from overseas seen in the factories, one Huiyang official responded, "Much textile machinery comes from Taiwan—it is good machinery."



Above: **Workers weave mats of brightly colored PVC and natural bamboo in a Dongguan County factory. A foreign partner providing designs and hardware could utilize the factory's superb workmanship to produce window shades, for which there is strong demand abroad.**

Right: **Huiyang's prefectural capital of Huizhou is surrounded by the scenic West Lake. In the distance lies the Dongjiang (East River), the main commercial artery in eastern Guangdong Province.**

County leader Zheng Jintao reported that complaints about insect infestations, size of the fireworks, and the problem of slippery plastic bases and nose cones that fell off the fireworks had been attended to or were in the process of being solved. (Dongguan fireworks are now fumigated with sulphur to kill insects, for instance.) The fireworks are exported through the Guangdong branch of the China National Native Produce and Animal Byproducts Import and Export Corporation (CHINATUHSU).

Many of Dongguan County's manufactures are being exported via Hong Kong companies. The county's textile factories, which were said by Guangdong officials to be capable of turning out five million dozen wool sweaters a year, were being upgraded through compensation trade agreements with Hong Kong firms. When asked about machinery from overseas seen in the factories, one Huiyang official responded, "Much textile machinery comes from Taiwan—it is good machinery."

The US imposition of quotas on wool sweaters has forced many compensation trade factories to operate at greatly reduced capacity. And some factories were said to be having trouble paying Hong Kong investors for the new machinery.

Other light industrial export factories, such as one assembling Equity, Westclock, and Seth Thomas brand clocks for sale to Southeast Asia, are thriving. The clock factory assembles more than one million clocks a year under the daily supervision of Hong Kong managers utilizing machinery loaned by the Hong Kong firm Dong Fang Zhong Chang, which is a joint venture with an American firm. The clock assembly plant employs modern quality-control standards introduced by the Hong Kong company, which require workers to change shoes and don clean white coats before entering the freshly painted work area. The finished clocks are test-operated for three days before being shipped in packages provided by the Hong Kong partner.

With a strong agricultural base and evolving light industrial and handicraft industries for export, Huiyang typifies the direction many of China's coastal provinces would like to move in. Given its serious efforts to adapt production to the needs of foreign markets, the future of Huiyang's export drive looks promising. ☆

Jean Hoffman is assistant director of the Importer Services Department of the National Council. In April 1981 she spent four days investigating export production factories and agricultural bases in Huiyang at the invitation of the commissioner of Huiyang Prefecture, Zhao Debin.

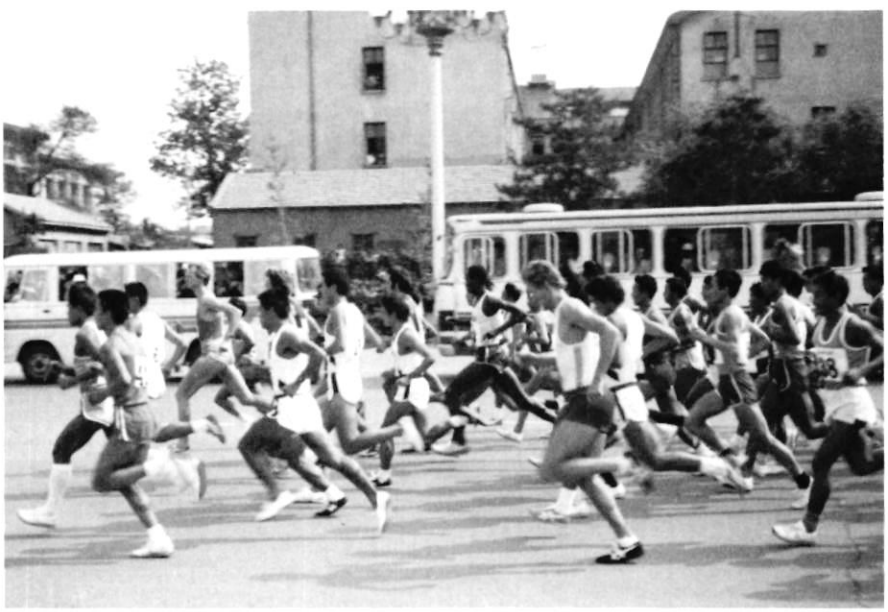
Companies interested in discussing business in Huiyang should contact:

Huiyang Foreign Trade Bureau
Director: Sun Yingwu
Deputy director: Liu Zhian
Address: No. 1 Hou Suo Jie; Huizhou City, Guangdong Province, PRC.
Phone: 901649
Cable: 1066

Nike's Running Start

The athletic shoe manufacturer expects China to supply a quarter of its world output by 1985.

Scott D. Seligman



NIKE sponsored two marathon runners in the first International Marathon, held last September in Tian'anmen Square.

A NIKE shoe assembly line operates at a Shanghai factory.

NIKE, Inc. doesn't seem to do anything halfway. But then the Beaverton, Oregon firm doesn't owe its recent explosive growth to a conservative approach toward the athletic shoe market, either. The company has increased its gross revenues exponentially over the last five years, from $28 million in 1977 to more than $457 million in 1981. Last year alone NIKE supplemented its primary manufacturing sources into Taiwan and Korea by expanding production in Thailand, the Philippines, Hong Kong, and Malaysia.

NIKE's recent agreement with the People's Republic of China for the production of athletic shoes is in many respects a match made in heaven. As labor costs have risen in other areas of Asia—particularly in South Korea and Taiwan—China has become increasingly attractive as a production base in what is (and has stubbornly remained) a labor-intensive industry. The Chinese are busily implementing a policy of economic readjustment which has as its centerpiece the conservation of foreign exchange and the rapid development of domestic light industrial production. NIKE fits well into this policy, since it has no plans at present to sell its goods in China.

Thinking Big Means Starting Small

NIKE's agreement is technically a compensation trade arrangement, since the company is giving machinery and technology in exchange for merchandise rather than cash. But classifying it as such only tells a small part of the story. The total price tag on the imported equipment amounts to only about $75,000, and the Chinese are expected to repay that amount within a few

months of production. NIKE has long-term plans to play midwife in a process designed to set China up as the producer of fully one-fourth of its total world output by the mid-1980s. Initially, each of the four factories that will produce NIKE shoes is expected to manufacture 10,000 pairs per month, with output rising monthly to a total of 1.5 million pairs for the first year of production. As many as 20 million pairs per year could be made by the middle of the decade.

Although the marriage might have been divinely inspired, the courtship was not without its fits and starts. Company president Philip H. Knight recalls sitting in his Hong Kong hotel room for two days in late 1979, trying unsuccessfully to get a visa to attend the Guangzhou Trade Fair before deciding to try a different approach. With the help of David P. C. Chang, then a private trade consultant and now vice-president of NIKE, Inc., the firm prepared a proposal for the China Light Industrial Products Import and Export Corporation (INDUSTRY) which was submitted for consideration in April 1980. Follow-up discussions were held in July of the same year, culminating in the signing of the first supply agreements between NIKE and the Shanghai and Tianjin branches of INDUSTRY in September. Sources in the Ministry of Light Industry have indicated that agreements with other foreign firms have never before come to fruition so quickly.

The supply agreements outlined the types of production assistance the firm was prepared to offer the Chinese, stipulated target production figures for the first year, and specified acceptable quality-control standards. As far as the Chinese are concerned, however, NIKE's periodic purchase orders for shoes constitute the operative contract.

The feasibility of the entire agreement rested on finding a mutually agreed upon price the Chinese would charge NIKE for each shoe produced. "There was no haggling—we just opened up the books," recalled Chang. "We just showed them exactly what our purchase prices were on somewhat similar models made in different countries," added Knight, with the obvious implication that the basis for agreement rested on China's ability to beat that price. There was no evidence that any sophisticated cost accounting went into the figure supplied by the Chinese, but it was comparable to the prices charged by other suppliers. "There is a nationalistic pride," Knight speculated, "reflected in not wanting to charge less than Taiwan."

Although plans call for 100 percent use of Chinese raw materials within one year, materials and machinery initially have had to be imported. Shoe soles are made entirely of Chinese rubber, but nylon has been brought in from Korea and Taiwan. The Chinese have not even objected to machinery arriving bearing the label "Made in Taiwan, Republic of China." The only problems so far have been caused by less-than-cooperative South Korean suppliers. The South Koreans apparently are threatened by the emergence of the PRC, which has shipped a substantial amount of materials, as a competitor in the shoe business.

There are no provisions in the agreement for any of the shoes produced to be marketed in China, and Knight asserted firmly that "there's nothing on the drawing board for selling in China at this time." Virtually 100 percent of the shoes produced are aimed at the US market, which is not surprising since 90 percent of the firm's sales are in North America. NIKE will bear sole responsibility for marketing and will purchase the total Chinese output. The Japanese trading firm of Nissho Iwai will open letters of credit and handle importing, as it does for NIKE elsewhere in Asia.

The China agreement marks NIKE's first venture in a centrally planned, communist country. "It's different," Knight asserted, "because any ministry or agency can throw a monkey wrench into the system. We just have to work with all of them." But he adds that negotiating with China today, while time-consuming in comparison to other countries, is not without precedents elsewhere. "It takes a lot longer in China than it does, say, in talking to a Taiwan shoe factory *now*, but no longer than in '74 when we began there. That's why I'm very confident it can succeed. In shoemaking, China's just not that far behind."

NIKE President Philip H. Knight shares a toast with He Zhihua, vice-minister of Light Industry.

Quality Control

There is good reason to expect that having NIKE experts on hand at the factories will help to ensure production according to schedule and specified quality standards. NIKE has opted to eschew third-party inspection and hence bypass the highly regarded China National Import and Export Commodities Inspection Corporation (CHINSPECT), preferring to take total control over the procedure itself. "We just don't think they'd be looking for the same things we are," Knight said.

NIKE has sent in a staff of six professionals who will be based in Tianjin, Shanghai, and Beijing. The "shoe dogs," as they are called in the trade, do not possess line authority in any of the factories, but are on hand to assist the Chinese wherever they can. "We don't pretend to manage," Knight said, "but are just there to assure quality control."

production or the costs of labor, overhead, and utilities. These factors are of ultimate concern to the firm, since the price of shoes, which is renegotiated periodically, ultimately ought to reflect these underlying costs. There is legitimate concern that the many problems endemic to Chinese management may slow down ambitious plans for production. "There are lots of hurdles," Knight acknowledged, "but I'm pretty confident that at least one of the factories will be right on schedule. There's a little less reason to be confident about all of the others, but I generally think it's doable."

Transportation poses a particularly thorny problem. It is no accident that the Chinese offered—and NIKE agreed to work with—four factories in Shanghai and Tianjin, since transportation problems, nearly insurmountable in the hinterlands, are more manageable in

country. In March 1981 the firm entered into an agreement with the China Sports Service Company to equip the Chinese national men's and women's basketball teams with NIKE shoes and apparel, and negotiations are under way to provide similar services to China's track and field teams. Three famous US basketball coaches were sent to Beijing and Shanghai this summer at NIKE expense to conduct a 10-day clinic, and plans are afoot for the firm to invite 10 Chinese coaches to visit the US to attend the NCAA tournament in New Orleans. Additionally, the company sent two marathon runners to participate in last September's first Beijing International Marathon at Tian'anmen Square (they placed seventh and sixteenth in a field of 65 runners).

Its public relations efforts may well boost future business opportunities.

Raw materials for NIKE shoes will be domestically sourced by the end of 1982.

NIKE Vice-President David P. C. Chang holds the first NIKE shoe made in China.

Finished goods will be classified according to grade, with A-grade shoes purchased at the set price, B-grade shoes purchased at a discount, and C-grade shoes destroyed.

The formidable problems surrounding quality control and timely production and delivery were primarily responsible for keeping shoe manufacturers away from China until now. High-fashion shoemakers still are holding back until China tightens up delivery schedules.

Without direct management, NIKE can do little to affect the efficiency of these port cities. Moreover, the local branches of INDUSTRY report not only to the Ministry of Foreign Trade in Beijing but also to municipal governments in both cities, which gives them greater access to local transportation officials. This gives their goods a better chance of receiving expeditious treatment.

Winning Friends and a Head Start

Apart from business negotiations with INDUSTRY, NIKE has been at work forging relationships with Chinese athletic organizations, seeking to gain wider recognition within the

NIKE already is scouting out future production elsewhere in China, and is pushing forward with plans to make athletic apparel here in addition to shoes. "We're growing very rapidly, and we continue to look for new sources," said Ron Nelson, NIKE's director of foreign production. "We consider China to be one of the most important sources for NIKE shoes in the long run." 龙

The Foreign Enterprise Income Tax Law

外国企业所得税法

中华人民共和国第五届全国人民代表大会第四次会议于1981年12月13日通过了《中华人民共和国外国企业所得税法》，现予公布，自1982年1月1日起施行。

The Income Tax Law of The People's Republic of China Concerning Foreign Enterprises was adopted at the fourth session of the Fifth National People's Congress on December 13, 1981, and became effective on January 1, 1982.

第一条

在中华人民共和国境内，外国企业的生产、经营所得和其它所得，都按照本法的规定缴纳所得税。

本法所称外国企业，除第十一条另有规定者外，是指在中华人民共和国境内设立机构，独立经营或者同中国企业合作生产、合作经营的外国公司、企业和其它经济组织。

Article 1

Income tax shall be levied in accordance with this law on the income derived from production, business, and other sources, by any foreign enterprise operating in the People's Republic of China.

