

The China Business Review

THE MAGAZINE OF THE NATIONAL COUNCIL FOR US-CHINA TRADE
September-October 1987

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REPORT



*The 13th Party Congress
approaches*



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Volume 14, Number 5

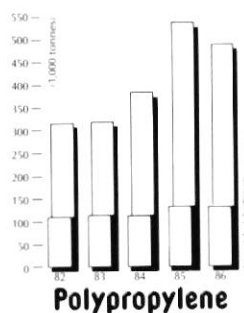
Cover: Political tension is mounting as fall—and the 13th Party Congress—approaches. *Photo from National Council files.*



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TRENDS & ISSUES

摘要

OPENING THE BACK DOOR

Political contacts between China and Israel are coming out into the open. Late in March, China's Xinhua News Agency reported on talks held at the United Nations between a senior Israeli official and China's senior UN representative. Similar one-on-one meetings, covering the question of a Middle East peace conference and, presumably, Israel's desire to establish diplomatic relations with China, had gone unreported by the Chinese press in the past. Three months later in Beijing, Xinhua covered the first meeting in 25 years between leaders of the Communist Party of Israel and top CCP officials, an event marked by the normalization of relations between the two Communist parties.

China's position is that it will not recognize Israel until that country withdraws to its pre-1967 borders and accepts the right of Palestinians to an independent state. But contacts in a multilateral forum like the UN are nothing to feel shy about. And the establishment of Party relations is a natural outgrowth of China's recent efforts to normalize relations with all Communist parties.

Yet something of greater significance is afoot. Israeli Foreign Minister Shimon Peres would like to establish diplomatic relations with China now that plans for an international peace conference are under way. Participating in such a conference would strengthen China's image as a major political power. And the Chinese, who have said some nice things about Peres in their press, would not object to strengthening his hand against the Israeli right-wing. If China can persuade Israel to allow the PLO to take part in the conference, perhaps the PLO and the Arab states will not object to PRC recognition of Israel.

Even if plans for a peace conference fall through, China-Israeli relations are likely to deepen. In recent years Beijing has permitted represen-

tatives from countries it does not recognize to attend multilateral forums in China. Business executives may also enter, and even organize trade exhibitions. Because only bilateral, official contacts are proscribed, China had no trouble justifying the direct-dial phone links it set up with Israel in the spring of 1986, and the "private" trade delegations now heading in each direction.

Beginning in the 1970s, China's anti-Soviet position laid a solid foundation for clandestine military cooperation with Israel, which responded promptly with intelligence about Soviet military designs and sales of advanced hardware: including, to date, missiles, radar, communication systems, electronic warfare equipment, and artillery. No one knows how much these sales have been worth so far, but estimates run into the billions of dollars.

In this decade, economic cooperation has grown rapidly in civilian sectors. Reliable accounts have it that the Israelis are already helping China raise everything from strawberries to shrimp, improve irrigation techniques, and develop China's food processing industry. In some cases, Israel merely exports its know-how, but in others investment is said to be involved. Although China's primary focus is on tapping agricultural expertise, it has also reportedly signed hotel and airport construction contracts with Israeli firms, and many other construction projects are thought to be under consideration.

What does Israel get out of these ties? Certainly earning some political goodwill does it no harm. And Israel is also eyeing long-term prospects in the China market, not only in the field of agriculture and construction, but also in solar energy, electronics, and laser technology. The absence of diplomatic relations may be something of a nuisance to Israeli (and Chinese) businessmen, but—in economic matters at least—China has been fairly accommodating. —DDK

EQUALIZING OPPORTUNITY

At a 1980 meeting between a US governor and Deng Xiaoping, the governor confided his concern over growing income inequalities in his state. The gap, he lamented, seemed necessary to stimulate the state's economy. The governor then asked Deng what he would do. Deng's reply: "If it takes more money to get good skilled workers to move to your state, pay them more money!"

This pragmatic attention to efficiency—even at the expense of social equity and regionally balanced economic growth—has led some observers to wonder whether China has abandoned its commitment to egalitarianism. But economic development under Deng has not been as uneven as commonly believed, as provincial statistics show.

China's wealthiest provinces in 1981 have since increased their industrial productions at rates well below the national average. The provinces that began the period with only average per capita production, however, have done much better, growing at rates of 60–100 percent from 1981–85. Jiangsu and Zhejiang, ranking just above the national per capita average in 1981, turned in the strongest performances, growing 88 and 104 percent. Guangdong, Hubei, Xinjiang, Fujian, and Anhui followed with growth rates ranging from 87 to 64 percent.

Statistics for 1986 continue the same pattern. Heavily industrialized cities in China's northeast saw industrial output increase at rates well below the national average, while industrial growth in the middle-ranked provinces averaged an impressive 13 percent. And while some of the poorest provinces continue to lag behind, Hunan, Jiangxi, Guangxi, Ningxia, and Qinghai all reported double-digit growth in 1986.

If this pattern continues, differences between China's developed coast and its backward inland areas will continue to narrow. While the

"egalitarian policies" of Chairman Mao did little to eradicate income disparities throughout the country, Deng's pragmatism may finally be closing the gap. —David L. Denny

YOU GOTTA GIVE 'EM CREDIT

The worldwide popularity of credit cards—and the profits made through commissions charged by the card-issuing companies—has not escaped the notice of Bank of China (BOC) officials. Not to be outdone, the Bank of China issued its own "Great Wall" card in 1986 to attract the foreign currency accounts of foreigners living in China. With the bank charging a ¥50-¥80 start-up fee and a 4 percent commission on sales, the Great Wall Card could prove lucrative.

But foreigners have been slow to apply, perhaps because seven international credit cards—including American Express, MasterCard, and Visa—are already accepted in China. Last year these cards were used to purchase \$110 million worth of goods and services, and a US credit card executive estimates the total may top \$200 million this year.

The Bank of China also has an eye on the domestic market. In February BOC branches began issuing renminbi-based Great Wall cards to individuals with ¥1,000 (\$270) or enterprises with ¥5,000 (\$1,350) on deposit. Cardholders can get up to ¥200 in cash, or pay for goods and services in designated shops and hotels in 20 major cities. The renminbi card, limited to companies and highly paid individuals, is reportedly well on the way to becoming China's newest status symbol.

The BOC is counting on money spent by Chinese delegations traveling overseas to help it take the Great Wall card international. In March, BOC joined MasterCard International, and Li Yumin, vice president of the BOC, was elected to serve on the board of directors. China's first internationally accepted credit card—probably called "Great Wall MasterCard"—is expected to be issued by the end of this year. In May, the BOC signed another agreement with Visa International to allow it to issue Visa cards in China next year.

Joining these credit giants may bring the BOC more than just commissions. Access to the most modern credit card processing services and technology may prove to be the biggest payoff. —Jinghong Guo

THE MIGHTY COCOA BEAN

China's rising standard of living has stimulated the growth of a national sweet tooth, and with it a craving for chocolate. But the country's relatively young chocolate industry is facing a crisis: the lack of cocoa.

China has relied mainly on cocoa bean imports (27,000 tonnes in 1986) to supply its chocolate makers. Yet tight foreign exchange restricted purchases of the low priority beans this year—and China's nine major chocolate producers (each equipped with imported production lines) now report underutilized capacity.

China's farmers are not in a position to be of much help. The only place in China where cocoa beans are currently cultivated is one farm on Hainan Island producing a mere 100 tonnes of poor-quality beans per year. Other farmers cannot be easily coaxed into the crops, since cocoa plants take three years to bear the first beans, and seven to eight years to reach maturity. The government began to study the feasibility of large-scale cocoa cultivation two years ago and may join with foreign companies to get help in developing modern cocoa bean plantations.

Meanwhile, there is no lack of entrepreneurial effort to get the chocolate industry back on track. Although the 3,000 tonnes of high-grade chocolates China now exports are made with cocoa butter, the industry is trying to develop substitutes for the 7,000 or so tonnes of low- and medium-grade chocolates consumed domestically each year.

Three Chinese factories now turn out about 100 tonnes per year of cocoa butter substitutes refined from peanut and vegetable oil. China also has abundant resources of stillingia (tallowseed)—similar in flavor to cocoa beans but much cheaper and quicker to produce—that may be developed. And efforts of Chinese researchers working to improve cocoa seed breeding recently resulted in an important breakthrough: breeding of cocoa plants by tissue culture. Although one factory is now engaged in pilot production using these artificially bred beans, their quality is not yet good enough for commercial production. China's chocoholics will have to wait and see whether today's test tube beans become the chocolate bars of tomorrow. —Andrew Ness and Zheng Xiao

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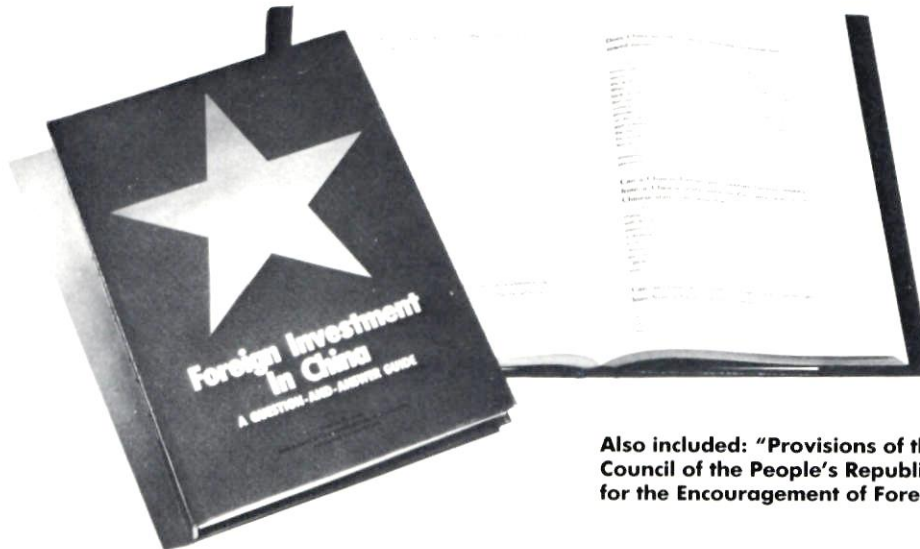
The China Business Review is published bimonthly by the National Council for US-China Trade, a nonprofit organization incorporated under the laws of the District of Columbia. Second class postage paid at Washington, DC, and additional mailing offices. Postmaster, please send address changes to *The China Business Review*, 1818 N St., NW, Suite 500, Washington, DC 20036-5559, USA. Articles in *The CBR* do not reflect Council policy, unless indicated. The Council is grateful to I-Chuan Chen for the calligraphy used for the magazine's departments.