"Foreign enterprises" mentioned in this law refer, with the exception of those for whom separate provisions are stipulated in Article 11, to foreign companies, enterprises, and other economic organizations which have establishments in the People's Republic of China engaged in independent business operation or cooperative production or joint business operation with Chinese enterprises.

第二条

外国企业每一纳税年度的总收入总额，减除成本、费用以及损失后的余额，为应纳税的所得额。

Article 2

The taxable income of a foreign enterprise shall be the net income in a tax year after deduction of costs, expenses, and losses in that year.

第三条

外国企业的所得税，按应纳税的所得额超额累进计算，税率如下：

全年所得额不超过25万元的，税率为20%；

全年所得额超过25万元至50万元的部分，税率为25%；

全年所得额超过50万元至75万元的部分，税率为30%；

全年所得额超过75万元至100万元的部分，税率为35%；

全年所得额超过100万元的部分，税率为40%，

Article 3

Income tax on foreign enterprises shall be assessed at progressive rates for the parts in excess of a specific amount of taxable income. The tax rates are as follows:

Range of income	*Tax rate (percent)*
Annual income below 250,000 yuan	20
That part of annual income from 250,000 to 500,000 yuan	25
That part of annual income from 500,000 to 750,000 yuan	30
That part of annual income from 750,000 to 1,000,000 yuan	35
That part of annual income from 1,000,000 yuan	40

第四条

外国企业按照前条规定缴纳所得税的同时，应当另按应纳税的所得额缴纳10%的地方所得税。

对生产规模小，利润低，需要给予减征或者免征地方所得税的外国企业，由企业所在地的省、自治区、直辖市人民政府决定。

Article 4

In addition to the income tax levied on foreign enterprises in accordance with the provisions of the preceding article, a local income tax of 10 percent of the same taxable income shall be levied.

Where a foreign enterprise needs reduction in, or exemption from, local income tax on account of its small-scaled production or business, or low-profit rate, this shall be decided by the People's Government of the province, municipality, or autonomous region in which that enterprise is located.

第五条

从事农业、林业、牧业等利润率低的外国企业，经营期在十年以上的，经企业申请，税务机关批准，从开始获利的年度起，第一年免征所得税，第二年和第三年减半征收所得税。

按前款规定免税、减税期满后，经财政部批准，还可以在以后的十年内继续减征15%至30%的所得税。

第六条

外国企业发生年度亏损，可以从下一年度的所得中提取相应的数额弥补；下一年度的所得额不足弥补的，可以逐年提取所得继续弥补，但是最长不得超过五年。

第七条

外国企业缴纳所得税，按年计算，分季预缴。每季在季度终了后十五日内预缴；每年在年度终了后五个月内，汇算清缴，多退少补。

第八条

外国企业应当在每次预缴所得税的期限内，向当地税务机关报送预缴所得税申报表；年度终了后四个月内，报送年度所得税申报表和会计决算报表。

第九条

外国企业的财务、会计制度，应当报送当地税务机关备查。

外国企业的财务、会计处理办法同税法规定有抵触的，应当依照税法规定计算纳税。

第十条

外国企业依法开业、停业，应当持有关证件向当地税务机关办理税务登记。

第十一条

外国公司、企业和其它经济组织，在中国境内没有设立机构而有来源于中国的股息、利息、租金、特许权使用费和其它所得，应当缴纳20%的所得税。税款由支付单位在每次支付的款额中扣缴。

按照前款规定缴纳的所得税，以取得所得的外国公司、企业和其它经济组织为纳税义务人，以支付所得的单位为扣缴义务人。扣缴义务人每次所扣的税款，应当于五日内缴入国库，並向税务机关报送扣缴所得税报告表。

国际金融组织贷款给中国政府和中国国家银行的利息所得，免征所得税。外国银行按照优惠利率贷款给中国国家银行的利息所得，也免征所得税。

Article 5

A foreign enterprise scheduled to operate for a period of 10 years or more in farming, forestry, animal husbandry, or other low-profit occupation may, upon approval by the tax authorities of an application filed by the enterprise, be exempted from income tax in the first profit-making year, and allowed a 50 percent reduction in the second and third years.

With the approval of the Ministry of Finance, a 15–30 percent reduction in income tax may be allowed for a period of 10 years following the expiration of the term for exemptions and reductions mentioned in the preceding paragraph.

Article 6

Losses incurred by a foreign enterprise in a tax year may be carried over to the next year and made up with a matching amount drawn from that year's income. Should the income in the subsequent tax year be insufficient to make up for the said losses, the balance may be made up with further deductions against income year by year over a period not exceeding five years.

Article 7

Income tax on foreign enterprises shall be levied on an annual basis and paid in quarterly installments. Such provisional payments shall be made within 15 days after the end of each quarter. The final settlement shall be made within five months after the end of a tax year. Excess payments shall be refunded by the tax authorities or deficiencies made good by the taxpayer.

Article 8

Foreign enterprises shall file their provisional income tax returns with the local tax authorities within the period prescribed for provisional payments. The taxpayer shall file its final annual income tax return together with its final accounts within four months after the end of the tax year.

Article 9

The method of financial management, and the system of accounting of foreign enterprises, shall be submitted to local tax authorities for reference.

Where the method of financial management and the system of accounting of foreign enterprises is in contradiction with the provisions of the tax law, tax payments shall be assessed according to the provisions of the tax law.

Article 10

Foreign enterprises shall present relevant certificates to the local tax authorities for tax registration when they go into operation or close down in accordance with law.

Article 11

A 20 percent income tax shall be levied on the income obtained from dividends, interest, rentals, royalties, and other sources in China by foreign companies, enterprises, and other economic organizations which have no establishments in China. Such tax shall be withheld by the paying unit in each of its payments.

For the payment of income tax according to the provisions in the preceding paragraph, the foreign companies, enterprises, and other economic organizations which earn the income shall be the taxpayer, and the paying unit shall be the withholding agent. Taxes withheld on each payment by a withholding agent shall, within five days, be turned over to the state treasury and the income tax return submitted to the tax authorities.

Income from interest on loans given to the Chinese government or China's state banks by international finance organizations shall be exempted from income tax. Income from interest on loans given at a preferential interest rate by foreign banks to China's state banks shall also be exempted from income tax.

Income derived from interest on deposits of foreign banks in China's state banks, and on loans given at a normal interest rate by foreign banks to China's state banks, shall be taxed. However, exemption from income tax shall be granted to those foreign banks accordingly in whose countries income from interest on deposits and loans of China's state banks is exempted from income tax.

外国银行在中国国家银行的存款和按照一般利率贷款给中国国家银行的利息所得，应当缴纳所得税；但是，中国国家银行在对方国内的存款、贷款利息所得不缴纳所得税的，可以相应给予免税。

Article 12

The tax authorities have the right to investigate the financial affairs, account books, and tax situation of any foreign enterprise, and have the right to investigate the withholding situation of any withholding agent. Such foreign enterprise and withholding agent must make reports on facts, and provide all relevant information, and shall not refuse to cooperate or conceal any facts.

第十二条

税务机关有权对外国企业的财务、会计和纳税情况进行检查；有权对扣缴义务人代扣代缴税款情况进行检查。外国企业和扣缴义务人必须据实报告，並提供有关资料，不得拒绝或隐瞒。

Article 13

Income tax levied on foreign enterprises shall be computed in terms of renminbi (RMB). Income in foreign currency shall be assessed according to the exchange rate quoted by the State General Administration of Exchange Control of the People's Republic of China and taxed in renminbi.

第十三条

外国企业的所得税以人民币为计算单位。所得为外国货币的，按照中华人民共和国国家外汇管理局公布的外汇牌价折合成人民币缴纳税款。

Article 14

Foreign enterprises and withholding agents must pay their tax within the prescribed time limit. In case of failure to pay within the prescribed time limit, the appropriate tax authorities, in addition to setting a new time limit for tax payment, shall surcharge overdue payments at one half of one percent of the overdue tax for every day in arrears, starting from the first day of default.

第十四条

外国企业和扣缴义务人必须按照规定的期限，缴纳税款。逾期不缴的，税务机关除限期缴纳外，从滞纳之日起，按日加收滞纳税款的５％的滞纳金。

Article 15

The tax authorities may, acting at their discretion, impose a penalty on any foreign enterprise which has violated the provisions of articles 8, 9, 10, and 12 of this law.

In dealing with those withholding agents who have violated the provisions of Article 11 of this law, the tax authorities may, in addition to setting a new time limit for the payment of the part of tax that should have been withheld and, at their discretion, impose a penalty of not more than the amount that should have been withheld.

In dealing with foreign enterprises which have evaded or refused to pay income tax, the tax authorities may, in addition to pursuing the tax, impose a fine of not more than five times the amount of tax underpaid or not paid, according to how serious the offense is. Cases of gross violation shall be handled by the local People's Courts according to law.

第十五条

外国企业违反本法第八条、第九条、第十条、第十二条规定的，税务机关可以酌情处以罚金。

扣缴义务人违反本法第十一条规定的，税务机关除限期追缴应扣未扣税款外，可以酌情处以应扣未扣税款的一倍以下的罚金。

外国企业偷税、抗税的，税务机关除追缴税款外，可以根据情节轻重，处以应补税款五倍以下的罚金。情节严重的，由当地人民法院依法处理。

Article 16

In case of disputes with tax authorities about tax payment, foreign enterprises must pay tax according to the relevant regulations first, before applying to higher tax authorities for reconsideration. If they do not accept the decisions made after such reconsideration, they can bring the matter before the local People's Courts.

第十六条

外国企业同税务机关在纳税问题上发生争议时，必须先按照规定纳税，然后再向上级税务机关申报复议。如果不服复议后的决定，可以向当地人民法院提起诉讼。

Article 17

Where agreements on tax payment have been concluded between the government of the People's Republic of China and the government of another country, matters concerning tax payment shall be handled in accordance with the provisions of these agreements.

第十七条

中华人民共和国政府和外国政府之间订有税收协定的，按照协定的规定办理。

Article 18

Detailed rules and regulations for the implementation of this law shall be formulated by the Ministry of Finance of the People's Republic of China.

第十八条

本法的施行细则，由中华人民共和国财政部制定。

Article 19

This law shall come into force from the date of promulgation.

第十九条

本法自一九八二年一月一日起施行。

Countertrade, Inc.

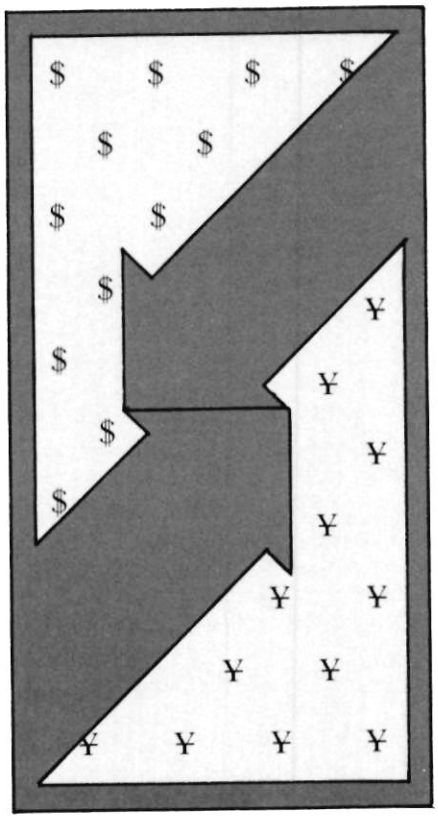
US giants such as General Motors, Control Data, and Douglas Aircraft are making countertrade a corporate priority.

Carol S. Goldsmith

American companies may not be any happier discussing countertrade today than they were 10 years ago, when Eastern Europe was proposing the controversial idea of the supplier taking back goods in partial payment for sales. But they *are* beginning to take it more seriously than ever before. In fact, the idea of establishing departments or subsidiaries specifically to handle countertrade is working its way through the top ranks of corporate America, on the slow but steady route toward trendhood.

Within the membership of the National Council for US–China Trade, more than a dozen large corporations have set up countertrade departments or trading companies that deal with countries suffering from hard-currency shortages. Some of them have opened or expanded just since the United States' reentry into the China market. For instance, through the Motors Trading Corporation, established in 1979, General Motors has sold $800,000 worth of diesel engines to the China National Machinery and Equipment Import and Export Corporation (EQUIMPEX) and is buying back an equivalent amount of cutting tools and other products. One division of the McDonnell Douglas Corporation has arranged purchases from China in everything from hams to light bulbs to wood-burning stoves in the hope that these good-will efforts will translate into countertrade credits.

The exact form of these corporate countertrade units varies among the firms. Some of the biggest names in business—General Motors, Rockwell International, Control Data Corporation, Combustion Engineering, and the Coca Cola Company—have elected to form wholly owned trading subsidiaries to do the job. Other corporations, like General Electric and Citibank, have consolidated their countertrade activities in a single department or division. And in still others, countertrade specialists work throughout the corporation, concentrating on buybacks and countertrade proposals only when they affect their particular department's business.



But regardless of the form they happen to take, all the countertrade units share a central function: facilitating business transactions with underdeveloped countries, and in the process, promoting the parent corporation's good name.

The reasons for succumbing to the rigors and risks of countertrade seem tied up more with corporate profile than with profit—at least in the short run. Having a countertrade unit can make a positive impression on the trading partner by showing the corporation's interest in furthering bilateral trade. In line with this, Pat Hanafee said that as executive director of Motors Trading Corporation, one of his biggest jobs is marketing countertrade goods to GM. "There's a 'buy-American' attitude in the divisions," he explained. "Some guy will say, 'I've got a supplier 10 miles away. Why should I start sourcing on the other side of the world?' So I've got to sell China to GM."

The countertrade unit should be able to broaden a company's horizons by taking on marketing responsibilities the sales department would rather avoid. Added Hanafee: "It gives the divisions the incentive to go into countries where they haven't been before."

But most important, a corporate trading arm can sometimes give the company more leverage across the bargaining table. Richard Frankenheimer, president of Combustion Engineering's CE Trading, Inc., remarked that in the middle of negotiations "individual Combustion Engineering business units would not of themselves have the clout as when Combustion Engineering as a whole brings to bear its $3.2 billion in worldwide sales."

In most cases, the departments or divisions have the option of contracting for the services of an outside trading company or of staying in house. The decision, however, isn't hard to make. All but one of the corporate trading subsidiaries mentioned operate exclusively for the parent on a no-fee basis. Control Data's trading company, which handles all the parent's countertrade, acts as a trading house for outside clients. But it does not charge Control Data for those services. The parent swallows any potential loss.

"If a division requests help," remarked Pat Hanafee, "it knows it's not going to get socked with a big bill."

Once sales negotiations have begun, the company's marketing personnel and countertrade staff form a hand-in-glove relationship—with the glove coming off at the contract stage. For example, at Control Data Commerce International (CDCI), the trading company personnel attend all the sales meetings to advise on countertrade possibilities.

Ultimately two contracts are negotiated separately. The sales contract for computer systems or peripherals, for example, would make no mention of a

countertrade obligation. The countertrade contract, according to CDCI's Asia/Pacific marketing director Jack Hipps, would be referenced to but not contingent on the actual sale.

"We don't deal in barter," he pointed out. "It's strictly dollars for dollars."

Commerce International differs from other corporate trading subsidiaries less in its operation than in its scope. Hipps described it as a profit and loss center which, when servicing Control Data, takes its payment from the marketing of the countertrade goods. Like other trading houses of its type, CDCI operates primarily under its own policies—though of course it must keep the parent's marketing approach in mind. It does not involve itself in many offset arrangements. "The objective is to satisfy a countertrade obligation," explained CDCI president Ralph McElroy, "although we're flexible enough that should a manufacturing opportunity present itself, we certainly would consider it."

Commerce International ranks itself as one of the largest and most comprehensive in-house trading entities in the US. Its focus spans Asia/Pacific, Latin America, Europe, and Eastern Europe, and its importing interests cover light industrial goods, industrial components, consumer items, textiles, and minerals and metals. The company's recent name change from Commercial Trading Imports reflects its new emphasis on exporting activities—primarily in medical and business equipment.

This is the type of full-service, commercial operation that many other corporations only whisper about. Countertrade remains a hot political topic on the corporate circuit. Labor unions vehemently oppose the practice of taking back products that could be made in America. Many CEOs, more than one businessman admitted, would prefer to steer clear of markets with hard-currency problems rather than to import part of the payment. Besides that, few executives would wish to antagonize the commercial trading houses with which they often cooperate by forming subsidiaries that would cut further into those companies' stock and trade.

On close examination, distinctions among a corporate trading subsidiary, countertrade division, and countertrade department seem arbitrary at best. Along with their central similarity as trade facilitators, all entities trade off titles, accounting methods, and sales pitches in search of that perfect character mix that works for the corporation.

Citibank a year ago decided to establish a countertrade department within the Merchant Banking Group, as a service to existing bank customers as well as to outside clients. Export Finance and Trade Development, as the department is called, will handle on a fee basis any countertrade program—from "conceptualization to completion of the trade"—according to the customers' needs.

"For those who have had limited exposure to countertrade," said Citibank vice-president George S. Horton, "the bank can structure advice in negotiations, and arrange for the export of countertrade goods by utilizing its worldwide customer base to identify companies interested in buying products from China. This provides for efficient market channels and avoids the high costs often associated with countertrade programs."

"And for [firms] with in-house capabilities," Horton told the National Council's construction machinery and equipment committee last year, "the bank's role can focus mainly on identifying and evaluating third parties." Which Citibank does, by the way, without disclosing the names of clients requesting countertrade information.

Combustion Engineering took the best parts of corporate incentive and subsidy programs to develop an in-house trading subsidiary that handles such responsibilities for one client only—Combustion Engineering. CE Trading, Inc. operates as a countertrade center solely for the corporation's 31 business units. Richard Frankenheimer explained that while a business unit must contact CE Trading about a proposal, it is not required to contract its services.

The option of using an outside trading house appeals to the business unit's sense of independence. The incentive to stay in house appeals to its common business sense. First, CE Trading would come up with a price estimate for buying and marketing the countertrade goods. Frankenheimer explained how this works by way of a hypothetical deal with the Ministry of Petroleum, whereby Combustion Engineering sells $5 million worth of oil and gas equipment and CE Trading agrees to take back 20 percent of the sales price in semifinished metal goods.

"If the disposal of those goods costs $100,000," he said, "that is charged to the business unit buying the goods"—at least on paper. "You, as a business unit manager, have to recognize the cost, by either adding it into your price or by absorbing it. But if we accomplish the deal for less, the reduction goes to the business unit and the credit to me." Combustion Engineering would absorb the cost overruns, if any.

Very seldom does CE Trading put itself in an exposed position. Before agreeing to do countertrade with a country, Frankenheimer sees to it that the buyer of the countertrade goods will cover the costs. If the goods are to be used internally, he said, Combustion Engineering pays for the goods. If they are to be sold outside, CE Trading secures a contractual purchasing commitment from the third party. CE Trading always negotiates a countertrade agreement that is separate from Combustion Engineering's sales contract.

In the case of Combustion Engineering's multimillion-dollar, Exim-financed deal to supply steam generators to China, Frankenheimer said the contract does involve countertrade. The goal is to take back about 25–30 percent of the contract value in components produced by the facility Combustion Engineering is helping equip.

Most countertrade units dealing with China so far have spent the bulk of their time making "good-will purchases," when no particular corporate sale was at stake. Control Data Commerce International has made a number of buys in Chinese arts and crafts; the Motors Trading Corporation has bought up some China tours—all in the name of credit. CDCI's Ralph McElroy explained it this way: "We might go into a country and purchase to show our capabilities and our interest in buying there—in the hope of getting brownie points to later complete some countertrade against a particular deal."

For one countertrader at a McDonnell Douglas division, taking that type of risk has become almost a full-time occupation. Jack Utley, director of countertrade and offset programs for the Douglas Aircraft Company, has been to China 11 times since 1978. But only a few of those trips related to Douglas Aircraft's coproduction contracts with the Shanghai Aircraft Company, for the manufacture of landing-gear doors and nose landing-gear doors for DC-9s. Most of the other trips had him playing the part of "marriage

broker" between American and Chinese trading partners.

The various McDonnell Douglas divisions handle their own contracts and countertrade commitments as they see fit. Utley's initial idea was to match up US and Chinese companies in high-technology projects—preferably in aircraft areas—to generate hard currency for his potential trading partners. But in time he found himself arranging deals as far away from commercial aircraft as hams are from cast-iron and wood-burning stoves. (Fortunately, those stoves are being produced by a factory in the aircraft field.)

The close relationship between Douglas Aircraft and CATIC (the China National Aerotechnology Import and Export Corporation) has facilitated these far-flung deals. If the deal is in an area his CATIC contacts don't handle, said Utley, "they put me in contact with who does."

Utley and the other countertraders realize they're taking a gamble. Selling to one Chinese entity and buying products from another as part of the countertrade package still is precluded by a rigid, unwieldy bureaucracy. "The system still can't cope with the fact that I want to sell you a boiler plant and buy back feathers," Richard Frankenheimer complained.

One American trader ran into an impasse in dealing with the Ministry of Metallurgical Industry when he specified the minerals and metals he would accept in partial payment for setting up a joint marketing venture. It seems the factory involved could do compensation trade only in the minerals the US company was helping it mine—"even though [the factory] was *in* that ministry."

Whether and when the system will change is anybody's guess. Most countertraders seem to believe the Chinese at least recognize the problems with their inflexible system. Even so, it could be years before the bureaucracy can budge.

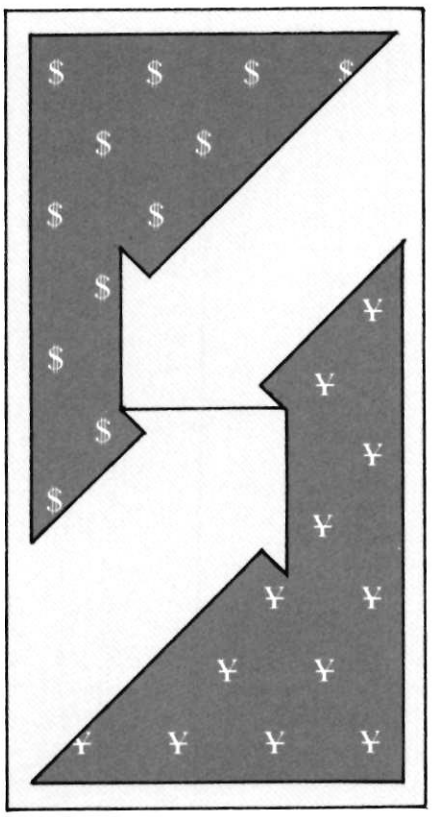
When arranging a purchase in China for someone else's firm, Jack Utley said, "I ask the Chinese, will I get credit for this? They say something like 'We're all brothers,' meaning that everyone will benefit in the end." Utley realizes that "somebody isn't putting a dollar aside for countertrade" each time Douglas Aircraft makes a purchase. But, he asks, "What is countertrade, anyway? It's just good will."

That seems as good an answer as any right now. 完

Compensation Trade: The China Perspective

The idea behind processing and compensation in the PRC is to keep the deals simple—though the reality often is much more involved.

Stephen Markscheid



Success in the China trade usually means keeping deals simple, and nowhere is that more amply demonstrated than in the booming growth of processing and compensation trade arrangements. In the last three years, Chinese organizations have entered into more than 6,000 processing agreements with a total contract value of $700–$800 million, according to Zhao Yiwen, director of the Compensation Trade Department of the Foreign Investment Control Commission (FICC). These deals have already generated $200 million in foreign exchange earnings, Zhao revealed, and in the same period more than 400 compensation trade contracts have been signed worth some $300 million.

Compensation trade deals generally call upon a foreign company to provide—cash free—some equipment, technical expertise, and perhaps some raw materials, in exchange for output (usually much improved and expanded) which the Chinese factory sells to the foreigner at a discount. Processing deals are simpler still, involving only the exchange of raw materials for the output.

Compensation trade is seen by the Chinese as being the most suitable business arrangement for a foreign company wanting to improve the quality or quantity of its Chinese purchases. Under compensation trade arrangements, the foreign company provides equipment or a loan with which the Chinese side can purchase equipment. The Chinese factory then uses its improved production capacity to repay the loan in installments with products. The foreign partner accepts responsibility for marketing the finished goods. Generally, the Chinese side hopes to pay off the loan by product exports within a maximum of two or three years. In the case of textile machinery imports, the payback period can be as short as four to six months.

For the Chinese, the main advantage of processing and compensation trade is that the responsibility for import financing and overseas marketing falls on the shoulders of the foreign supplier. This is a significant consideration for Chinese enterprises, since few have overseas marketing experience and even fewer are allocated the hard currency needed to buy foreign equipment. The foreigner benefits by having a new source of supply in Asia.

So far most processing deals have been limited to textiles and other light industrial products, including footwear, beer, asparagus, peanuts, gloves, fish, electrical equipment, chemical manufactures, kitchen implements,

handicrafts, radios, and tape players. A contract to manufacture aluminum windows and door frames is under discussion. The Ministry of Metallurgical Industry is promoting a number of buyback schemes to encourage foreign investment in China's mines and metal-processing facilities, so compensation trade in heavy industry might be on the increase as well.

In August 1978 the State Council approved a 22-point resolution that set down broad, fairly simple guidelines concerning processing and compensation trade. In the case of processing, the foreign customer supplies raw or intermediate materials to be processed, assembled, or manufactured in China. The Chinese partner receives a contracting fee for its services, after which the processed material is accepted and resold abroad by the foreign firm.

China encountered some early problems in developing material-processing deals because of inexperience and lack of direction or central control. According to the Foreign Investment Control Commission in Beijing, many local units were so eager to sign contracts that they failed to consider sufficiently their ability to fulfill contracted terms. In some cases, service charges were set too low to provide reasonable economic benefit to China. Before provincial review systems were established, even communes were signing contracts with foreign firms. On occasion, the foreign partners failed to supply materials on time. In other cases, labor management problems arose. To alleviate these problems, additional articles were appended to the original resolution which stipulate how to negotiate and implement a contract, as well as who is permitted to approve a contract. The lowest level unit now holding that authority is a county government.

In the largest compensation trade agreement to date, Container Transport International (CTI) struck a $110 million deal to build a container manufacturing plant and purchase its output as compensation.