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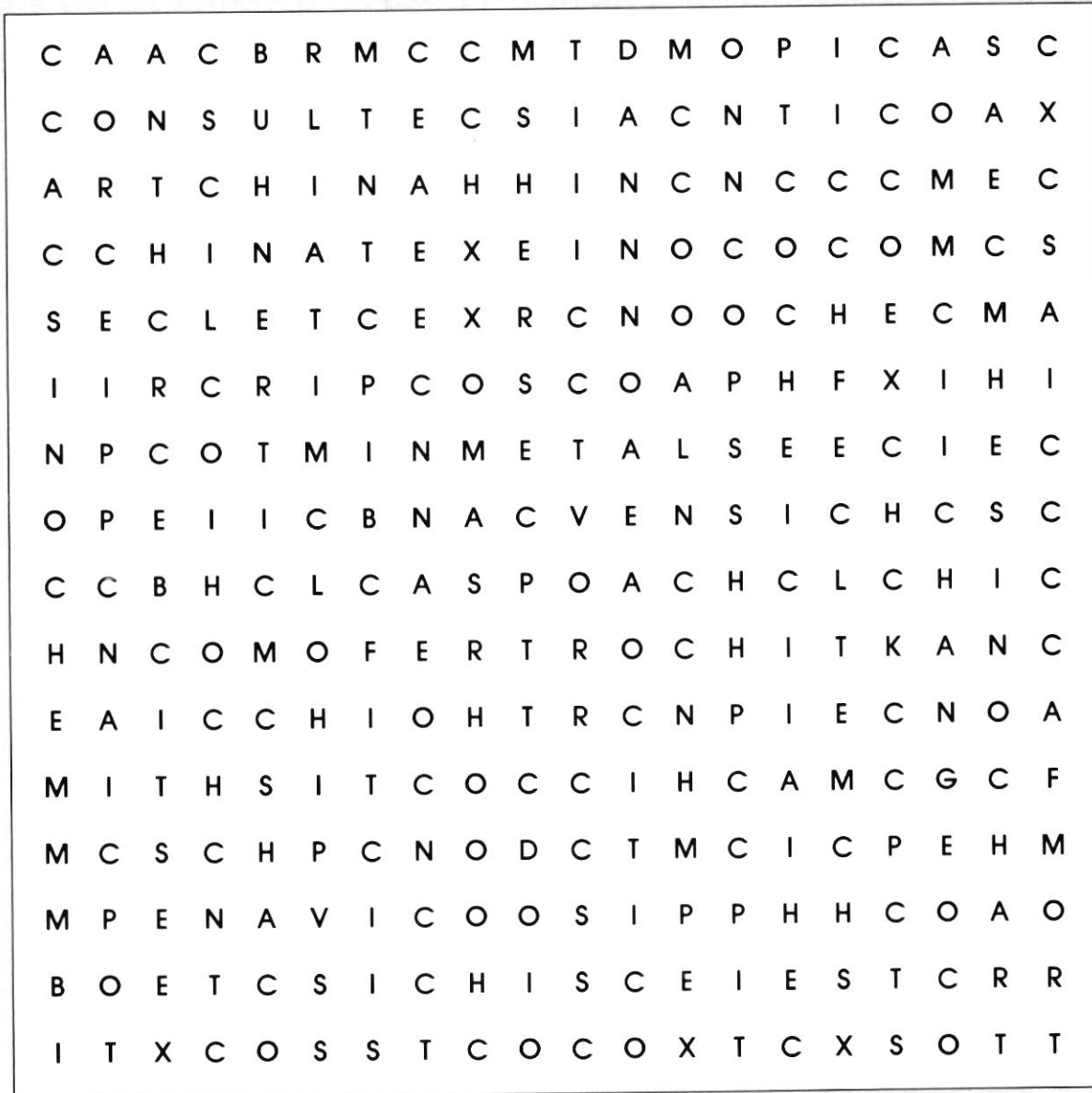
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CHINASPEAK: A Puzzle for Real China Hands

T. K. Chang and Michèle Cone Chang



Like any other business fraternity, China traders have their own distinctive lingo, peppered with acronyms and abbreviations that are incomprehensible to the uninitiated. Codewords such as CNOOC ("see-nuke"), CITIC ("si-tick"), and MINMETALS have entered into the common vocabulary of China hands, in part due to the confusing similarity of the names of Chinese corporations.

Some of these abbreviations originated from the cable address or telex answerback of Chinese trade corporations, such as MACHIMPEX for the China National Machinery Import and Export Corporation. Others are simply acronyms, such as CCPIT for the China Council for the Promotion of International Trade. In certain cases, foreign businesspeople still call a Chinese corporation by its informal cable address name (e.g., TECHIMPORT for China National Technology Import Corporation), although the Chinese prefer to use a different acronym (in this case, CNTIC). Certain Chinese corporations have also created their own catchy abbreviations, like SINOPEC for the China National Petrochemical Corporation.

This puzzle will test whether you qualify as a Real China Hand. Hidden in it are 60 abbreviations or acronyms commonly used in the China trade, including a few giveaways such as RMB and PRC. They are arranged horizontally (only from left to right), vertically (only from top to bottom) and diagonally (in all four directions).

For the maximum challenge and difficulty, the Real China Hand will want to solve the puzzle without any aids or hints. For the next level of difficulty, the China Expert can refer to the list on page 28 for the full unabbreviated versions of the hidden terms. And finally, for the Busy China Trader, the complete list of abbreviations and the solution to the puzzle appear on page 45. Have fun!

China on the Eve

The 13th Party Congress will strive for "unity," but serious divisions between two groups of reformers lie just below the surface

Deborah Diamond-Kim

The dismissal of General Secretary Hu Yaobang in January and the ensuing drive against "bourgeois liberalization" have created uncertainty both in China and abroad about the direction of China's reform program. It is no wonder then, that the approach of the 13th Party Congress—now set for October—has been elevated to high drama. Has Hu's fall from power affected the reform momentum? Part of the answer is expected to emerge from the 13th Party Congress.

As the Congress approaches, the contest between two rival prescriptions for China's future is coming to a head. One view holds that China's socialist State can only prosper, materially and "spiritually," if it has the courage to apply Marxist precepts flexibly and with imagination. This is the liberal view. The other holds that in China's headlong rush toward modernity, it must never lose sight of the Marxist vision that guides its path. This is the conservative position. In recent months, paramount leader Deng Xiaoping has managed to tip the balance in favor of the liberals with his statement that leftism ("ossified thinking") is a more serious problem than rightism, leading to expectations that this line will be a theme of the 13th Party Congress. But the issues at stake are being so hotly debated that it is difficult to predict whether the Congress will end in muddled compromise or with a bold program aimed at breaking through the current stalemate.

The purpose of a Party Congress, held every five years in China, is to approve top leadership appointments and endorse a "work report": China's version of America's State of the Union address. All decisions are made by high-ranking Party officials

in advance. Only when the Congress meets will outsiders learn whether a liberal or conservative will become general secretary,* and whether the Party's Politburo, central committee, and secretariat will continue to grow younger and more liberal in membership. And only then can analysts surmise from the tone of the work report what probable course China will take over the next five years. Even so, it may be months before the implications of policies approved at the Congress become clear.

What is certain is that the main concerns of this Congress will be domestic policy. Aside from affirming the continuity of the open door, neither conservative nor liberal elements in the reform spectrum are likely to say much that will have direct bearing on foreign interests in China. All the same, the Congress will indirectly affect foreigners, if only because three-quarters of the world cannot help but be affected by what the other quarter does.

There are inevitable areas of overlap between the economic and political issues that will be brought up. What follows is a discussion of each of the categories that leading Chinese officials have said will appear in the Congress work report and a review of liberal and conservative viewpoints in each of these areas.

ECONOMIC REFORM AGENDA

At the Congress, both liberals and conservatives will stand by the economic reform program. They can ill afford to do otherwise. Since 1978 both groups have staked their reputations on the premise that reform is the only guarantee for a brighter future.

Deborah Diamond-Kim is associate editor of The CBR.

Liberals like Zhao Ziyang, Wan Li, and Hu Qili, and conservatives like Chen Yun and Peng Zhen, will agree on something else, too. No matter how much the economy is stimulated by the reforms, the State must always maintain firm control over economic policies to ensure orderly economic development and a proper socialist orientation. But conservatives fear that the liberal policies are already chipping away at State power. They want more central planning, not less, and more State control over finances. Liberals, on the other hand, believe that the State loses nothing—and gains, in fact—by concentrating on macroeconomic control and allowing the enterprises to focus on micromanagement. The more that enterprises are encouraged to improve their productivity, say the liberals, the richer State coffers will become from the larger tax payments received. If the liberal viewpoint holds sway, the work report should strongly emphasize the merits of combining guidance planning with market mechanisms. A strongly worded conservative viewpoint, by contrast, would stress the combined role of mandatory and guidance planning, while acknowledging the supplementary role of market forces.



Enterprise reform. The most fundamental of China's economic reforms, enterprise reform is intended to give State-owned factories (and especially the factory manager) authority similar to that already given to some Sino-foreign joint ventures:

* Who will fill the highest government post—the premiership—is not, properly speaking, a matter for the Party Congress to decide. But important clues may emerge.

full control over all aspects of enterprise operation, including labor management, production, marketing, re-investment, and cooperation (including pooling resources and funds) with other enterprises. The 13th Party Congress will have to address at least two major issues: how to explain and deal with the slow pace of enterprise reforms to date, and whether or not to encourage the growth of collective and private enterprises.

On the first question, domestic reports make it clear that only a fraction of China's enterprise managers have achieved real independence, although many claim to have instituted some form of responsibility system. Even where enterprise reforms are in full swing, some forms of "contract responsibility" have apparently failed to give sufficient incentives to the manager, workers, or both, to assume responsibility for the long-term profitability of the enterprise. For this reason, the Chinese press has been devoting greater attention of late to experiments with other forms of responsibility, including leasing enterprises or allowing them to sell shares to other enterprises and, occasionally, to individuals.

Both experiments are highly controversial. The joint stock system in particular has drawn the wrath of conservatives, partly because they view shareholding as a means of parceling out State ownership of assets. They also reject the assumption made by joint stock advocates that staff and workers will feel they have a stake in the long-term future of their enterprise only when they directly own at least part of its assets—the implication being that State enterprises, by their very nature, alienate workers. If the liberals prevail, the 13th Party Congress will recommend bolder experiments with various types of ownership reform.