"Government officials are treating it as a showpiece," one Chinese plant manager proudly announced, adding, "It's a model of compensation trade."

The plant, operated by the Guangzhou Shipyard, is committed to sell its entire output to CTI, whose principal business is leasing containers, at reduced prices for five years. This is planned to work out to a total of 50,000 containers, or more than 800 per month. The containers will be delivered to Hong Kong, where CTI's containers are in short supply. CTI has set careful standards for quality and material utilization and provides technical assistance to the plant, but has declined to take on any managerial role. The terms of the contract ensure that it is in the shipyard's best interest to produce containers as efficiently as possible.

Most of the growth in processing and compensation trade has taken place in south China. Indeed, 70 percent of all such deals are between Hong Kong companies and enterprises in Guangdong Province.

Proximity and easy access to foreign markets are among Hong Kong's other advantages. In fact, most compensation trade arrangements involve a Chinese supplier and long-time Hong Kong customer who understands the manufacturer's situation and needs. Most deals tend to be fairly small in scale, requiring only from $10,000 to $20,000 in imported equipment. The three counties bordering Hong Kong—Xunde, Dongguan, and Nanhai—have been especially active sites for processing agreements.

Hong Kong's main advantage is the ready access it gives expatriate Chinese business executives to Guangdong's commercial officials, who are much more willing to conclude deals with their relatives or friends. Proximity and easy access to foreign markets are among Hong Kong's other advantages. In fact, most compensation trade arrangements involve a Chinese supplier and long-time Hong Kong customer who understands the manufacturer's situation and needs. Most deals tend to be fairly small in scale, requiring only from $10,000 to $20,000 in imported equipment. The three counties bordering Hong Kong—Xunde, Dongguan, and Nanhai—have been especially active sites for processing agreements (*see* article on Huiyang Prefecture, p. 38).

Guangdong has been given a great measure of freedom by the central government in negotiating compensation trade contracts. Both Guangdong and Fujian, according to the Foreign Investment Control Commission, have the authority to conclude compensation trade contracts of up to $5 million in value without prior approval of central government organs. Very few compensation trade deals exceed this value. China's three largest cities, Beijing, Shanghai, and Tianjin, can approve contracts under $3 million in value. The ceiling for other provinces and government ministries is only $1 million.

These approval ceilings are only guidelines, however, as any trader knows who has negotiated a joint venture or other trade arrangement in China. Sometimes very small deals get passed upstairs for approval, while at the other extreme, an off-the-cuff comment by a foreigner in Beijing might be the first word that the FICC hears about a big project it should have approved. In fact, as Shenzhen officials told *The CBR* in November, none of the 600 projects now operating in the Shenzhen Special Economic Zone had to be approved by Beijing, even though many of these had contract values in excess of five and even 10 million dollars.

The profits retained by local Chinese units from compensation trade are much greater than is typical of China's domestic industries. Wu Linying of the Guangdong Economic Commission for Foreign Countries Liaison Office points out that "local enterprises are entitled to all RMB profits and 30 percent of any foreign exchange earnings. The balance of foreign exchange profit is remitted to the provincial government, which turns over a fixed amount to the central authorities annually." For Guangdong Province, this figure is set at about $1 billion. The target is reset every few years to preserve the incentive. Above the set quota, the province may retain 70 percent of its foreign exchange earnings.

A number of factors are taken into account in approving processing and compensation trade arrangements. The most important question that county officials look at is the impact

of a project on the local economy. Will the proposed increased production deprive other enterprises of needed supplies or fuel? Will it place too large a burden on the transport systems? Will it produce goods already in oversupply?

The FICC's step-by-step procedure for certifying larger compensation trade deals involves similar criteria. The FICC will examine the impact of a particular agreement on the national economy, looking most closely at material supply, energy usage, and transport. In addition, the FICC must carefully assess the local unit's capacity to fully carry out its contracted terms. In many cases, the local authorities may be overly anxious to push through a deal that they cannot complete effectively. This problem is symptomatic of a system in which unviable projects have often been started as a consequence of local political pressure. Once begun, additional funds are then required to salvage an already losing proposition.

To keep vital resources from being diverted to less important projects, local officials are required to carry out feasibility studies to examine the local availability of materials, energy, and domestic investment funds. This study is supposed to be submitted to the FICC before a contract is signed, to give the FICC time to conduct its own study concerning the impact of the proposed project on the overall balance of the national economy. As part of its study, the FICC normally consults with the Ministry of Finance and Bank of China. During this period, the local organization negotiates contract terms with the foreign partner. The FICC's study should be finished by the time the contract is presented for final approval, FICC officials have told *The CBR*, so that the final contract can be approved within one month.

Despite the success of many compensation trade deals, problems revolve around the differing interests pursued by both sides. China's goal in promoting compensation trade is very specific: to generate foreign exchange earnings by improving product quality, quantity, and by gaining greater access to foreign markets. To this end, China is enlisting the aid of its overseas customers to market its output to third parties. This means that the most appropriate compensation trade partners, from China's standpoint, are firms whose main activity is importing. These importers are normally seeking to develop reliable, long-term sources of supply. They are usually willing to invest funds or arrange a loan to help their supplier improve the quality or quantity of his product.

But processing and compensation trade are less attractive to companies that want to penetrate the domestic Chinese market. These companies see China as a new, untapped market, rather than as a potential supplier. In fact, during the current worldwide economic slowdown, many US firms are already burdened with excess production capacity. They have no interest in building up China's capability to compete with their goods in increasingly cramped third markets.

China insists that it will accept only a maximum of 30 percent of compensation trade output for domestic sales. Unlike importers, manufacturers are generally unwilling to take responsibility for marketing 70 percent of Chinese output abroad. One of the most successful compensation trade deals with an American firm has, in fact, eluded this condition by gaining almost complete domestic market absorption; namely Coca-Cola's Beijing bottling plant.

Besides the thorny problem of aiding potential competitors, US firms often find China's terms to be less attractive than elsewhere in Asia. A leading hospital supply company which markets products in China has been urged to produce the company's line in China as a compensation trade venture. The firm's spokesman conceded that China has the ability to manufacture its products, but argued that it's still easier and more profitable in other Asian countries.

Wages present another problem. Although Chinese wages are quite low, even by Asian standards, China's assessment of labor costs for the purpose of calculating value of output greatly exceeds these wages. For example, Chinese negotiators may claim that one worker's labor should be valued at $100 per month, even though the worker would receive less than $25. In some deals the cost of workers' benefits is included in labor costs. According to one US attorney, China is thinking of fixing the cost of such welfare benefits at 128 percent of the total wage bill. Again, it is not clear if workers would receive benefits commensurate with such large payments. This kind of double accounting fools no one, least of all savvy Hong Kong traders who wisely discount these inflated prices.

Financing often poses another source of misunderstanding. One Hong Kong chemical trader was pressured by his Chinese suppliers to invest $10 million in a hydrogen peroxide plant in Shantou. A complete package of machinery, technology, and service was assembled, but the deal fell through when discussions turned to interest payments. According to the trader, the Chinese had no concept of the opportunity cost of capital. All finance costs were to be borne by the trader. It would have been impossible to generate a reasonable return with the Chinese refusing to acknowledge that the use of funds always has costs associated with it. Another idea proposed by Chinese chemical manufacturers was for a potassium permanganate plant, also in Shantou. But in discussing payback, the Chinese demanded to set the sale price according to the highest price level reached over a rolling six-month period. Of course, no company could possibly accede to these terms.

Finally, given China's generally vague legal system, foreign parties must negotiate highly detailed contracts which specify standards of quality. Chinese guidelines for quality and delivery guarantees are included in the 22-point resolution. Prior to 1980, arbitration clauses rarely were included in compensation trade contracts because of Chinese inexperience in this regard. Since then, the Legal Affairs Department of the China Council for the Promotion of International Trade has advised the FICC on model contracts which typically specify arbitration in the country of the failed party, or in a third country, usually Sweden.

Compensation trade offers many opportunities for profitable foreign investment in China, but many problems and pitfalls as well. It is important to consider all the angles before deciding that compensation trade is the way to go.

Stephen Markscheid joined the National Council in 1979, and has served as the Council's Beijing deputy representative since early 1981. A graduate of Princeton University, he is fluent in Chinese.

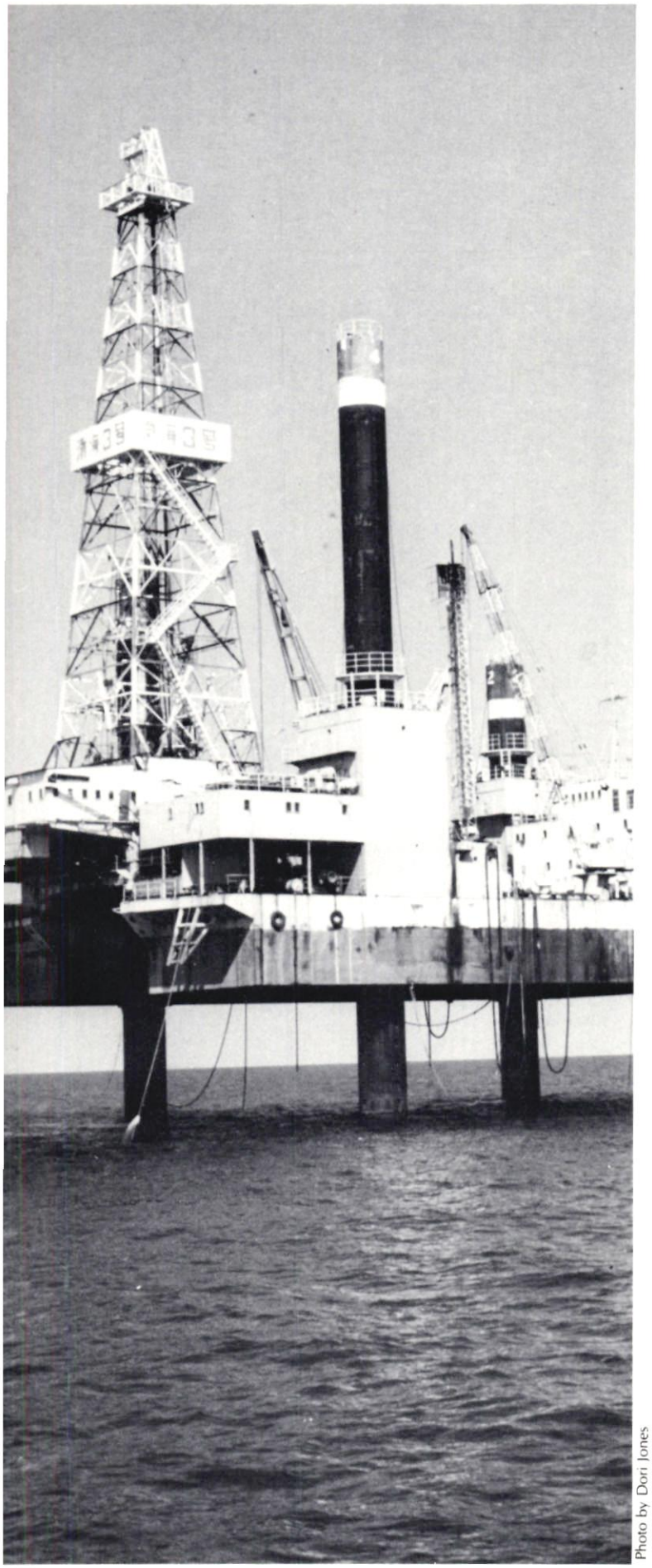


Photo by Dori Jones

The Offshore Oil Contracts

Bidding could begin any day, though a number of contract issues have not been resolved.

Stephanie R. Green

For most US oil companies, estimating China's offshore resources has been an easier job than guessing the contract terms China eventually will accept.

Now, the guessing game is almost over. The Chinese appear to be sticking to the schedule they first outlined in the early fall. On December 31, the front page of the authoritative *People's Daily* carried a short article which reaffirmed China's commitment to begin bidding "early next year." The piece stated that preparations to open the South China Sea and south Yellow Sea for bidding were nearly completed, and added that China welcomed bids from "all companies which are participating in geophysical work in our offshore areas."

Despite urging by the Ministry of Petroleum, foreign companies are reluctant to use Chinese-built rigs in the South China Sea. Pictured is the Bohai 3 jackup rig built in Dalian in 1979.

In publishing the article, the Chinese lived up to their promise to announce bidding at the commencement of the new year. Bidding packages, however, are not expected to be mailed until mid-February, at the earliest, following the Chinese New Year holiday. The Chinese are further expected to invite companies that request bidding documents to visit China sometime in March, probably toward the end of the month, in order to review the documents.

Two months after the dispatch of the initial bidding offer or bid packages (companies with whom *The CBR* spoke were not sure), the PRC reportedly will put up two other areas in addition to the Pearl River block in the South China Sea and the British Petroleum block in the south Yellow Sea. The two areas are expected to be Amoco's block in the Gulf of Tonkin, and the Elf Aquitaine block in the North Yellow Sea. Actually, many companies believed the Chinese would first offer the Elf block rather than the BP block, but the reference in the PRC press to the south Yellow Sea would seem to preclude that.

US firms that signed seismic survey agreements for the Yellow and South China seas were promised that one-third of the acreage would be put up for eventual bidding, and that only those firms involved in seismic surveys would be considered for drilling awards.

Exxon, Mobil, Chevron/Texaco, and Phillips are the designated operators in the Pearl River Basin of the South China Sea, the area east of Hainan Island that extends up China's continental shelf almost to the Pescador Islands. Amoco is the operator of an area west of Hainan Island in the Gulf of Tonkin. All five companies drill in each other's blocks, and have been joined, at China's behest, by 23 other US and foreign firms.

ARCO was chosen as an exclusive operator in a block south of Amoco's. In the Yellow Sea, US companies are participating in a block operated by British Petroleum, with essentially the same terms and conditions as in the Pearl River Basin.

The first clue as to the bidding timetable came last June, when ARCO and Santa Fe signed their production-sharing contract with the China National Oil and Gas Exploration and Development Corporation (CNOGEDC). Until then most American oil executives had feared that bidding would not begin until mid-1982.

ARCO's agreement was approved by the State Council last August, and negotiations began one month later on the operating agreement, which was expected to be completed by late January. In early 1982 a leased drillship and a Chinese semisubmersible will probably begin drilling.

It is estimated that ARCO is prepared to spend some $255 million on exploratory work, and commit $2 billion in total investment. ARCO and Santa Fe will bear all exploration and development costs, but will be able to recoup outlays from initial production.

The ARCO signing was seen as a bellwether by other US firms, which by that time had only completed the initial seismic prospecting phase.

With bidding close at hand, conjecture has intensified. What terms will the offshore contracts contain? And what are the issues still to be ironed out? Some of the main questions:

1 Bidding Schedule

China's timetable from bidding to contract signing was recently revealed by Zhang Wenbin, president of the Petroleum Corporation of the PRC, in an exclusive interview with *The CBR* (see *The CBR* Nov.–Dec. 1981, p. 24). Zhang outlined a nine to 10 month program, beginning when China issued bidding notices. Companies would have one month to review those notices and request bidding documents. After receiving the bidding forms, firms would have three months to make their bid offer; the Chinese then would have two months to review those bids. Negotiations will take three to four months, ending perhaps in contract signing. Word from US companies in Beijing later in the fall indicated that firms might have up to five months to make their bid offer, thus extending the total time period by two months. According to a Chinese official who attended the November 23–27 Guangzhou petroleum conference, contract negotiations might conclude as early as September and contracts be signed by early 1983.

The Chinese have told some companies that bids will be required on a package of three blocks—one with excellent potential, one medium, and one poor. This is a clever and unique way to ensure that marginal areas will be explored. Yet it may prove difficult to put into practice, since it will be tough for three areas with such different potential to be contiguous.

2 Model Contract

Exxon, Amoco, Mobil, Conoco, Occidental, Texaco, and other US companies recently trekked to Beijing for a last look at the document. The Chinese, said one, were making a final check to see if the contract terms were in the ballpark. When asked about the content of their Beijing meetings, one US company representative could only say, "We have been sworn to confidentiality." Firms reportedly were pushing the Chinese to make last-minute changes in many sensitive clauses, including those requiring a preference for Chinese goods and services and outlining well productivity formulas.

Zhang Wenbin had earlier announced that the model contract would be complete in December, and according to one US oil executive, it was "largely ready" just before Christmas.

In early January, the CNOGEDC told US embassy officials that it was working with other ministries on a draft of the model contract.

3 ARCO as the Model Contract

Chinese negotiator You Dehua told the National Council last fall that the same kinds of differences will exist between ARCO and other US firms as those between ARCO's contract and Indonesia's oil contracts. Some provisions will be the same, he said, and some will not. Most US firms guess that Indonesia's 85/15 production split is in use by ARCO and will be suggested to other firms.

4 Tax Law

The tax law passed in December should grant creditability for US income tax purposes by imposing the same tax structure on oil companies as on non-oil companies operating in China. With the law now binding in China, the IRS must rule on creditability after it receives a request for such a ruling from a taxpayer, such as an oil company. No company would be likely to request a ruling until the accompanying tax regulations are published, which undoubtedly will clarify the very short and sketchy law. Indeed, an IRS representative said in mid-January that no ruling request had yet been received, and that the IRS could not rule on creditability without the regulations. Although Treasury officials have pledged to expedite the PRC ruling,

such rulings take anywhere from a few weeks to several months.

The income tax regulations reportedly were to be promulgated by a late-January meeting of the Standing Committee of the National People's Congress; at press time, the date of that meeting was unknown.

The law stipulates that all companies earning more than ¥1 million ($0.6 million) annually must pay a tax of 48.75 percent, a figure that includes a local surtax of 10 percent. The 48.75 percent level will be quickly exceeded when oil profits soar, but the tax rate will not go over 50 percent.

Some companies single out three points in the law as potential problem areas, depending on how the points are interpreted. The issues: nondeductibility of precontract expenses spent in seismic activity; nondeductibility of interest on borrowed capital for exploration; and the question of nondeductibility of the royalty paid to "connected parties," or affiliates.

5 Oil Payback

The Chinese have carefully avoided revealing details concerning oil payback, an issue that many Americans see as the biggest problem. Basic PRC policy is that all the crude produced will belong to the PRC, while a portion will be used to compensate contractors for their drilling costs. The policy apparently was still being hotly discussed in top Chinese government circles in late December, although a company representative who visited China in early January said, "Everyone can rest assured that it is a reasonable and acceptable arrangement."

6 Exploration and Production Phases

The Chinese have been eager to compress the usual length of time for these phases to three to five years for exploration and 15 years for production. The president of China's Petroleum Corporation, Zhang Wenbin, observed that the exploration period for US companies will differ from ARCO's, depending primarily on such variables as acreage and water depths.

7 Group Bidding and Forced Marriages

It is expected that both individual and group bidding will be permitted. When Chinese negotiator You Dehua was questioned on the subject of possible "forced marriages," he dodged the question by saying that "China does not have a policy of forced marriages, only free marriages, according to our marriage law." Nevertheless, the Chinese could still require some forced marriages by accepting group bids from willing groups and then rearranging them.

8 Block Policy

Blocks probably will average 100,000–125,000 acres in size, comparable to those in Norway, but larger than blocks in the Baltimore Canyon.

The Chinese say block operators will not receive preferential treatment. Therefore all 46 participants theoretically could obtain blocks, although only a portion is likely to be successful.

9 Supply Bases

The prospect of large-scale drilling activities in the South China Sea has aroused much excitement. Hong Kong has publicized its advantages and commissioned a feasibility study. But the Chinese nonetheless hold to the policy that bases must be within the PRC's boundaries, and that some already existing facilities will be further developed. In late November, the New China News Agency reconfirmed that Zhanjiang was to be the main base when it announced that a center for oil exploration and development had been established there.

A delegation hosted by the National Council from the China Petroleum Corporation visited the US in December to investigate the offshore supply and maintenance needs of US companies. The group, which looked into both fabrication yards and supply bases, said it will be making recommendations on how to proceed, and that no decisions had yet been made.

10 Service Joint Ventures

As in the case of supply bases, the Chinese have indicated a desire to control all services themselves. They have concluded a 10-year joint venture agreement with one US oil service supply company to provide some of the services needed by the international oil companies.

They also want to control platform, rig, and equipment construction.

A 15-year agreement for the construction of oil production platforms was concluded in late November between the Guangdong Shipbuilding Corporation of the Sixth Ministry, and a Paris-based marine engineering company, Union Industrielle and d'Entreprise. It is the first long-term agreement of its kind in China.

More recently, the China Corporation of Shipbuilding Industry under the Sixth Ministry of Machine Building was designated as the general contractor for offshore platform projects. The CCSI has announced that it welcomes cooperation with Chinese and foreign enterprises in the design of production platforms and pile-driving, as well as in the production, transport, and installation of equipment.

Worldwide, most service contracts include some sort of preference clause requiring that host-country goods be used, provided they are available and of comparable quality. Many oil executives are doubtful that Chinese services and equipment meet either condition.

Overall, the Chinese have excelled in maintaining a maximum of control over a very powerful part of the Western industrial establishment. As one oil executive involved in the South China Sea commented, "What is really amazing is that the Chinese have still made no commitments to the 31 companies which have done everything so far."

But by late 1982 or early 1983, this situation will change. US oil companies and the Chinese will finally sign offshore contracts. And although profits will lie even further down the road, major commitments will have been made by both sides.

Stephanie R. Green, formerly director of the Council's Programs and Government Relations Department, in February became special assistant to Eugene K. Lawson, deputy assistant secretary of commerce for East Asian and Pacific Affairs.

中外貿易

Jennifer Little
Assistant Librarian

The following tables contain recent press reports of business arrangements exclusive of those listed in previous issues. The total-value figures for China's exports and imports distinguish between sales (which press reports indicate are definite) and negotiations (which are deals reportedly still under discussion). 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: 1981 SALES AND NEGOTIATIONS THROUGH NOVEMBER 30

Company/Country	Product/Plant/Technology	Value	Status Date Announced
Agricultural Commodities			
(Cuba)	18,000 tons of sugar	NVG	Shipped 8/81
(US)	120,000 metric tons of wheat	NVG	Announced 9/28/81
Hubbard Farms (US)	Poultry stock	NVG	Announced 10/81
(Indonesia)	3,275 tons of coffee	NVG	Reported 10/81
(Thailand)	a) 150,000 tons of rice to be delivered from November 1981 to August 1982	NVG	Reported 10/81
	b) 40,000 tons of green beans	NVG	
Canadian Wheat Board (Canada)	1.5 million metric tons of wheat for delivery starting February 1982	NVG	Announced 11/19/81
Agricultural Technology			
Hassia Rau Co. (W. Germany)	27 pieces of agricultural equipment for the Ningxia Hui Autonomous Region	NVG	Imported 3/81
Henderson Mfg. Co. (US)	Truck mounted feed bodies to be delivered to Yunnan Provincial Import and Export Co. of Kunming	NVG	Announced 8/81
Nanhai Plantations Pte. Ltd. (Singapore)	Cooperation with Guangdong Provincial Overseas Chinese Enterprises Co. to set up oil plantation in Chengmai County on Hainan	$30 million	Contract reported 9/81

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*.

Transamerica Airlines (US)	Live Holstein cattle, feasibility studies for dairy facilities and milking equipment, and financing for the herds	NVG	Announced 10/81
Ministry of Agriculture (Japan)	Agreement with the Chinese Ministry of Agriculture on joint development of new strains of rice and other agricultural produce	NVG	Announced 10/81
CSR (Australia)	Has signed a technical cooperation agreement with authorities in Fujian Province, and may assist to start a macadamia nut plantation as well as help to upgrade sugar refining facilities	NVG	Announced 10/28/81
Food and Agricultural Organization (FAO) (Italy)	Aid for shelter forests in Ningxia Hui Autonomous Region and for an irrigation project in Gansu Province	$31 million	Approved 10/28/81
Chemicals			
ENI (Italy)	Will do research and development work on petrochemicals and synthesized polymers with China's Ministry of Chemical Industry	NVG	Agreement signed 7/81
(Japan)	380,000 tons of urea and 150,000 tons of ammonium sulfate between July and December	$106.7 million	Announced 10/6/81
Chemical Plants and Equipment			
Hitachi Zosen-Mannesmann Demag Ltd. (Japan)	Nine air and nitrogen compressors for installation in three ammonia plants in China	NVG	Construction completed 9/81
(Italy)	Polyester fiber plant	$30 million	Announced 10/28/81
Construction Materials and Plants			
Combustion Engineering Inc. (US)	A 15-year technology transfer agreement with the First Ministry of Machine Building to manufacture and sell the Ljungstrom air preheater for domestic and export utility markets	NVG	Announced summer/81
Ramada Inns (US)	Has furnished and decorated new hotel in Chung Shen	NVG	Announced 8/3/81
Lullaby Commercial (Australia)	Will provide mattresses for a major Chinese hotel chain	NVG	Announced 8/20/81
F. L. Smidth (Denmark)	Possible supply of complete cement factories	NVG	Announced 9/2/81
Otis Elevator Co. (US)	Will exchange marketing rights with the Tianjin Elevator Co.	NVG	Agreement signed 9/25/81
Consumer Goods			
La Motta (US)	Has sold to China the rights for distributorship of the Chipwich ice cream sandwich	NVG	Announced 8/81
(Pakistan)	Will export cigarettes	NVG	Announced 8/7/81
Pernod et Ricard (France)	Is selling its cognac and apéritifs in Guangxi Province at stores, restaurants, and hotels reserved for tourists	NVG	Announced 8/26/81
Canon (Japan)	Will supply parts for 20,000 35-mm shutter cameras for assembly by Beijing factory in 1982	NVG	Agreement reached 9/81
Electronics			
Thomson-CSF (France)	Will build and test solar model minicomputers	$16.3 million	Contract signed 7/81
Ulvac Corp. (Japan)	Agreement with China's Academy of Sciences to train university graduates in computer software technology and employ them at its factories for three years	NVG	Announced 8/81
Videoton (Hungary)	Nine R-10 minicomputers and 60,000 black-and-white TV sets, along with x-ray equipment, medical instruments, and eight production lines for light bulbs	$47 million (Swiss Fr. 95 million)	Announced 8/28/81
Ikejiri Electric Co. (Japan)	Technical cooperation with Sichuan No. 4 Machine Industry Bureau on magnetic head production	NVG	Contract signed 9/81
Furukawa Electric Co. (Japan)	Will offer its electric wire- and cable-manufacturing technique to the Shenyan Electric Wire Co. in Liaoning Province	NVG	Contract announced 9/15/81