The second question is whether or not the leadership should continue to encourage the growth of collective and private enterprises. As orthodox Marxists, conservatives believe that enterprises should be predominantly in State hands. In fact, however, collectives and private enterprises are growing rapidly and appear to be responding better than State enterprises to market-oriented forces in the economy. Last year, for example, Guangzhou officials revoked regulations forbidding collectives to con-

tract for work on telecommunications projects. The result: collectives reportedly completed the work in one-sixth the time it would have taken a State enterprise, and at one-third the cost. Both collectives and private enterprises are also soaking up urban unemployment. From 1981–86, half of those entering the

work force found jobs with collectives or in the private sector.

Liberals emphasize the socialist nature of collective ownership and maintain that the dominance of the State sector is not threatened by the growth of collective and private enterprises. In fact, they point out, competition from these quarters will

PASSING OF THE OLD GUARD?



Acting General Secretary (then Premier) Zhao Ziyang (second from left) sits among Party elders (from left to right) Chen Yun, Deng Xiaoping, Hu Yaobang, and Li Xiannian at the Sixth Plenary Session of the 12th CPC Central Committee held in Beijing in October 1986. Chen and Li are said to be seriously ill, while Hu, now in mild political disgrace, may withdraw from the Politburo if conservatives have their way. If Deng has his way, all Party elders, Deng included, will withdraw from the Politburo Standing Committee this year.

At the last Communist Party Congress, held in September 1982, important Party positions were created or strengthened. A central advisory commission and central military commission (both headed by preeminent leader Deng Xiaoping) were established and a central discipline inspection commission (headed by veteran economic planner Chen Yun) reorganized to absorb elderly central committee members, who Deng hoped to ease out of power. But five years later, Party elders still seem very much in control of the mainstream political process while military elders continue to weigh in heavily on crucial political decisions.

In a system marked by personalized rule and attention to seniority, these elder statesmen have used the sheer weight of their authority in ways that have both helped and hindered the execution of policies established at the 12th Party Congress. Their support made it possible for far-reaching personnel changes to be implemented in the Party, military, and government, enabling millions of younger, more professional, reform-minded cadres to emerge at all levels. But at the same time, their central role in governance has hampered the very institutionalization of politics that the 12th Party Congress hoped to initiate. Party elders agree with their juniors that transition to a modern society requires a political system in which power is carefully defined according to one's job description. But most, including those already in ostensible semi-retirement, seem unwilling to make an example of themselves by withdrawing entirely from politics.

Some may retire because of ill health, if nothing else, this year. Ailing President Li Xiannian told a visiting Japanese delegation in July that he would step down from the Politburo this year, although he did not indicate whether he would relinquish his State post as well. As for the rest, Deng Xiaoping, China's preeminent leader in all but name, is trying to shame them into retiring. He said not long ago that he will give up one of his two Party posts in addition to withdrawing from the Politburo. If he remains chairman of the Central Advisory Commission, Deng's other chairing role is likely to fall to the present vice chairman of the Central Military Commission and loyal follower Yang Shangkun, whose Party credentials rival those of Deng. Thus political prestige based on solid revolutionary credentials is still paramount and likely to remain so until all the revolutionaries in their late 70s and 80s die.

For this reason, the next general secretary and premier may well be transition figures—men in their late 60s and early 70s like Acting General Secretary Zhao Ziyang and Vice Premier Wan Li who played a smaller though still important part in the Communist revolution. Their Party credentials may not be as lofty as those of the more senior leadership, but they have more experience in carrying out economic reforms. When they eventually yield their posts to technocrats in their 50s and early 60s—the so-called "third echelon" figures like Hu Qili, Tian Jiyun, Qiao Shi, and Li Peng who did not participate in the revolution—it will be the end of an era.

force State enterprises to become more efficient. Conservatives, while by no means opposed to collectives *per se*, fear that "the leading position of [State] ownership may possibly give way to collective ownership in one or two decades," in the words of economist Xue Muqiao. If the 13th Party Congress stresses the importance of encouraging *all* enterprises, whether State, collective, or private, to boost productivity, the liberals will have prevailed.



Price and market reform.

Contrary to widespread opinion abroad, liberals are not opposed to the temporary slowdown in price reforms announced earlier this year. To be sure, the liberal viewpoint holds that price reforms have been successful on the whole, and must continue—however difficult this may be. But many liberal economists have also noted that care should be taken when relaxing price controls, particularly on certain industrial goods with long and complex production cycles. In these cases, more efforts are needed to stimulate supply in advance of price deregulation to avoid a protracted period of spiraling prices.

Thus, both liberals and conservatives recognize that productivity in the State sector needs to be improved before implementing a more comprehensive price reform package. A liberal-leaning statement at the Congress would be one stressing a *sustained*, if gradual, effort to deregulate prices.

Liberals also remain committed to the development of new domestic markets for the exchange of materials, technology, land, housing, and labor. Conservatives object strongly to much of this, particularly the land and labor markets. Treating labor as a commodity and selling land "belonging to the whole people" are, in their view, "capitalist things" with no place in a socialist country. Commercialization of housing may be less of a threat since, after three years of experiments in Chongqing, less than 1 percent of all individuals have been able to afford nonsubsidized housing. Nevertheless, conservatives object in principle to this too, believing that housing is a form of social welfare that the State is obliged to provide. Liberals, on the other hand, see the opening of all these markets as a way to lessen the State's growing fi-

ancial burden.



Domestic investment and planning reform.

Of concern to liberal and conservative reformers alike has been the rapid growth of domestic investment in wasteful projects outside the State plan. But rather than backtracking from decentralization because of misguided local investment decisions, liberals propose making localities more accountable for their decisions—although the State will continue to provide some guidelines. Conservatives oppose any move to decentralize investment and planning, regardless of the safeguards imposed. These areas have long been a State preserve, and one that they are loath to see, in their opinion, whittled away. Liberals counter that the State will continue to be able to exercise macroeconomic control as long as the central bank has power over the money supply, and they favor laws stipulating central bank control in this area. Watch for a proposal in the work report calling upon localities to open construction projects to public bidding and to avoid discriminating against bids from other localities—a favorite reformist strategy for combatting wasteful local expenditures.

Liberals also favor turning China's specialized banks into genuine business enterprises. In the past, many of these banks have acted like overeager administrative departments, forcing enterprises to take loans they didn't need, withholding urgently needed credit when the State warned against excessive lending, and yet reluctant to compete with one another or with the People's Bank of China in setting interest rates. A liberal proposal would be to call for further enlivening the banking sector.



Administrative reform.

Administrative reform is aimed at getting bureaucrats out of the business of economic micromanagement. Factory directors complain that they have to get permission from industrial bureaus operating under the municipal government before making decisions on planning, production, finances, investment, marketing, and personnel changes. In addition, many complain that enterprise funds are "commandeered" by these and other local bureaus for var-

ious neighborhood improvement projects. Liberals will no doubt want to call attention to this problem and note the achievements of the 16 cities that have already been experimenting with administrative reform. One liberal proposal at the Congress might be to extend the experiment and call upon other municipalities to set up economic commissions that will concentrate on enforcement of economic regulations and tax collection instead of enterprise management.

If administrative interference in enterprise operations is not sharply curtailed, the draft enterprise law and trial bankruptcy law will have little meaning. Liberals argue that it is hardly fair to penalize enterprises for incurring losses brought on by interference from higher ups. They have tried, therefore, to insert provisions in the State enterprise law specifying penalties for officials whose poor policies and guidance bring losses to an enterprise. Conservatives apparently want to pass the enterprise law without such a provision, and the difficulty the two sides have had reaching a compromise accounts for the delay in the law's passage.

POLITICAL REFORM AGENDA

The liberal push to put political reform on the agenda reflects a growing recognition that the main threat to the economic reforms stems from a bureaucracy ill-suited to carrying them out. Beyond this, many liberals believe that a modern socialist State must serve more than narrowly defined State interests. Although the mainstream liberal viewpoint envisions nothing more than greater popular participation and supervision of the political process, conservatives will not even go this far. Wary of all measures that seem to encroach upon the powers of Party and State, they oppose loosening restrictions on the press and shielding academic pursuits from Party interference.

Because the very thought of modifying the political system frightens conservatives, and because liberals also admit that it poses nettlesome problems, the 13th Party Congress platform is likely to look more like an agenda for administrative than political reform. That is, the stress will probably be on improving efficiency, rather than adjusting the distribution of power. If more radical measures are taken, they will likely be provi-

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sions for streamlining the top-heavy Party bureaucracy. But conservatives would strongly resist such a move since they are more heavily represented at the top than at lower levels.

Even administrative reform, the tentative first phase of political reform, as liberals see it, will be a formidable job. According to Song Tingming, deputy bureau director of the State Commission for Economic Structural Reform, it will take no less than 10 years to accomplish. And Deng Xiaoping has said that the entire political reform program could take two generations. For this reason, the blueprint for political reform may be more cautiously worded and sketchier than the economic blueprint noted above.



Separating the roles of Party and government, and deciding how the Party should strengthen its leadership.

Although some mention of Party interference in government work has been made in the Chinese press, for the most part there has been little open discussion of specific remedies. A glimpse of how the process may begin has been provided by a small municipal Party committee in Henan Province, which recently reported dismantling its economic and rural work departments because they overlapped with similar departments in the municipal government. But little of this has been done elsewhere, or in more than desultory fashion. Since the liberal leadership has not made much effort to prepare public opinion for possible changes in Party functions, it seems unlikely that many specific proposals will be made.

Getting the Party to stop interfering in enterprise, let alone government, affairs has been difficult enough. Notwithstanding the instructions set forth by the 12th Central Committee in October 1984, Party influence is as strong as it ever was in the vast majority of factories, according to domestic surveys. What's worse, liberals have not even managed to get a clause into the draft State enterprise law specifying the limits to Party powers. Nonetheless, there could be surprises in store at the Congress: a call for strict measures to ensure that leaders refrain from holding concurrent Party and State posts, for example.



Delegating powers to the lower levels and clarifying the relationship between central and local authorities as well as between local authorities. Liberals are likely to secure conservative agreement to the general proposition that government departments at all levels should work out clearly defined authorities and duties. Conservatives are also likely to agree with liberals that "regional separatism"—provincial and local resistance to cooperation with government and economic organizations outside their borders—is a serious problem, as is cooperation between departments in the same locality. Somewhat trickier will be the job of convincing conservatives of the importance of giving county-level governments powers to collect taxes, make their own personnel decisions, and plan how county-level funds and other resources will be used. At present, six cities have reportedly delegated more of their decision-making power to districts.



Simplifying administration and streamlining bureaucracy. To all appearances, this is the least innovative of all the items on the political reform agenda. Attempts to streamline bureaucracy have been waged repeatedly and unsuccessfully since the founding of the People's Republic. More recently—between 1980 and 1985—the number of Party and government cadres increased 49.3 percent according to Chinese press reports. Conservatives and liberals are bound to unite behind measures to cut back on the wild proliferation of ad hoc groups that seem to form in every department.

But streamlining the government bureaucracy is not nearly so controversial as talk of cutting the Party bureaucracy. If Deng fails in his efforts to get elderly cadres to withdraw from the Politburo, a dramatic restructuring could take place. Citing official Chinese sources, some foreign press reports suggest that the Politburo itself may be abolished, with executive powers going instead to the Standing Committee of the Central Committee. Even if elderly conservatives succeed in thwarting such a move (if attempted) this time, the matter of streamlining the Party bureaucracy will inevitably come up again.

Meanwhile, another administrative reform thought to have strong backing from Deng calls for clarifying the role of the Party Secretariat, which has been doing much of the work usually reserved for the Politburo Standing Committee. Originally conceived of in 1982 as an organ handling the "day-to-day affairs" of the Party, the Secretariat has in practice become extensively involved in policymaking. Should officials to Deng's liking enter the Politburo Standing Committee, some analysts believe that the Secretariat will be forced to conform to its original purpose.



Reforming the cadre system. In addition to reiterating the need for younger and better

trained cadres, the work report may take up a proposal raised several times in the Chinese press: the need for a civil service law establishing procedures for, among other things, recruiting, evaluating, promoting, dismissing, and punishing State officials. The Ministry of Supervision under the State Council has recently been reestablished to supervise the performance of government officials, and a civil service law would help it carry out this work.

In addition, liberals have proposed that at least some government cadres be selected from a pool of candidates nominated in public by individuals and organizations, a practice that has already been tried out in Chongqing and other select cities and districts. Municipal officials, needless to say, retain the power to examine candidates and make the final selection.



Intensifying the building of socialist democracy and the legal system, and improving the accountability of higher officials. This is the most contentious item in the political reform agenda. If it ever sees the light of day at the Congress, conservatives will try to pepper this section with reminders to "combine democracy with dictatorship," guard against "hostile elements," and prevent "anarchy." Liberals will press for "scientific policymaking" and will invoke the words of Deng Xiaoping in 1980, who in his speech on political structural reform, said that "The people have the right to expose, accuse, impeach, replace and recall, according to law, all those who seek

personal privileges.”

An affirmation of this principle in the work report could pave the way for laws granting powers of impeachment to the National People's Congress. Although the NPC is not the supreme organ of State power it is supposed to be, there are intriguing signs that it may soon be given the power to remove offending high officials. A novel approach to establishing official accountability came in July, when the Chongqing municipal government demoted eight officials after a government survey of 10,000 people revealed just how unpopular these officials were. No radical measure, the use of government surveys is likely to spread elsewhere, since it may act as a safety valve against popular discontent without requiring major adjustments to the political process.

Of greater significance are the widespread changes that have already taken place this year in the local people's congresses, notably the extension of popular “elections” to the county level (previously restricted to elections below the county level), the requirement that the number of candidates exceed the number of seats, and the abolition of ethnic, “model worker,” and other quotas that made it difficult to recruit well-qualified candidates. Although local Party congresses, unlike their State counterparts, still appoint officials according to the quota system, changes in State procedures suggest that similar Party reforms may not be far behind.

There is talk of further measures to upgrade the qualifications of deputies to people's congresses at all levels, to ensure that they are capable of taking an active role in assessing State laws and programs, including budget reviews. At present, the NPC meets in full session only once a year for a few days and does little more than affirm policies and regulations already approved by the Party Politburo. When it is not in session, a smaller group comprising a standing committee dominated by high-ranking Party leaders performs functions on the NPC's behalf. Given the Chinese media's increasing focus on the opinions of ordinary NPC deputies, it is quite possible that the Standing Committee will be required to give them more to do. A liberal initiative in the 13th Party Congress work report could further such a move by

referring to the need for greater democratic supervision of executive and judicial performance.

Another form of supervision the liberals will be keen on mentioning in the work report is that already being performed by the press. Though not “free” by any means, the press is nevertheless strengthening its role as a monitor of abuses in the system. The press is also a valuable source of information for leaders about public opinion. Liberals want an honest, if “responsible,” press and favor a press law defining the scope of press freedom. Although the NPC would be responsible for drafting such a law, the Party Congress could help the cause by calling attention to the need for a “watchdog” press.

The conservative agenda for building “socialist democracy” championed by NPC Chairman and leading Party elder Peng Zhen, is to strengthen the legal system. This appeals to liberals as far as it goes. But many among them also want laws ensuring an independent judiciary. From top to bottom, the judicial process has reportedly been tampered with by Party leaders. Too often, the courts have so much trouble rendering decisions that local cases are passed ever upward, sometimes to top Party cadres with no particular training in legal matters.

The fact that development of socialist democracy has lately been identified in the Chinese press as an item in the political reform agenda is revealing: some observers had thought it would be left off the list of major points. If, in the end, it is left out, or its contents are greatly diluted, the conservatives will have done well.

A reformist future?

Not all the proposals mentioned here—all of which have been raised in the Chinese press—will necessarily appear in the work report. But even those that are (particularly those greeted enthusiastically by Western observers) will take years, if not decades, to implement. For as popular as the reforms appear to be, their success will require the efforts not just of energetic national, provincial, and municipal officials, but of millions among the rank and file, upon whose support the reforms really depend.

That is why filling more top Party

slots with liberal-leaning reformers will be only a beginning—if it is in fact achieved at this Congress. In the years to come, millions of lower-level Party committees will have to be restaffed with a new breed of cadres. The old breed—scornful of the entrepreneurs, academics, and government bureaucrats that are assuming a greater role in running the country—have proved a formidable obstacle to implementing the reforms.

Removing them will be a momentous task lasting decades, at least. Along the way there may well be setbacks as conservatives and liberals wrangle bitterly over personnel appointments at all levels of the Party and State bureaucracy. But this much is encouraging: it is the liberals, after all, who have been mainly responsible for drafting economic and political proposals. Conservatives have found much in the reforms to criticize, but little to offer in their place. The fact that political reform has finally been placed on the Party agenda suggests that, despite twists and turns, China's future is still aiming in a reformist direction. 完

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Foreign Exchange Update

China's export-oriented solution to its foreign exchange problem seems to be working—for the moment

John Stuermer

The increased difficulty of selling to the China market during the past year has left many in the foreign business community wondering how long China's import controls will last. The answer may lie in how well China manages its balance of payments.

The signs so far are encouraging. Exports are doing surprisingly well as a result of healthy performances in the manufacturing and commodity sectors. Even low world prices for China's primary commodities have not had the dampening effect on China's foreign exchange earnings that they have had on many other developing countries. These positive developments, combined with prudent borrowing from abroad, suggest that China may be in a position to ease its import controls sometime after 1988—and that they will probably not become a long-term feature of the China market.

Cutting the trade deficit in 1986

China can fund the imports it needs to sustain its rapid economic growth in two ways: by exporting more of its own goods and by borrowing from abroad. Its preference, of course, is to expand export earnings and to keep borrowing at levels that can be easily repaid.

China managed to do just this last year. Exports hit \$28.4 billion, up 12.7 percent from 1985, and imports were held roughly at 1985 levels of \$38 billion—leaving China with a \$10 billion trade deficit. But with \$1.9 billion in invisibles earned from sources such as tourism and remittances, the current account deficit shrank to an estimated \$8.3 billion last year from \$11.4 billion in 1985.

Although earnings from crude oil and petroleum product exports declined sharply—down from \$6.6 bil-

China nudged out South Korea to become the largest borrower in Asia, signing approximately \$1.2 billion in syndicated loans during the first six months of 1987.

lion in 1985 to \$3.3 billion in 1986—non-oil exports more than offset this drop, rising about 35 percent to an estimated \$25 billion in 1986. Textiles, China's other major money earner accounting for just under 25 percent of total exports, contributed significantly to the increase. The value of textiles, yarns, and fabric exports rose 30 percent, while apparel exports grew by 40 percent.

A closer look at the growth of non-oil exports reveals a promising trend toward diversification. The two leading exports, petroleum and textiles, accounted for only about one-third of total exports, down from a 44 percent share in 1985. A wide range of products made up the rest. Chemical products, accounting for 5 percent of total exports in 1986, grew 27 percent over the year before. Other strong performers were an array of miscella-

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neous manufactures, agricultural products, and metal ore products.

At the same time, China managed to hold imports to \$38.6 billion through a number of measures, including slowing growth in domestic demand, continuing depreciation of the renminbi, and tightening central control over imports. The country's gross domestic product grew 7.8 percent compared to 12.3 percent in 1985, as investment in fixed assets slowed from a 49 percent annual growth rate in 1985 to 17 percent in 1986. While less investment reduces the demand for imports somewhat, it does not completely account for the sharp decline in import growth. Increased central control over import authorizations put an artificial damper on imports. Although localities can still import some products if they have their own foreign exchange, most imports must now be approved by the central authorities.

Unsustainable export growth in first half of 1987

China's export picture continued to look bright during the first three months of 1987. The value of exports grew at an annualized rate of 30 percent due to the continued strong performance of non-oil exports and an expanded volume of crude oil exports. Many types of textiles grew at annual rates of between 50 and 100 percent, while semi-processed raw materials and foodstuffs also registered significant gains.

Since April, however, annualized growth rates for exports have slipped to around 20 percent. Textile exports—about one-third of which were bound for the United States in 1986—are being affected by China's gross overshooting of many textile quotas in the US market. Resolving this issue will not be easy in the face

of mounting protectionist pressures from the US textile industry. If the US government decides to impose tighter restrictions on future imports of Chinese textiles, the growth rate of China's textile exports will slow down for the foreseeable future, since no other export destination will be able to absorb many more textiles than it already buys from China. China's current export performance is also vulnerable to General Agreement on Tariffs and Trade (GATT) demands for the elimination of export subsidies that give producers incentive to export even when it is not economical to do so. To accede to GATT, China may need to make adjustments in trade policy. According to recent articles in the Chinese press, China's current export subsidies are substantial—and by implication, export performance would be weaker without them.