Koito Mfg. Co. (Japan)	Will supply technological know-how for the manufacture of automobile lamps for two plants in Shanghai and Wuhan	NVG	Announced 9/15/81
Seko-Giken (Japan)	Agreement with Tianjin to supply know-how and patents for the manufacturing of cassette tape recorders	NVG	Announced 10/81
Kobe Steel (Japan)	Measurex 1050 process-control systems for gauging- and mill-optimization controls for aluminum foil and sheet-rolling mills	NVG	Reported 10/81
Conic Investment Co. (Japan)	Intends to open a TV component plant in Guangdong Province	NVG	Reported 10/81
AEG Co. (W. Germany)	Technology for the production of fuse boxes and automatic switches	NVG	Reported 10/26/81
BBC Co. (W. Germany)	Is training technicians at the Shanghai Renmin Electrical Appliance Factory for the production of A.C. contactors, thermal relays, and magnetic starters	NVG	Reported 10/26/81
Aphex Systems Ltd. (US)	An Aphex Aural Exciter sound-enhancing device for the China Central Broadcasting System	NVG	Reported 10/26/81
Olivetti (Italy)	200 calculating machines for the Bank of China	NVG	Announced 10/28/81
Burroughs Corp. (US)	Computer network for the Huafeng Industry Corp. consisting of a B7830 mainframe and related equipment	$5.5 million	Contract signed 10/31/81
Food Processing and Packaging			
Pepsi-Cola (US)	Is constructing a plant in the Shenzhen special economic zone in Guangdong, scheduled for startup January 1, 1982	$7.5 million	Announced 9/81
Paxall (Australia)	Filling equipment	$45,920 (Aust. $40,000)	Announced 9/81
US Wheat Associates (US)	Gift of baking equipment	$650,000	Announced 10/26/81
Machine Tools			
H.W. Ward and Co. (UK)	19 machine tools	$900,000 (£500,000)	Announced 7/81
Machinery			
Motorola Corp. (US)	Will supply two automatic-positioning systems for surveying and dredging to the China National Technical Import Corp.	$350,000	Contract signed 7/81
Ricoh Co. (Japan)	Will provide 600 plain-paper copiers	$1.3 million	Order announced 9/23/81
Paramec Chemicals Ltd. (UK)	Wire-cleaning machinery	$180,000 (£100,000)	Announced 10/81
Japan Vacuum Technology (Japan)	Agreement with China's Academy of Sciences to transfer precision vacuum pump technology	NVG	Reported 10/81
Barber and Duffy Co. (UK)	Technology for plastic forming molds for air conditioners and compressors	NVG	Reported 10/26/81
Heinrich Schmid Co. and Stynert Bienz Co. (Switzerland)	Technology for fine-finish punching dies and hard alloy dies for air conditioners and compressors	NVG	Reported 10/26/81
Herion Co. (W. Germany)	Technology for pneumatic components	NVG	Reported 10/26/81
Metal Mining and Processing			
Metal Mining Agency (Japan)	Will provide technological cooperation for the exploration of copper deposits in Anhui Province	NVG	Agreement signed 9/81
Military Equipment			
(Brazil)	Possible sale of 60 Bandeirante twin turboprops, Xavante jet trainers, and the EMB-312 turboprop trainer	Approx. $75 million	Announced 8/24/81
Nonferrous Metals and Production			
Mitsui & Co., Hitachi Chemical Co., and Hitachi Powdered Metal Co. (Japan)	Will provide plant to produce colloidal graphite in Shandong Province	$3.13 million (¥720 million)	Ordered 8/81

Imperial Smelting Processes (UK)	Will cooperate with China National Metallurgical Products Import and Export Corp. in link arrangements among I.S.P.'s other lead-zinc smelters	NVG	Announced 9/81
(Zambia)	141 tons of cobalt	NVG	Announced 10/2/81
Petroleum and Natural Gas			
Lodestar Energy Inc. (Canada)	Will have exclusive sales and distribution rights of Chinese oil well drilling bits in Canada and southwestern US	NVG	Announced 10/22/81
Power			
Japan Atomic Industrial Forum (Japan)	Will cooperate with China on the development of atomic energy for peaceful purposes	NVG	Agreement signed 9/81
Combustion Engineering Corp. (US)	Steam-boiler and preheater equipment and technology under a five-year loan from the US Exim Bank	$28.4 million	Loan approved 9/23/81
Westinghouse Corp. (US)	Electric generating equipment and technology under a five-year loan from the US Exim Bank	$28.7 million	Loan approved 9/23/81
Scientific Instruments			
Rank Taylor Hobson Ltd. (UK)	The first manufacturer of precision-measuring instruments to open a service center in China	NVG	Announced 7/1/81
Red Cross Society (W. Germany)	Presented an x-ray fluoroscopy vehicle to the Red Cross Society of China	NVG	Presented 9/17/81
American Science and Engineering Inc. (US)	Micro-Dose x-ray inspection systems	$1.5 million	Contract announced 11/4/81
Shipping			
(Malta)	A 5,700-ton oil tanker *Da Qing 218*	NVG	Handed over 5/8/81
(Spain)	Four 15,750-dwt cargo ships ordered	NVG	Order won 7/81
Dravo Corp. (US)	Four pushboats to be delivered for operation on Yangzi River	NVG	Announced 8/24/81
Japan-China Ocean Transport Assoc. (Japan)	Has concluded one-year agreements with six Chinese ports to establish demeurrage charges, quick-despatch fees, and cargo-handling rates for breakbulk and bulk vessels	NVG	Announced 11/81
Steel and Steel Production			
Nisshin Steel Co. (Japan)	Discussing technical assistance for stainless steel production to the Taiyun steel works in Shanxi Province	NVG	Announced 8/16/81
Nippon Steel (Japan)	130,000 metric tons of rolled ordinary steel	NVG	Announced 9/22/81
Sumitomo Metal Industries, Nippon Kokan, Nippon Steel, Kawasaki Steel (Japan)	80,000 metric tons of seamless pipes	NVG	Reported 10/9/81
Telecommunications			
L. M. Ericsson (Sweden)	An Axe digital phone exchange, plus accompanying equipment and service personnel training	$3 million	Contract signed 6/81
(Japan)	Cooperation with the Chinese government to build a specialized international telecommunications center in Shanghai	NVG	Announced 9/22/81
Elektronska Industrija (Yugoslavia)	Teleprinters	$300,000	Order announced 10/28/81
Textile Plants and Equipment			
Kleinewefers (W. Germany)	Has provided China National Machinery Import-Export Corp. with a pretreatment and dye plant	NVG	Announced 7/81
Snam Progetti (Italy)	A textile plant (location not given)	$5 million	Order announced 10/28/81
(Italy)	A pilot plant for processing hides	NVG	Announced 10/28/81

Textile Products

Brintons (UK)	1,300 square yards of carpet for the Jianguo Hotel, Beijing	NVG	Announced 9/18/81
(New Zealand)	26,652 tons of wool for the season ending July 1, 1981	NVG	Announced 10/81
Speedo (US)	Has signed a two-year exclusive supplier agreement to outfit China's National Aquatics teams	NVG	Agreement announced 10/81

Tourism

American Express International (US)	Has expanded check-cashing services to six more Chinese cities (Nanning, Guilin, Fuzhou, Qingdao, Xiamen, and Quanzhou)	NVG	Agreement announced 9/16/81

Transportation

Augusta Gruppo (Italy)	Will assist in building helicopters for agricultural use and parts for a twin turboprop aircraft	NVG	Announced 7/81
All Nippon Airways (Japan)	Is being approached by the Chinese for the possible sale of their used Boeing 737 planes	NVG	Announced 7/21/81
Cessna Aircraft Co. (US)	Will deliver three Citation IIs to China National Aero Technology Import and Export Corp.	$6.8 million	Announced 8/81
American Casa (US)	Has initiated talks on sales and possible joint manufacture of the Casa 212	NVG	Announced 8/81
Coventry Climax (UK)	Despatched order for two battery-powered forklift trucks to Wuzhou, Guangxi Province, to be used in a barites processing plant	NVG	Order announced 8/20/81
Japan Airlines (Japan)	Will service two CAACB-747 SP jumbo jets at Narita and Haneda airports	NVG	Agreement signed 9/81
Clark Equipment (Australia)	Three container lift trucks	$574,000 (Aus. $500,000)	Order completed 9/81
General Electric Co. (US)	Is exploring the possibility of cooperative production of aircraft engines and LM2500 marine and industrial gas turbines	NVG	Announced 9/2/81
Asahi Helicopters (Japan)	Will lease two Bell 212's to the General Administration of Civil Aviation of China for offshore oil exploration	NVG	Announced 9/12/81
East Asiatic Co. (Denmark)	Will open a plant for containers in January located between Guangzhou and Hong Kong	NVG	Reported 9/21/81
Volkswagenwerk AG (W. Germany)	Is negotiating the renovation of the Shanghai automative plant	NVG	Announced 10/16/81
Schenker & Co. (Austria)	Negotiating freight container transport by rail between Europe and the PRC via the Trans-Siberian Railroad	NVG	Agreement reported 10/28/81
Isuzu (Japan)	Discussing partnership in plant to manufacture diesel engines in Nanjing	NVG	Announced 11/11/81

Miscellaneous

The Adsale People (Hong Kong)	*Technova,* the bimonthly Chinese-language magazine on new technology, can now be purchased with local currency in 29 Chinese cities	NVG	Agreement announced 7/81
Science Books International (US)	Under an agreement with Xinhua Publishing House, will publish first official English-language directory of businesses in China	NVG	Announced 8/17/81
NIKE, Inc. (US)	Has reached a cooperative production agreement on sports shoes and will give ten days of clinics to Chinese basketball players and coaches	NVG	Agreement announced 8/17/81
Young & Rubicam (US)	Will begin advertising for a Beijing carpet company	NVG	Announced 9/8/81
Pierre Cardin (France)	Will open a boutique in Beijing	NVG	Announced 10/2/81
Allied Bank International (US)	Has signed cooperation agreements with four provincial corporations	NVG	Announced 10/30/81
Domino Ltd. (US)	Signed a one-year exclusive agreement with a Shanghai factory to produce 300,000 pairs of Goodyear welted work oxfords	NVG	Announced 11/23/81

Sales and Negotiations to Overseas Chinese Enterprises

American Air Filter Co. (US)	Two electrostatic precipitators and a fabric collector to be installed at the new Hong Kong plant of China Cement Co.	NVG	Announced 9/81

Total value of 1981 sales listed through November 30 ..... $1,405.9 million+
Total value of 1981 negotiations listed through November 30 ..... $4,416.0 million+

CHINA'S EXPORTS: 1981 SALES AND NEGOTIATIONS THROUGH NOVEMBER 30

Company/Country	Product/Plant/Technology	Value	Status Date Announced
Agricultural Products and Equipment			
(Morocco)	32 tons of high-quality tea plant seed	NVG	Announced 9/11/81
(US)	70,400 tons of peanuts from August 1980 to June 1981	$148 million	Reported 10/81
Devark Inc. (US)	Rice hulling machinery manufactured in Qingdao	NVG	Announced 10/24/81
(Japan)	8,000 tons of soybeans for November and December 1981	$2.64 million	Reported 11/10/81
Chemicals and Petrochemicals			
Nissho Iwai (Japan)	Will import 3,000 tons of fused phosphates	NVG	Announced 10/2/81
Construction			
Capital Development Authority (Tanzania)	Will collaborate with the China World Construction Corp. on the construction of a state-owned international hotel in Dodoma	NVG	Reported 9/2/81
(Zimbabwe)	Will assist in construction of stadium	NVG	Announced 9/18/81
Zim-Chem (Far East) (Hong Kong)	Under an agreement with Fujian Foreign Construction Co., will provide Chinese workers for overseas projects	NVG	Announced 10/81
World Wide Equipment Co. and P-D Auctioneers International (US)	Will resell a large assortment of construction equipment from China	NVG	Announced 10/6/81
(Sudan)	China Construction Engineering Corp. will cooperate to build an agricultural scientific center. Also signed contract to design a children's hospital.	NVG	Announced 10/26/81
Foreign Aid			
(Zambia)	Machinery and advisors for the construction of a maize mill in Chingola	NVG	Announced 10/16/81
Light Industries			
Cutler Brands and Designs Inc. (Canada)	Preliminary agreement with the Shanghai branch of China National Light Industrial Products Import and Export Corp. on the purchase of glass tableware	$625,000 (C$750,000)	Announced 7/81
Trac International Inc. (US)	Took delivery of 650 bicycles	NVG	Announced 8/81
Hosanna Electric Co. Ltd. (Hong Kong)	Processing agreement to produce 300,000 sets of hair curlers	$1.2 million (HK$6.9 million)	Contract signed 10/81
Wen Wei Enterprises Ltd. (Hong Kong)	Will produce ANMIZ wristwatches	NVG	Announced 10/26/81
Ogimura Shoji Co., Ltd. (Japan)	Production of 200,000 dozen badminton shuttles annually in a compensation trade agreement	NVG	Contract announced 10/26/81
Machinery			
Dryden Enterprises and Henderson Ltd., Inc. (US)	Concluded negotiations for the exclusive worldwide sale of Chinese compressed gas cylinders	NVG	Announced 9/81