A somewhat more hopeful note was sounded by China's petroleum industry which, during the first five months of 1987, managed to increase exports slightly over the same period last year. If this pace continues for the rest of the year, petroleum revenues should rebound slightly to \$3.9 billion as a result of the rise in the average price per barrel for Chinese crude—from less than \$13 in the fourth quarter of 1986 to more than \$17 in the second quarter of 1987. For the year, China's total exports are predicted to grow 20 percent, to \$34.1 billion.

Imports during the first six months remained under tight control. But it is doubtful that this can continue during the second half given the rapid growth of the domestic economy this year. Industrial output through June grew at an annualized rate of 14 percent compared to 11 percent during 1986. Capital construction expenditures were up 24 percent in the first quarter of 1987, much faster than the 7 percent growth in all of 1986.

The combination of rapid growth in exports and in domestic output is already straining the supply and distribution system. Faced with severe shortages of raw material supplies, Shanghai, for example, will be hard pressed to sustain its current export boom. And raw material shortages will intensify as domestic growth—fueled by an increase in the pace of capital construction—accelerates in the second half of the year.

To make up for material shortages, Shanghai and other areas may be forced to step up imports. If they do, the country's import bill may rise to about \$42 billion from \$38 billion last year. But with credible export performances for 1987 as a whole, China's trade deficit should still decline to about \$8 billion with the current account deficit falling to about \$6.2 billion.

China's rising foreign debt

Against this backdrop of a promising but uncertain future for its exports, China has turned increasingly to borrowing capital from abroad. In 1986 Chinese authorities estimated that the country borrowed a total of about \$7 billion from abroad. As-

suming that direct foreign investment (excluding associated borrowing) was around the 1985 level of \$1 billion, and given the drawdown of China's official foreign exchange reserves by \$1.4 billion, this 1986 estimate for foreign borrowing appears reasonable.

China's total foreign debt thus rose last year from the year-end 1985 level of around \$20 billion to around \$26 billion, before making foreign exchange rate adjustments. This includes the drawdown of a \$600 million IMF standby facility in November 1986 and a \$3 billion rise in commercial borrowings—bringing total commercial borrowings to a total of almost \$15 billion in 1986. Japanese financial institutions are be-

CHINA'S BALANCE OF PAYMENTS

(Billion \$)

	1983	1984	1985	1986 (est)	1987 (forecast)
Exports (FOB)	20.7	23.9	25.2	28.4	34.1
Imports (FOB)	-18.7	-23.9	-38.2	-38.6	-42.0
Trade Balance	2.0	0.0	-13.0	-10.0	-7.9
Invisibles (net)	2.5	2.5	1.6	1.9	1.7
Current Account	4.5	2.5	-11.4	-8.3	-6.2
Financing					
Total	-4.5	-2.5	11.4	8.3	6.2
Direct investment	0.5	1.1	1.0	1.1	1.0
Multilateral	-0.3	0.2	0.7	1.3	0.8
Other official	0.9	2.2	0.1	1.5	1.8
Bank and other private	1.9	1.1	5.5	3.0	2.6
Change in reserves ¹	-3.3	-2.2	4.8	1.4	0.0
Errors and omissions ²	-4.2	4.9	-1.9	0.0	0.0
MEMO ITEMS					
Foreign Liabilities					
Total foreign debt	9.6	13.0	20.5	27.2	32.4
By source of funds:					
Debt to banks and other private sources	4.4	5.4	12.1	14.7	17.3
Multilateral sources	0.4	0.6	1.3	2.7	3.5
Other official sources	4.8	7.0	7.1	9.8	11.6
By maturity:					
Medium and long term	5.6	6.7	10.1	17.0	21.9
Short term	4.0	6.3	10.4	10.2	10.5
Foreign Assets					
Deposits in BIS Banks ³	16.0	17.0	11.9	11.5	11.5
Official foreign exchange reserves	14.5	16.7	11.9	10.5	10.5
Unofficial assets	1.5	0.3	0.0	1.0	1.0
Gold (at market prices)	5.4	4.6	4.1	5.6	5.6

¹ Negative sign indicates addition to reserves equivalent to capital inflow; positive number indicates a drawdown of reserves or usage of reserves equivalent to a capital outflow.

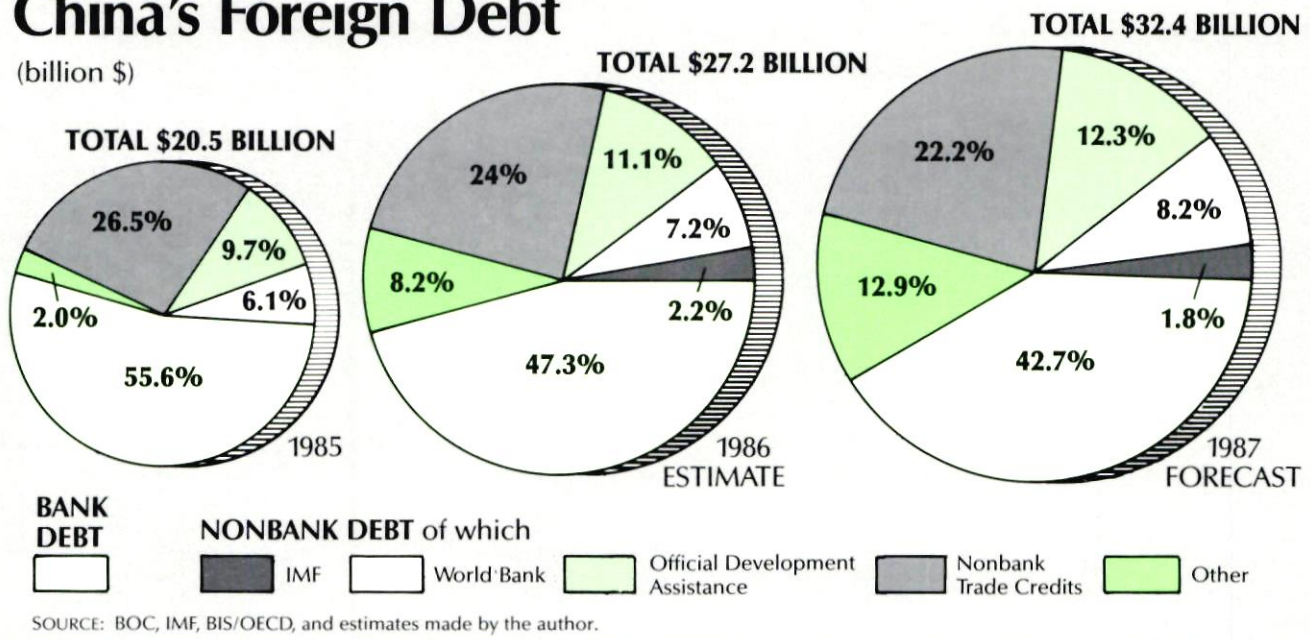
² The large errors and omissions numbers for 1983 through 1985 reflect inconsistencies between China's official balance of payments data, estimates of China's foreign debt prepared by the OECD, and China's official foreign exchange data. According to balance of payments accounting, the current account should equal the sum of the annual net change in debt, change in reserves, and errors and omissions after direct investment is subtracted out. The errors and omissions item is used to balance out inconsistencies among the other values in this equation.

³ This figure includes deposits of all resident Chinese entities with commercial banks in countries belonging to the Bank for International Settlements (BIS) as well as certain nonmember financial centers, including Hong Kong and Singapore. The figure calculated by the BIS is usually larger than the official Chinese foreign exchange figures, suggesting that resident Chinese entities—especially those with offshore operations—may control financial assets not included in China's official foreign exchange reserves.

SOURCES: BOC, IMF, BIS/OECD, and estimates made by the author.

China's Foreign Debt

(billion \$)



Artwork by John Yanson

lied to account for nearly one-half of this amount, owing to the low interest rates and long maturities they offer.

In contrast, US bank exposure in China has dropped to less than \$1 billion. In addition, China has drawn heavily on nonbank credits from Japan in the form of bonds, Japanese Export-Import Bank credit, and soft loans from the Overseas Economic Cooperation Fund (Japan's foreign aid program).

Asia's largest borrower

Preliminary trade data for the first half of 1987 shows a trade deficit of approximately \$2 billion, but Chinese authorities stated vaguely that this deficit was financed "without any use of China's own resources." Most likely the combination of service receipts, remittances, direct investment, and concessional financing amounted to about \$2 billion, so China did not need to turn to commercial rate borrowing during the first half.

But China continued to sign agreements for loans, floating rate notes, and bonds during the first half of 1987, suggesting that commercial rate financing will play an important role in supporting China's development during the second half and beyond, China probably extends some export credits to its foreign customers, and Chinese entities have significant offshore investment, especially

in Hong Kong and Macau, which would require foreign financing in excess of the amount suggested in the first half foreign trade figures.

Indeed, this is probably why China nudged out South Korea to become the largest borrower in Asia, signing approximately \$1.2 billion in syndicated loans during the first six months of 1987. This amount is up slightly from the \$1.1 billion signed in all of 1986. Deals include a \$210 million syndication for the Panzhihua steel complex in Sichuan, a \$250 million syndication for the Shanghai branch of the People's Construction Bank, and a \$280 million borrowing signed in March for construction of the China World Trade Center in Beijing. Added to this were many small, unpublicized loans as well as a \$200 million floating rate note signed by the Bank of China. Also, China probably issued between \$700-\$800 million in bonds, slightly less than during the same period last year.

But China will have to monitor the currency composition of foreign borrowing very carefully, especially if it keeps accumulating yen debt at its present rate. The yen-denominated portion, accounting for as much as 40 percent of the total, will have to be primarily repaid in US dollars—the dominant currency of China's foreign exchange income. If the value of the dollar against the yen and the major European currencies should de-

cline further, the dollar value of China's foreign debt will rise accordingly. Servicing the yen debt may be easier because of Japan's favorable terms, but continued depreciation of the dollar would bring a dramatic increase in the cost to China. Making a crude adjustment for the impact of a stronger yen—and ignoring adjustments for the smaller components denominated in European currencies—raises the dollar value of China's foreign debt to an estimated \$27.2 billion at year-end 1986.

Future sources of funds

Direct investment in 1987 is forecast to remain around \$1 billion, roughly the same as in the last few years. The World Bank will disburse about \$800 million this year, compared to \$1.3 billion in 1986. Credits from official sources are difficult to forecast, but probably will not change much from other years.