Metals and Minerals

(Luxembourg)	Blueprints of a top-burning hot-blast stove for ferrous metallurgy under a 10-year cooperation agreement on blast-furnace technology	NVG	Reported 2/4/81
Cometals Inc. (US)	Will import 25,000 long tons of calcinated refractory grade bauxite in January and February 1982	NVG	Contract announced 10/9/81
Nichimen Co., Ltd. (Japan)	Contract for export of coal (no quantity given)	NVG	Announced 10/26/81
Chiap Hoa Comalco Ltd. (Hong Kong)	Signed agreement with Hefei Aluminum Plant on joint sales of aluminum alloys	NVG	Announced 10/26/81
Shell Developments (Hong Kong)	Agreement with MINMETALS to buy not more than 50,000 tons of steam coal from Datong in Shanxi Province	$55-$60 per ton	Announced 11/81

Military Equipment

(Sudan and Somalia)	12 MiG-19s	NVG	Announced 1/19/81
(Zambia)	6 MiG-19s	NVG	Announced 1/19/81

Petroleum Products and Equipment

(Thailand)	500,000 barrels of Shengli crude, 100,000 tons of benzene, 100,000 tons of high-speed diesel, and 50,000 tons of jet fuel	NVG	Reported 6/81

Shipping

Regent Shipping Co. S.A., Green Island, Inc., and Wheelock Maritime International (Hong Kong)	Have signed contracts from May 1980 to April 1981 with Dalian Shipyard to build eight 27,000-ton bulk freighters	NVG	Announced 8/24/81
NA	A tugboat from the Guangzhou Marine Engineering Service Co. is pulling an 80,000-ton cargo barge from Japan to Spain	NVG	Contract announced 10/81
Wheelock Maritime (Hong Kong)	Is buying three bulk carriers of 18,000 deadweight tons each	$40 million	Announced 10/14/81

Textile Products and Equipment

Sears, Roebuck & Co. (US)	Shanghai No. 3 Garments Factory to produce 180,000 women's suits	NVG	Order placed 10/10/81

Trade Agreements

(Sudan)	Trade protocol in which China will supply canned foods, tea, light machinery, cotton textiles, rice, stationery and paper, building materials, and glass and chinaware; Sudan will supply raw cotton, gum arabic, and other agricultural products	$47 million	Signed 8/81
(Zimbabwe)	With the assistance of China, will set up joint ventures in coal mining, agriculture, and light industry	NVG	Announced 8/14/81
(Pakistan)	Barter trade agreement in which Pakistan will supply China with cotton, cotton textiles, yarn, leather, and leather goods. China will provide instruments, workshop equipment, steel, ore, and road-building and construction machines	$20 million	Agreement signed 9/81
(Bulgaria)	Has signed a protocol for cooperation in science and technology, in particular in agriculture and food industry	NVG	Announced 9/29/81
(Yugoslavia)	Will provide China with machinery and equipment for seed-processing plants in return for the Chinese techniques of growing mushrooms and raising and processing Beijing ducks and Uygur fine-wool sheep	NVG	Agreement signed 11/4/81
(Australia)	Technical cooperation agreement in which Australia will provide consulting and training in educational, agricultural, and economic sectors	$57.4 million (Aus. $50 million)	Announced 11/6/81

Miscellaneous

Four Sea Ventures (US)	Has introduced a collection of SuHai limited edition figurines	NVG	Announced fall/81
R. C. Sanders Technology Systems, Inc. (US)	Will import Chinese parts and printers	NVG	Agreement signed 9/81

Intraco (Singapore)	Has been appointed an agent for China National Machinery and Equipment Import and Export Corporation. Products include enamelled wire, water meters, steel valves and pipes, refrigeration machinery, and lead acid batteries	NVG	Announced 9/81
(North Korea)	3,800 books from the State Administrative Bureau of Publishing	NVG	Presented 9/25/81
(Uganda)	Ice plant built by Chinese capable of storing up to 30 tons of processed fish	NVG	Reported 9/25/81
Chinese Native Products Ltd. (US)	Will jointly operate an oriental meat-canning facility in Des Moines, Iowa, with the Guangdong Foodstuffs Industrial Corp.	NVG	Reported 10/81
Canadian Yanjinglon Restaurant (Canada)	Contract signed with the Beijing Friendship Commercial Service Co. to hire five Beijing chefs	$1,000 per month for each chef	Contract announced 11/16/81

Total value 1981 sales listed through November 30 ..... $729.6 million+
Total value of 1981 negotiations listed through November 30 ..... $1,195.3 million+

JOINT VENTURES: PRESS REPORTS THROUGH NOVEMBER 30

Foreign Party	Chinese Party	Technology/Terms	Value	Status
(Hong Kong)	Guangdong Province	Negotiations under way for construction of a nuclear power plant	NVG	Announced 5/28/81
Sony Corp. (Japan)	National Electric Technology Corp.	Joint production and distribution of radio cassette recorders and television sets	NVG	Reported 8/81
Asia Dairy Industries (Australia)	NA	Proposals sent to Chinese authorities to: a) supply fresh milk from Guangxi to Hong Kong b) establish a dairy plant in Heilongjiang	NVG	Announced 8/13/81
R. J. Reynolds (US)	Xiamen Cigarette Factory, Fujian	Will produce a new brand of cigarettes	NVG	Agreement announced 9/81
Investment and Development Corp. (Japan)	Fujian Investment Entertainment Corp.	Will build Fuzhou Grand Hotel in Fujian Province	$24 million	Announced 9/1/81
Beatrice Foods (US)	Guangzhou and the China International Trust and Investment Co.	Has formed a 50-50 venture called The Guangmei Foods Corp. to produce canned fruits and vegetables as well as soft drinks and citrus juices	NVG	Announced 9/10/81
Florasynth Inc. (US)	Shanghai Daily Chemical Corp. and Shanghai Investment and Trust Co.	Will produce flavors and fragrances from Chinese raw materials for distribution in world markets	NVG	Announced 9/14/81
American International Group (US)	People's Insurance Co.	Has established a joint venture	NVG	Announced 9/17/81
(North Korea)	NA	Construction of the Taipingwan hydroelectric station in Huandian County, Liaoning Province	NVG	Announced 9/22/81
United Trading Group (Kuwait)	Beijing Foreign Trade Corp.	Formed the Kuwait-Beijing Trading Center in Kuwait	NVG	Inaugurated 9/25/81
Ampac Oil Ltd. (Hong Kong)	Guangdong Petrochemical Industrial Corp.	Construction of a 40,000-barrel-per-day oil refinery in Zhanjiang	$100 million	Announced 10/19/81
Henry Jones Inc. (Australia)	Nanning Agriculture-Industry-Commerce Integrated Enterprise	A 50-50, 20-year venture for the cultivation, canning, and sale of pineapples	$460,000	Announced 10/26/81
Mitsui (Japan)	Dongsheng Textile Co.	World's largest cashmere dehairing venture has begun operations	NVG	Announced 11/81
Wella AG (W. Germany)	Tianjin No. 1 Household Chemicals Factory	A 50-50 venture to make and sell hair conditioner, face cream and sanitary articles	$686,892 (¥1.2 million)	Reported 11/2/81
American Motors (US)	NA	Negotiating production of military trucks in Beijing	NVG	Announced 11/11/81
Parker-Hannifin Corp. (US)	Hubei Automobile Industry Corp.	Will make O-ring seals for machine tools and motor vehicles	$1.5 million	Agreement signed 11/13/81

中外贸易

OTHER ARRANGEMENTS: 1981 PRESS REPORTS THROUGH NOVEMBER 30

Foreign Party	Chinese Party	Technology/Terms	Value	Status
Gunze Sangyo Co. (Japan)	China National Textiles Import and Export Corp., Shandong Branch	Joint production: cotton underwear in Jinan, Shandong Province	NVG	Announced 2/9/81
Sanwa Bank (Japan)	Bank of China, Tianjin branch	Have reached a cooperation agreement on trade, investment, and international financing	NVG	Agreement signed 4/81
KCA (UK)	NA	Compensation trade: KCA will aid in the construction of a barite mill at Wuzhou, Guangxi Province in exchange for Chinese shipments of barite	NVG	Announced 6/81
Hurtig Publishers (Canada)	Shanghai People's Art Publishing Co.	Has entered into a major copublishing arrangement	NVG	Announced 7/81
Janssen Pharmaceutica N.V. (Belgium)	Hanjiang Pharmaceutical Plant	Compensation trade: agreement on the coproduction of a new type of anthelmintic and a purchase and sale agreement on this medicine	NVG	Agreements signed 7/8/81
Kansas Farm Bureau (US)	Henan Province	Have signed friendship and trade agreements	NVG	Announced summer/81
Perolin (UK)	China Ocean Shipping Co., Shanghai Branch	Signed agency agreement in which COSCO will be given training on Perolin products, services, systems, and programs	NVG	Announced 9/16/81
Wah-Chang International Group (Singapore)	China Corp. of Shipbuilding Industry	Cooperation in building a Bethlehem steel mat-type self-lifting drilling rig	NVG	Contract signed 9/21/81
Fujitsu Fanuc Ltd. (Japan)	First Ministry of Machine Building	Licensing: China to produce and sell Fujitsu Fanuc wire-cutting electro-discharge machines over the next seven years	NVG	Agreement announced 9/22/81
Koppers Australia Pty. Ltd. (Australia)	Anshan Iron and Steel Co.	Koppers will provide Anshan with technology assistance in return for a 10-year shipment of coal-tar electrode pitch	NVG	Approved 9/22/81
Japan Oil Corp. (Japan)	Ministry of Petroleum Industry	Technical cooperation in physical exploratory surveys	NVG	Announced 10/81
Clark Copy International (US)	National General Bureau of Instrumentation	Mutual assistance in manufacturing and distributing photocopying products	NVG	Protocol signed 10/81
Washino Machinery (Japan)	No. 2 Machinery Factory, Beijing	Licensing: agreement to transfer technology for general lathes	NVG	Announced 10/81
Four Winds (US)	China Ocean Shipping Agency (Penavico)	Penavico will provide destination services for Four Winds shipments	NVG	Agreement announced 10/14/81
Hitachi Ltd. (Japan)	Beijing Teachers' University	Will jointly develop a higher performance Chinese character information-processing system	NVG	Announced 10/17/81
NA (Hong Kong)	Maanshan and Bengbu radio factories	Agreement to assemble radio cassette recorders	NVG	Reported 10/26/81
Sciaky Ltd. (France)	China National Technical Import Corp.	Production of 49 types of electric welders in seven series	NVG	Reported 10/26/81
Komatsu Co. (Japan)	Pengpu Machinery Plant, Shanghai	Technology to manufacture 320-hp bulldozers	NVG	Reported 10/26/81
Chase Manhattan Bank (US)	Bank of China, Tianjin Branch	Business cooperation agreement to increase economic exchanges and promote friendly relations	NVG	Reported 10/26/81
(West Germany)	Wuhu Down Factory	Compensation trade: The Wuhu Down Factory will import equipment to expand its processing capacity	NVG	Announced 10/26/81
BOT Lease Co. (Japan)	Guangdong Trust and Investment Corp.	Have signed an agreement to develop business contacts and cooperation	NVG	Announced 10/28/81
Sulzer Ltd. (Switzerland)	China National Technical Import Corp.	Licensing: technology for 6RL AS6-type low-speed diesel engines	NVG	Reported 11/81
New Energy Development Organization (Japan)	NA	Will jointly carry out coal liquefaction research and development by setting up a pilot facility in the Beijing Coal Institute	NVG	Announced 11/11/81

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CHINA DATA

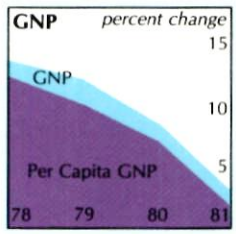
中國數據

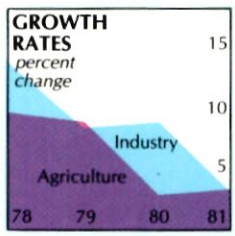
KEY INDICATORS

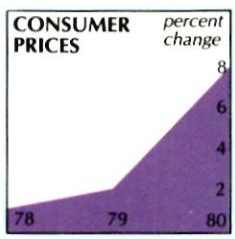
	1977	1978	1979	Percent change	1980	Percent change	1981*	Percent change*
GNP (billion yuan, current prices)	¥307.4 $165.5	¥349.8 $207.8	¥391.4 $251.7	11.9 21.1	¥424.1 $283.0	8.4 12.4	¥437.0 $264.8	3.0 −6.4
Population (year end, million)	945.2	958.09	970.92	1.3	982.55	1.2	994.0	1.2
Of which:								
Urban	—	—	128.16	—	—	—	—	—
Rural	—	—	842.76	—	—	—	—	—
GNP per capita	¥325 $175	¥365 $217	¥403 $259	10.4 19.4	¥432 $288	7.2 11.2	¥440 $267	1.9 −7.3
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	¥682.0 $413.3	3.0 −6.4
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	¥514.0 $311.5	3.0 −6.5
Of which:								
Heavy industry	—	¥242.4 $144.0	¥261.1 $167.9	7.7 16.6	¥264.8 $176.7	1.4 5.2	—	—
Light industry	—	¥180.7 $107.3	¥198.0 $127.3	9.6 18.6	¥234.4 $156.4	18.4 22.9	—	—
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
Official consumer price index (1975 = 100.0)	103.0	103.7	105.7	1.9	113.6	7.5	—	—

*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.