With a smaller current account, China's borrowing from banks and other private sources is likely to be less than last year. Banks and other private financial institutions will continue to assist Chinese entities by issuing bonds and floating rate notes. Foreign financial institutions will keep the vast majority of these issues on their books, since sales of Chinese securities to the nonbank public in the West are still fairly limited.

Chinese authorities are aggres-

sively diversifying sources of funding by moving into new markets. In October 1986, China began to tap the Singapore bond market when the first US dollar issue was floated for Fujian Province. More recently, part of a \$200 million floating rate note issue was funded in the Singapore market. And China's first syndication in the US market, a \$200 million loan arranged by IBJ/Schroder, was completed in June.

China can be expected to explore new markets in the future as a way of resolving its dependence on the yen bond market. The US Supreme Court decision in March that absolved the Chinese government of any responsibility for the Huguang railway bonds issued during the Qing Dynasty, as well as a settlement in the United Kingdom in which China agreed to partially compensate defaulted bonds and other assets, opens the door for Chinese bond issues in both the US and Britain. But resolving the remaining administrative and regulatory issues, such as establishment of a credit rating and registration with local regulatory authorities, probably precludes Chinese bond issues in the immediate future.

China's foreign debt will rise to an estimated \$32.4 billion in 1987. Borrowing from private sources—mainly commercial banks and bond issues—is likely to remain the largest part of this amount, accounting for around \$17 billion, compared to nearly \$15 billion in 1986. Nevertheless, China's debt service burden will remain manageable—probably not reaching more than 10 percent in 1987—due to still-modest debt service payments and the country's success in promoting exports.

Chinese authorities have embarked on an export-oriented solution to their current foreign exchange shortage. During 1986 and the first half of 1987, import growth was reined in but without the wide-ranging contract cancellations that accompanied similar import cutbacks in the late 1970s and early 1980s. The rapid growth of non-oil exports in 1986 and 1987 combined with growing Chinese willingness to borrow from abroad will permit the Chinese economy to remain on the high-growth track it has settled into. This should ensure that China remains an important market for the goods and services the foreign business community has to sell. 完

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Provincial Trade Patterns

China's provinces are getting credit for a growing share of foreign trade, but real autonomy is still a long way off

David L. Denny

Most of China's imports and exports used to be attributed in official statistics to the central government, no matter who was actually doing the buying and selling. In the past decade, however, provinces and localities have gradually established the right to set up their own trading companies instead of relying only on national trading companies headquartered in Beijing to handle their business. The provinces now receive credit for most of their overseas sales and some of their purchases: about 90 percent of China's exports and one-quarter of its imports are recorded by province.

The accommodation between central and provincial traders has not always been easy. The central government has been willing to let the provinces control a relatively high share of their exports, in part to help achieve national export goals, but has had less incentive to let go of decision-making power over imports. And both sides have met with unexpected problems. Provinces have realized that handling their own trade is not always profitable. Although the provinces are generally able to keep a percentage of the foreign exchange they earn on exports, the central government keeps most of what is earned on high-profit sales of natural resources, and provinces find they are often left handling the export of goods that lose money. The central government, for its part, has found that as it devolves trade decision-making power, the provinces and localities do not always make decisions in the best national interest.

After a period of several years in which the provinces steadily increased their role in foreign trade, the last two years have been marked by the return of a relatively strong

centralized trading regime in China (see *The CBR*, July–Aug 1987 p. 30). While the provinces are still active in foreign trade—and some have become important traders—the problems of handing real foreign trade power to them are still very evident.

Understanding the export figures

The exports of individual provinces now account for some 90 percent of China's total exports. The other 10 percent are probably strategic goods, such as military weapons, that are considered central government exports no matter who is involved.

In Chinese sources, exports credited to the provinces are generally called the "self-managed" exports (*ziying chukou*) of the province. These figures include foreign trade handled by provincial trading companies as well as the provincial branches of national foreign trading corporations under the Ministry of Foreign Economic Relations and Trade (MOFERT). The system works as follows: the trading corporation that signs an export contract is considered to have made the sale, and credit is posted to its home province. Thus, oil exports from the huge Daqing field are predominantly assigned to Liaoning Province because trading companies located in the Liaoning port city of Dalian sign the contracts with foreign buyers. Even if a commodity is controlled by the central government and subject to strict export licensing—such as oil in this

David L. Denny is an economist with the National Council for US–China Trade. The author would like to thank John Cook of the US Consulate in Chengdu for information on Sichuan's provincial trade, and Sara Friedman for assistance in preparing this article.

case—it is usually included in provincial export figures.

MOFERT's latest annual almanacs offer a consistent and authoritative compilation of provincial exports and imports in 1984 and 1985. Provincial statistical communiques are an alternative source of data, but because each province publishes its own, the numbers are less systematic and the definitions may vary from province to province. In general the differences between the two sets of numbers are small—MOFERT estimates Shanghai's exports in 1985 at \$3.30 billion while Shanghai itself reported exports of \$3.36 billion.

Although MOFERT's trade figures are not considered as comprehensive as those from China's Customs Administration, they are more consistent for the purpose of comparing and analyzing trade by province. This article therefore relies wherever possible on MOFERT's provincial trade statistics. Since MOFERT's latest compilation of provincial trade is not yet available, trade figures from provincial communiques are used for 1986.

Coastal provinces dominate . . .

Exporting ability is far from evenly distributed among China's provinces. Just eight provinces (Liaoning, Shanghai, Guangdong, Shandong, Jiangsu, Hebei, Tianjin, and Zhejiang in rank order) were responsible for 55 percent of China's total exports in 1985, with the top four accounting for 41 percent (see table). And the \$123 average per capita exports of the four largest exporters is 56 times greater than the average per capita exports of the four lowest ranking provinces.

All eight leading exporters are coastal provinces, a fact that gives them several advantages in conduct-

ing trade. Their transportation costs are much lower than inland provinces because their products do not have to be sent across the country before overseas shipment. Coastal areas also had earlier contacts with foreign business, and their extra years of experience have brought familiarity, trust, and an ease of communication. They also tend to have wealthier and more developed economies producing goods that are better suited to foreign markets.

But there is another—purely administrative—reason for the historical dominance of the coast in exporting. Branches of MOFERT's national foreign trade corporations operating in coastal provinces have grown accustomed to purchasing exportable products from the interior and selling them to foreign buyers, thereby transferring credit for the sales to the coastal regions.

... but inland provinces are coming from behind

Inland provinces are beginning to narrow their exporting gap with the coastal provinces. They have increasingly begun to "self-manage" their own exports in the last five years, thus finally receiving the credit for their sales. Partly as a result of this shift in activity from coastal to inland trading companies, inland provinces have reported high export growth rates during the last five years, while coastal exports have witnessed a corresponding stagnation (see graph A, p. 20).

The numbers speak for themselves: the inland provinces of Guizhou, Shaanxi, Sichuan, Shanxi, and Anhui had China's lowest per capita exports in 1980, but their annual average export growth during the period 1980–85 ranged from 36 percent to 72 percent—far exceeding the national average of only 7 percent. As for the impact on coastal trade, 43 percent of the exports credited to Shanghai in 1980 (or \$1.8 billion in goods) actually originated with inland provinces. But by 1985, as inland provinces handled more goods themselves, they supplied only 21 percent, or \$710 million, of Shanghai's exports.

Economic developments are also playing a part in the surge of exports from inland provinces. Some of China's fastest growing exporters are provinces in central China with strong agricultural sectors, such as

Jiangsu, Anhui, Hubei, and Hunan. These areas have taken advantage of agricultural reforms to form small rural industries processing agricultural produce. They have also begun to market their surpluses in coastal cities like Shanghai. Their economies have grown stronger as a result of these opportunities—and so have their exports.

Conversely, the coastal regions have found some of their export activities stymied by aspects of economic reforms. The relaxation of mandatory central production and price controls has made it more difficult for coastal provinces to gain access to certain nonlocal commodities. Shanghai, for instance, has recently had trouble procuring some raw materials (formerly provided at low cost under the State plan) that it had traditionally processed for export. This factor contributed to Shanghai's unimpressive export performance during 1980–85. Exports of products made in Shanghai increased by a mere 8 percent—hardly sufficient to offset the drop in entrepôt trade from the inland provinces.

Geographic location accounts for just some of the differences in provincial trade patterns. For reasons

that are not always clear, some provinces have been granted more trading leeway than others. The nature of the goods they export may be a factor in some cases: provinces whose exports are important to national goals may have been given greater trade authority in order to tap local enthusiasm and spur exports. Shanxi, for instance—one of the first provinces to win significant control over its exports—was allowed to sell its traditional medicines to Hong Kong and its coal to Japan beginning in 1978. Exports quickly took off and by 1985 Shanxi was given credit for managing \$226 million worth of its exports while less than \$50 million worth of goods made in the province were shipped to ports for marketing by coastal trading companies.

But other provinces, such as Sichuan, only recently gained greater control over their exports. In 1985 Sichuan was finally allowed relative autonomy in exporting its products, but approximately one-third of its exports are still marketed through middlemen in the coastal ports. Provincial officials say they must share 50–80 percent of the foreign exchange earned on these transactions with the port traders.

PROVINCIAL FOREIGN TRADE, 1985

Per capita exports (\$)	Exports (million \$)	Province	Imports (million \$)	Per capita Imports (\$)
136.01	5013.20	LIAONING	340	9.22
271.29	3301.58	SHANGHAI	1813	148.97
48.93	3059.33	GUANGDONG	2812	44.97
34.57	2660.04	SHANDONG	397	5.16
24.38	1515.04	JIANGSU	295	4.75
23.20	1287.16	HEBEI	115	2.07
136.70	1104.57	TIANJIN	333	41.21
23.21	935.19	ZHEJIANG	185	4.59
62.96	604.44	BEIJING	351.07	36.57
10.41	513.08	HUBEI	160	3.24
17.81	483.12	FUJIAN	599.9	22.11
18.31	420.71	JILIN	213	5.35
12.55	415.66	HEILONGJIANG	93.27	2.82
7.07	397.59	HUNAN	120.7	2.15
9.55	369.89	GUANGXI	184.2	4.76
4.74	365.26	HENAN	55.93	0.73
3.37	343.64	SICHUAN	109	1.07
5.90	304.19	ANHUI	120	2.33
7.48	258.92	JIANGXI	48.6	1.40
8.62	226.55	SHANXI	113.62	4.33
13.20	179.66	XINJIANG	112	8.23
4.39	149.37	YUNNAN	80.51	2.36
6.67	133.90	INNER MONGOLIA	29.4	1.46
3.43	102.87	SHAANXI	53.53	1.78
3.24	66.07	GANSU	29.06	1.42
1.34	39.69	GUIZHOU	32.41	1.09
7.56	31.38	NINGXIA	16.08	3.87
4.56	18.54	QINGHAI	12.68	3.15
0.77	1.54	TIBET	10.68	5.37

SOURCE: MOFERT Almanac; Provincial Statistical Communiques and Yearbooks; National Council files

The elusive ability to import

The central government plays a greater role in provincial imports than it does in provincial exports. Provinces appear to be credited with “self-managing” their own imports only if the transactions are handled by provincial or local trading companies. Imports made by MOFERT’s national foreign trade corporations, which handle some 70 percent of China’s import trade, are recorded at the central rather than provincial level—even if handled by a provincial branch of the corporation.