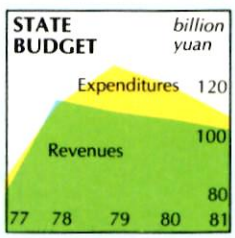


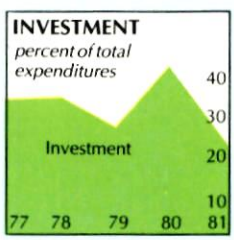
DOMESTIC FINANCE

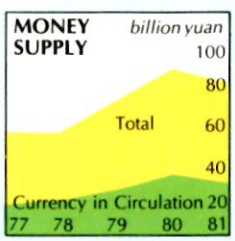
(Billion current yuan unless otherwise indicated)

	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	¥86.00* $52.12*	−6.5* −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	¥31.00* $18.79*	−10.5* −8.6*

*Estimates





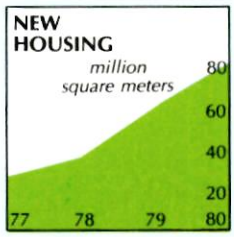


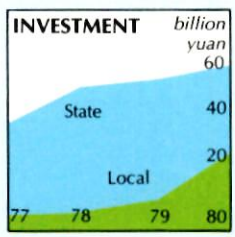
CAPITAL CONSTRUCTION

(Billion yuan unless otherwise indicated)

	1977	1978	Percent change	1979	Percent change	1980	Percent change
Total investment	¥36.48 $19.64	¥47.90 $28.45	31.3 44.9	¥50.00 $32.15	4.4 13.0	¥53.9 $36.0	7.8 12.0
Of which:							
National budget	¥29.48 $15.87	¥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	¥7.00 $3.77	¥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	27.8	37.69	35.6	62.56	66.0	82.3	31.6

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

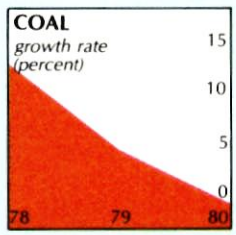


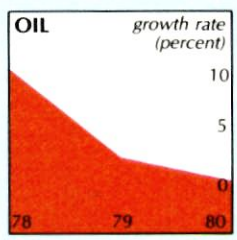


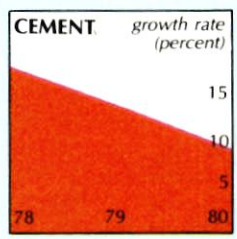
INDUSTRIAL OUTPUT

(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	35.4	−4.6
Rolled steel	22.08	35.2	24.97	13.1	27.16	8.8	26.2	−3.7
Pig iron	34.79	38.9	36.73	5.6	38.02	3.5	33.9	−10.9
Coal	618.0	12.4	635.0	2.8	620.0	−2.4	620.6	0.1
Crude oil	104.05	11.1	106.15	2.0	105.95	−0.2	101.0	−4.7
Natural gas (billion cubic meters)	13.73	—	14.51	5.7	14.27	−1.7	12.9	−9.3
Electricity (billion kilowatt-hours)	256.55	14.8	281.95	9.9	300.6	6.6	308.4	2.6
Cement	65.24	17.2	73.9	13.3	79.86	8.8	80.7	1.1
Sulfuric acid	6.61	23.0	7.0	5.9	7.64	9.1	7.8	1.9
Chemical pharmaceuticals (thousand metric tons)	40.7	15.6	41.7	2.5	40.1	−3.8	36.7	−8.4
Chemical fibers (thousand metric tons)	285.0	50.2	326.0	14.4	450.0	38.0	524.7	16.6
Cotton yarn	2.38	8.0	2.63	10.5	2.93	11.4	3.2	7.8
Machine-made paper and paperboard	4.39	16.4	4.93	12.3	5.35	8.5	5.3	−0.1
Chemical fertilizers (based on 100 percent effectiveness)	8.693	20.1	10.654	22.6	12.32	15.7	12.2	−0.8
Of which: Nitrogenous	7.637	—	8.821	15.5	9.99	13.3	9.8	−2.3
Phosphate	1.033	—	1.817	75.9	2.31	26.9	2.4	5.4
Potash (thousand metric tons)	21.0	—	16.0	−23.8	20.0	25.0	20.0	0.0
Chemical insecticides (thousand metric tons)	533.0	16.6	537.0	0.8	537.0	0.0	493.5	−8.1

*Projections based on 1981 January–November growth rates.

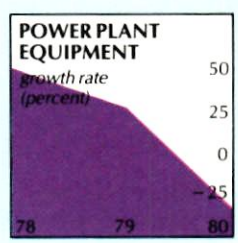


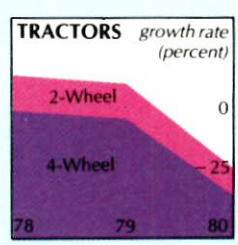




EQUIPMENT OUTPUT

	1977	1978	Percent change	1979	Percent change	1980	Percent change
Machine tools (thousand units)	199.0	183.0	−8.0	140.0	−23.5	134.0	−4.3
Power generating equipment (million kilowatts)	3.181	4.838	52.1	6.212	28.4	4.193	−32.5
Motor vehicles (thousand units)	125.4	149.1	18.9	186.0	24.8	222.0	19.4
Locomotives (units)	293.0	521.0	77.8	573	10.0	512	−10.6
Railway passenger coaches (units)	—	783.9	—	856.0	9.2	1,002	17.1
Railway freight wagons (units)	6.396	16.95	165.0	16.042	−5.4	10,571	−34.1
Tractors (thousand units)	99.3	114.0	14.8	126.0	10.5	98.0	−22.2
Hand tractors (thousand units)	320.5	324.2	1.2	318.0	−1.9	218.0	−31.4



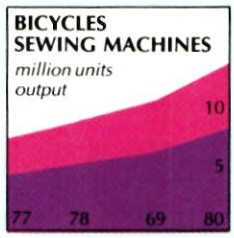


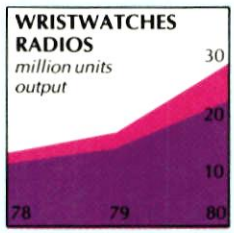
CONSUMER GOODS OUTPUT

(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	17.0	30.8
Sewing machines	4.86	14.6	5.87	20.8	7.68	30.8	10.0	30.3
Wristwatches	13.51	22.4	17.07	26.4	22.16	29.8	28.0	26.4
TV sets (thousand units)	517.0	—	1,329.0	157.1	2.492	87.5	5.0	100.0
Radio sets	11.68	—	13.81	18.2	30.04	117.5	43.7	45.0
Cameras (thousand units)	178.95	—	238.0	33.0	373.0	56.7	600.5	61.0
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	113.9	12.8
Silk textiles (million meters)	610.35	—	663.45	8.7	759.0	14.5	852.4	12.3

*Projections based on 1981 January–November growth rates.



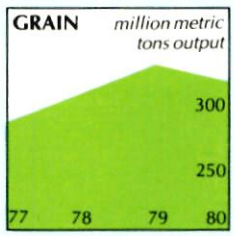


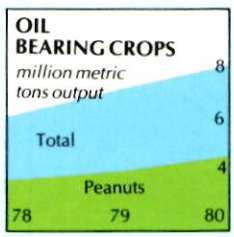
AGRICULTURAL OUTPUT

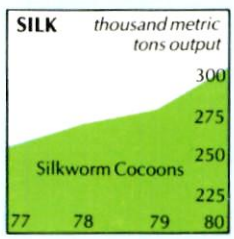
(Million metric tons unless otherwise indicated)

	1977	1978	Percent change	1979	Percent change	1980	Percent change
Grain	282.75	304.75	7.8	332.115	9.0	318.22	−4.2
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
Silkworm cocoons (thousand metric tons)	216.0	228.0	5.6	271.0	18.9	326.0	20.3
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
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

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

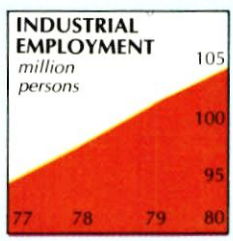


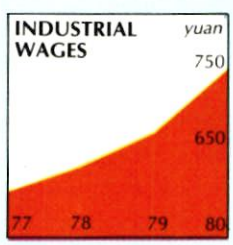




EMPLOYMENT AND WAGES

	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	¥56.9	10.5	¥64.7	13.7	¥77.3	19.5
	$27.7	$33.8	22.0	$41.6	23.1	$51.6	24.0
Of which:							
State-owned units	¥42.6	¥46.9	10.1	¥53.0	13.0	¥62.8	18.5
	$22.9	$27.9	21.8	$34.1	22.2	$41.9	22.9
Urban collectively owned units	¥8.9	¥10.0	12.4	¥11.7	17.0	¥14.5	23.9
	$4.8	$5.9	22.9	$7.5	27.1	$9.7	29.3

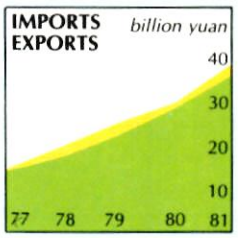


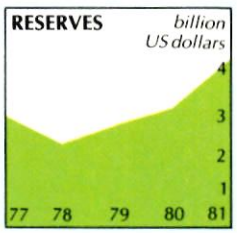


FOREIGN TRADE
(Billion current yuan unless otherwise indicated)

	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	¥35.0	28.7
	$7.52	$9.97	$13.63	36.7	$18.2	33.5	$21.2	16.5
Imports (cif)	¥13.28	¥18.75	¥24.30	29.6	¥29.1	19.8	¥38.0	30.6
	$7.15	$11.74	$15.63	40.3	$19.4	24.1	$23.0	18.6
Total trade (fob/cif)	¥27.25	¥35.54	¥45.50	28.0	¥56.3	23.7	¥73.0	29.7
	$14.67	$21.11	$29.26	38.6	$37.6	28.5	$44.2	17.6
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.

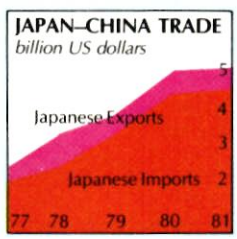


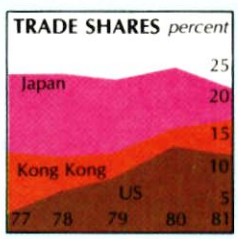


FOREIGN TRADE WITH SELECTED COUNTRIES
(Million US dollars)

	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	$3,750	0.0
Imports (customs value)	$202.7	$324.1	$592.3	$1,058.3	78.7	$1,900	79.5
Total	$374.0	$1,147.7	$2,308.8	$4,807.3	108.2	$5,650	17.5
Share of China's total two-way trade	2.5	5.4	7.9	12.8		12.4	
Japan							
Exports (fob)	$1,955	$3,074	$3,674	$5,109	39.1	$5,230	2.4
Imports (cif)	$1,560	$2,045	$2,933	$4,346	48.2	$4,470	2.9
Total	$3,515	$5,119	$6,607	$9,455	43.1	$9,700	2.6
Share of China's total two-way trade	23.9	24.0	22.5	25.2		21.9	
Hong Kong							
Exports (fob)	$44	$63	$82	$1,249	227.0	$2,120	69.7
Imports (cif)	$1,735	$2,249	$3,021	$4,401	45.7	$5,325	21.0
Total	$1,779	$2,312	$3,403	$5,650	66.0	$7,445	31.8
Share of China's total two-way trade	12.1	10.9	11.6	15.1		16.8	
W. Germany							
Exports (fob)	$501	$995	>1,493	$1,145	−23.3	$1,615	41.0
Imports (cif)	$288	$367	$534	$808	51.3	$700	−13.4
Total	$789	$1,362	$2,027	$1,953	−3.7	$2,315	18.5
Share of China's total two-way trade	5.4	6.4	6.9	5.2		5.2	

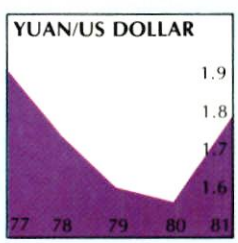
*Estimates

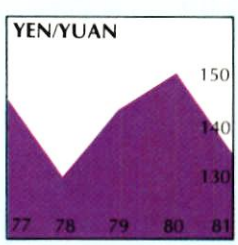




EXCHANGE RATES
(Period averages)

	1980	1981								
		J	F	M	A	M	J	J	A	S
Yuan per US dollar	1.4984	1.56	1.61	1.63	1.66	1.72	1.76	1.76	1.78	1.75
US cents per yuan	66.7	64.1	62.1	61.3	60.2	58.1	56.8	56.8	56.2	57.1
Japanese yen per yuan	151.3	131.7	127.9	128.1	129.6	128.3	127.4	131.8	131.3	131.4
Hong Kong dollar per yuan	3.329	3.36	3.32	3.28	3.26	3.26	3.26	3.25	3.34	3.45
Yuan per pound sterling	3.50	3.59	3.70	3.63	3.62	3.59	3.48	3.30	3.24	3.18





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

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- Electronics Production/Semiconductor Exposition '82, Beijing, April 15-24, 1982
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Don't turn your back on nature – get back to it ... because your market's getting back to it, too.

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