As with exports, coastal provinces have tended to dominate China’s import picture. The most obvious explanation for this is that they can use foreign exchange earned from their exports to import more. And local pride and self-interest undoubtedly bias local authorities toward using their own trading companies to handle their imports when they have this option. Thus Shanghai, Tianjin,

Beijing, and Guangdong lead the provinces in both per capita exports and per capita imports. On the other hand, the inland provinces of Guangxi, Hunan, Jiangxi, Sichuan, and Gansu all have per capita exports and imports well below the averages of \$26.20 and \$8.40, respectively, for all provinces.

The regression line on graph B shows the relationship between each province’s imports and exports. The fact that not all provinces fall on the line indicates that a province’s level of imports does not depend solely on its ability to export. Powerful provincial-level cities like Shanghai, Tianjin, and Beijing, for instance, may receive extra support for their import needs from the central government. And areas like Guangdong and Fujian have large independent sources of foreign exchange to spend on imports due to remittances from overseas Chinese relatives and inflated tourism earnings from the many overseas relatives that come to visit.

On the other hand, the poor but politically significant provinces of Xinjiang and Tibet, with their minority populations and strategic borders, are allowed a high level of imports in relation to their ability to export. By bolstering their ability to import, the central government is effectively transferring resources from richer coastal provinces to the poorest provinces.

The products a province has to sell also help determine its level of imports. If a province’s exports include natural resources (particularly coal and oil), the value of that province’s imports tend to fall well below the expected level—another indication that the central government does not allow provinces to retain much of the foreign exchange they earn from exporting natural resources. Thus oil-exporting provinces like Hebei, Liaoning, Heilongjiang, and Shandong show high per capita exports but low per capita imports.

Many provinces only began to manage some of their own imports during the past few years, but their imports have grown quickly. In some cases, provincial orders placed in 1984 and 1985 were not shipped immediately, which may help explain an upward trend in provincial imports in 1986 despite China’s imposition of general import restraints.

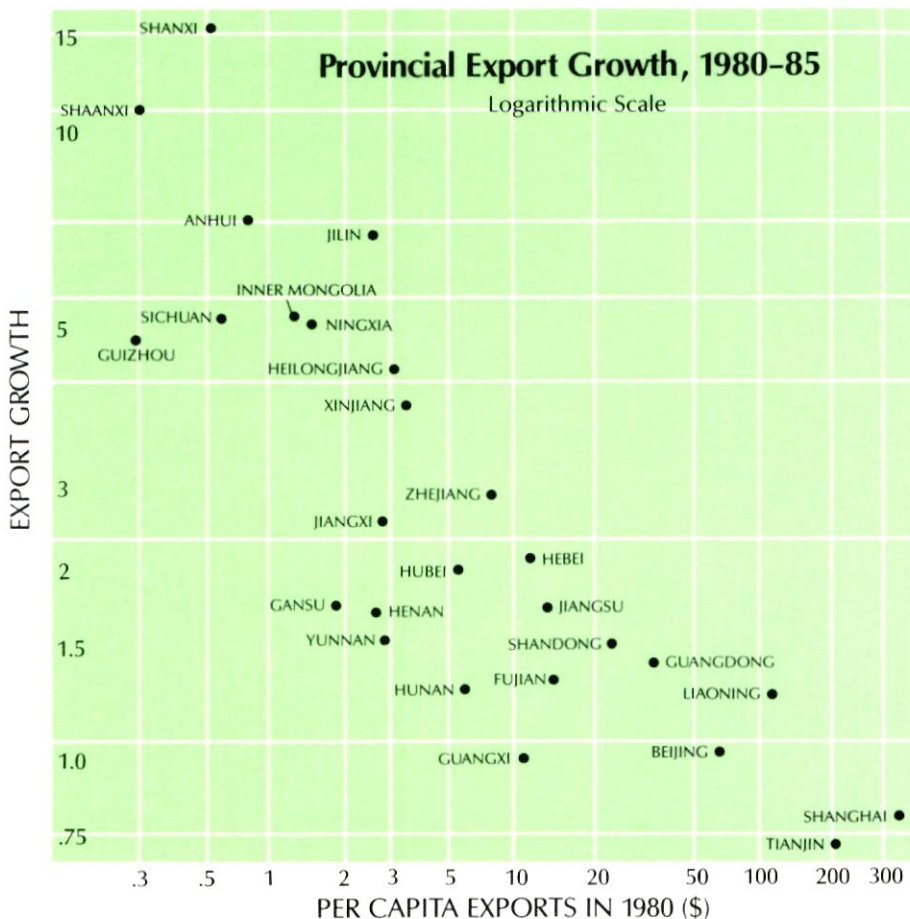
Gradual gains for provincial traders

Just how significant is the fact that China’s provinces are now responsible for some 90 percent of the country’s exports and a quarter of its foreign exchange receipts? A brief look at the progress the provinces have made to date indicates how far they have come—and how far they still have to go.

China’s imports and exports used to be handled almost exclusively by the national foreign trade corporations under MOFERT, each of which held monopolies over certain products. But beginning in the late 1970s, China’s planners began to reform the foreign trade system to make it more compatible with comprehensive reforms being introduced into the domestic economic system.

The first step was to give authorities at the provincial level and below more power in the foreign trade system. “General foreign trade corporations” were set up in the provinces to play a role in coordinating and ap-

GRAPH A



Artwork by John Yanson

Prepared by David Denny and Sara Friedman.

Note: Export growth for each province is calculated by dividing 1985 exports by 1980 exports.

SOURCE: MOFERT, various provincial statistical communiques and provincial yearbooks, and National Council files.

proving all foreign trade contracts, including those signed by the provincial branches of MOFERT's national foreign trade corporations. Although these new corporations did not in themselves change much, the move was an important symbolic step that signified a fundamental desire to give local trade officials more of a say in their province's foreign trade.

A second step involved widening the range of commercial trade transactions that these provincial organizations were allowed to undertake. As China introduced "flexible" trading practices—including joint ventures, material processing, compensation trade, and countertrade—organizations at the provincial level and below gained their first real power to negotiate and approve some deals. They got involved in projects that primarily involved local resources and were not a drain on the central government's foreign exchange reserves. The local trading companies gained the right to make decisions involving the import of raw materials, technology, and equipment, and the export of finished products from these projects.

Foreign exchange earnings

But a more significant transfer of foreign trade power took place beginning in 1979 as provinces gained the right to retain a portion of the foreign exchange they earned from their exports. Under this system, part of the foreign exchange is also set aside for the local governments and producing enterprises. Provinces and localities do not have unlimited access to "their" foreign exchange, however. It must be deposited at the Bank of China and they must receive approval to use it from central planners.

The foreign exchange retention system is complex: rates of retention vary from province to province and from product to product. Most provinces are allowed to retain 25 percent of the foreign exchange earned from the export of commodities such as steel, grain, cement, edible oils, iron ore, and zinc. Guangdong and Fujian have special status that allows them to retain 30 percent, while minority regions such as Xinjiang, Ningxia, and Guangxi keep 50 percent. Tibet and the special economic zones may retain 100 percent of all the foreign exchange they earn.

Foreign exchange retention rates

also vary by product and tend to be higher in cases where China is trying to stimulate producers and local governments to increase exports. On the other hand, low (or no) retention rates probably apply to the export of crude oil and coal from State-owned mines. Yet even here, retention rates may be set for exports that exceed quotas set in the State export plan.

The rise and fall of provincial power

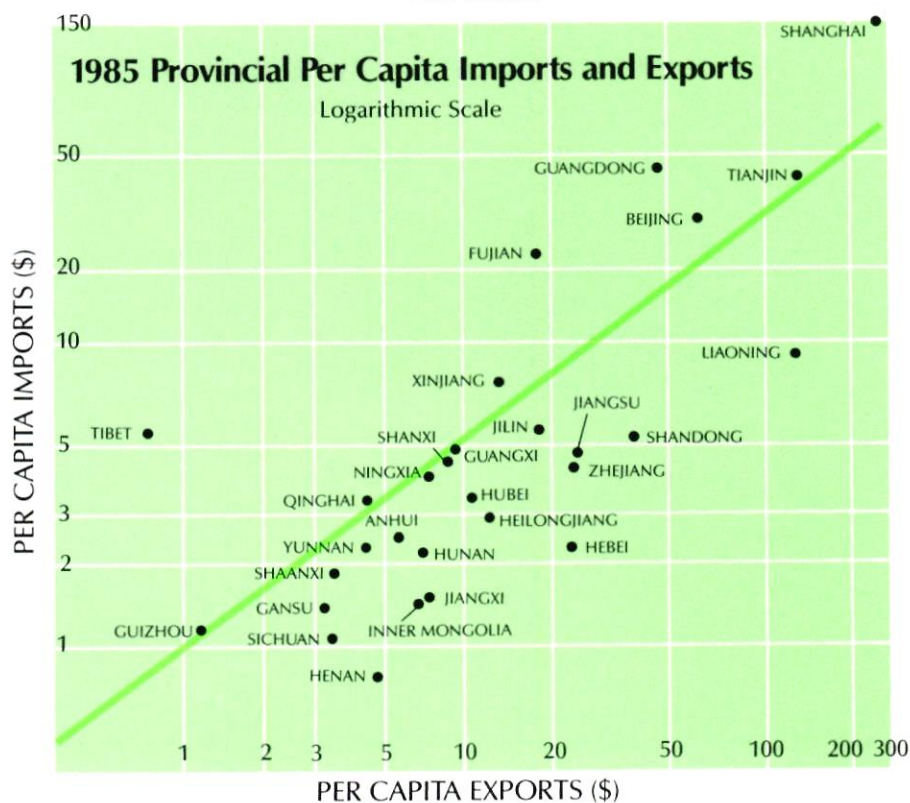
In theory, the height of power for provincial and local trading entities came in September 1984, when MOFERT announced a plan to completely revamp the foreign trade decision-making system and restructure the relationship between central and local trade officials. Under this scheme, MOFERT was to become an administrative agency only and leave the business of importing and exporting to producers and end-users. Foreign trade corporations would become mere passive "agents" handling trade on their behalf.

But the reforms proved to be too much too fast for most Chinese enterprises. Loosening MOFERT's control over trade produced problems almost immediately. Chinese organizations at all levels went on an unprecedented shopping spree for cap-

ital goods, technology, raw materials, and consumer goods. Some local organizations illegally obtained foreign exchange or import licenses for durable consumer goods that could easily be sold on the domestic market for large profits.

The resulting boom in imports and stagnation in exports resulted in a large foreign trade deficit and declining foreign exchange reserves. Alarmed, foreign trade officials reimposed central controls over trade in 1985 and 1986 and put MOFERT back in a powerful position. Many of the trading privileges won by provincial and local organizations over the years were taken away. Beginning last year, for example, all trading organizations were required to get MOFERT approval in order to operate. And while the number of provincial and local organizations involved in foreign trade has soared in the past three years, these companies are subject to important restraints on their activities. MOFERT not only specifies what trade activities a local organization can get involved in, but tightly controls trade in certain products through an elaborate licensing system that includes 212 export items and 64 import items. Local trading companies are often permitted to deal only in products not controlled

GRAPH B



by MOFERT. Sichuan Province, for example, has at least seven local trading companies in addition to the Sichuan-based branches of MOFERT's foreign trade corporations. These companies qualify their scope of business by saying that they can "export products not included in the State plan" or that they "deal in goods which fall within the scope of local authority."

Problems with provincial autonomy

During 1984 and 1985, the country learned the painful side effects of decentralizing trade to provincial and local levels. Prominent among these was the damage to the nation's export performance. In province after province, as local authorities took over responsibility for a greater portion of provincial exports, they discovered that many of their traditional exports were losing money. Production costs often exceeded the amount of renminbi that factories could earn through exporting—and the central government trading companies were no longer subsidizing all these exports.

The local response was to cut back exports of money-losing products. For example, Beijing's local trade organizations responded to pressure to cut their losses on self-managed exports by lowering procurement prices and "reducing exports of unprofitable commodities and increasing the export of profitable commodities." But as Beijing's 1986 trade statistics reveal, the municipality has not been able to raise the value of its exports significantly above the \$600 million figure for the last five years.

The crux of the problem is that provincial and local trading companies are hamstrung by structural weaknesses in the Chinese economy. Industrial enterprises do not make rational economic decisions because they still expect the gigantic bureaucracies they are part of to make up their losses. Chinese planners keep a close check on competition because they fear that releasing market forces will heighten cut-throat competition among Chinese exporters and lower earnings across the board. But the most important structural impediments are China's irrational domestic price structure and overvalued currency. If left to market forces, no Chinese organization would choose

to import necessities such as grain. But a very large portion of the country's limited hard currency would be spent satisfying pent-up consumer demand for washing machines, televisions, and the like.

Faced with these problems, China has temporarily halted plans to radically transform and decentralize its foreign trade system and in many ways reverted to a more centralized trade system. Ironically, the present system appears to turn on its head the main thrust of the 1984 decentralization efforts: Chinese producers have not become significant exporters. Instead, it is the nationally controlled foreign trade corporations that have gained more power over ensuring that exportable products get produced.

Where the provinces stand now

The provinces have emerged from all this change with their decision-making authority somewhat diminished but their administrative role in trade relatively unharmed. Preliminary trade figures for 1986 show that the self-managed exports of China's provinces are contributing to the success of the country's export drive. Most of the provinces—with the exception of the major oil exporters Liaoning, Shandong, and Hebei—expanded exports impressively last year. Shaanxi, Heilongjiang, Hubei, Guangdong, Sichuan, Shanxi, and Inner Mongolia led the pack with growth of 33–66 percent. Even Shanghai, Beijing, and Tianjin recovered from three years of stagnation to achieve modest export growth of 8 percent, 17 percent, and 14 percent, respectively.

In terms of the total value of trade, Guangdong Province jumped from third to first place among Chinese provincial exporters, reaching \$4.3 billion in foreign exchange earnings. Liaoning, China's leading oil exporter, dropped to second place with \$4.2 billion in exports, and Shanghai came in third with \$3.6 billion. Rounding out the list of top 10 exporters were: Shandong (\$2.1 billion); Jiangsu (\$1.7 billion); Zhejiang (\$1.2 billion); Hebei (\$1.1 billion); and Beijing and Hubei (each with \$700 million).

Year-end figures for provincial imports are only available for a few provinces. But a major preliminary conclusion can be drawn: the strength of efforts to recentralize

trade varies greatly and no across-the-board reduction in provincial imports is evident. Sichuan's imports rose 60 percent, Heilongjiang's grew 43 percent, and Jilin and Jiangsu's totals both rose 23 percent. On the other hand, the provinces that traditionally import the most saw minimal or negative growth. Shanghai, China's second-largest importer, saw imports fall 30 percent to \$1.36 billion.

The long-term outlook

During 1986 minimal progress was made on reforms to the foreign trade system, and some provinces may have fallen a few steps back in their drive for a greater role in trade. One example of backsliding was the slight increase in the amount of products from other provinces being counted in Shanghai's export total. Part of the rise in exports reported by Tianjin, Guangdong, and Beijing may also be attributable to this factor.

The pressure on provinces to increase exports in 1986 was so great that some measures diametrically opposed to the spirit of trade reform were instituted. Heilongjiang, for example, announced that export enterprises must follow plans governing foreign exchange earnings, contract fulfillment rate, and "certification rate" for export commodities. And in March 1987 MOFERT Minister Zheng Tuobin announced a new contract responsibility system under which export quotas will be assigned to the country's national foreign trading corporations, which will subcontract with their provincial branches to achieve export targets. Such a system serves to both increase and institutionalize MOFERT's role in provincial-level trade decisions.

These trends indicate that, for the time being, the revolution of the foreign trade system is receding to a distant gleam in the eyes of Chinese reformers. A mounting trade deficit and other serious trade problems have forced China to step back from the sweeping changes contemplated in 1984 and rely on older and more predictable methods of trade. But many in China's top leadership still appear committed to the principles put forth in 1984. And while it may be several years before serious trade reforms are experimented with again, the growing involvement of provincial and local officials in foreign trade is unlikely to be reversed. 完



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Guide to the Fair

Julia S. Sensenbrenner

Every year from April 15–May 5 and again from October 15–November 5, more than 25,000 importers, agents, and even investors from around the world converge on Guangzhou for China's biannual trade extravaganza, the Guangzhou (Canton) Trade Fair. For the first-time fair-goer, the heavy city traffic, bewildering fair layout, and cluttered hallways and booths may be a little disconcerting. But with proper preparation, the Guangzhou Trade Fair can be a pleasant and rewarding way to scout out business opportunities without having to travel the length and breadth of China.

Before you go

Most companies receive an invitation to the fair from the Chinese trading organization they do business with. Those who are new to China trade can secure an invitation through the commercial section of the Chinese Embassy or China's consulates in the US, which also provide a packet of information on hotel accommodations and visa requirements. If you prefer, you can contact Chinese trading corporations directly for an invitation.

To get the most out of your first trip, it pays to research China's trading structure before the fair begins. Overlapping trade jurisdiction and decentralization of control over some products means that there may be multiple sources of supply for the product you want to buy. Shoes, for example, are sold by participants in both the light industrial and arts and crafts delegations.

Send your company brochures to target Chinese groups and request an appointment to talk at the fair. If you want to purchase a "hot" item in short supply you might even ask that certain products be set aside for you. But during your first trip to the fair, don't set your sights too high. The Chinese often "test" a company's reliability by agreeing only to small sales the first time.

The next step is to arrange transportation and accommodations. Although Guangzhou may be the only Chinese city with a surplus of first-class hotel rooms most of the year, all rooms are booked when the fair is in session. Making a hotel reservation on short notice is a risky

proposition—even for travel agents with good contacts in China.

Before the new international hotels opened in the mid-1980s, Guangzhou had far too few hotel rooms to meet the demand during the fair's peak times. As a result, the three fair liaison offices set up to assist foreign guests at the fair handled the hotel arrangements for all visitors, juggling rooms and even beds to accommodate all the buyers. The liaison offices will still make your hotel reservations if you wish—and you don't care what hotel you end up at. But now that the new hotels allow individual reservations, the business traveler who plans more than six months in advance has more choices.

The **China Hotel and Dongfang Hotel**, both located on Liuhua Road across from the fairgrounds, offer the most sought-after rooms. Rooms at the China Hotel are convenient, comfortable and next to impossible to get without the right connections. The China Hotel's large lobby and lounge are also the best spot for fair-goers to see and be seen, although getting a table for lunch or dinner or a telex machine in the evening can be an ordeal. The Dongfang is older and its rates a bit cheaper—but basically comparable—so it generally fills up with Chinese officials and overseas Chinese visitors.

The **Garden Hotel**, built in a rapidly developing commercial section of Guangzhou, is the newest of the city's international hotels. Located about five miles from the fairgrounds, the hotel offers a complimentary shuttle bus that can take you to the fair in 15–45 minutes depending on traffic.

The view from the **White Swan Hotel** (located on the Pearl River) can't be beat, but its location on the opposite side of the city from the fairgrounds is a drawback. In Guangzhou's heavy rush-hour traffic, the usual 15-minute drive to the fair can easily stretch to 30 or even 45 minutes. The White Swan generally books more tourists than traders, making it a good place to get on a telex machine or escape the hectic trade fair environment.

Julia S. Sensenbrenner, senior editor of The CBR, represented the National Council at the Guangzhou Trade Fair in October 1986.

It can be a trying task to get in or out of Guangzhou during the fair. Those coming from Hong Kong have a variety of options: CAAC flies the 20-minute Hong Kong–Guangzhou route four times each day; express trains racing from the Kowloon Station to Guangzhou take just under three hours and run two times a day. Hovercraft make the two-and-a-half-hour trip up the Pearl River three times each day. But even with all these options, tickets from Hong Kong to Guangzhou are often fully booked at fair time, requiring a layover of several days in Hong Kong. And traders flying in from other parts of China usually need to book their CAAC tickets more than a month in advance.

On the fairgrounds

Once you've made it to Guangzhou, you should have no problem registering for the fair. Each major hotel has an information and registration desk for fair participants. After showing your invitation, you will receive a badge that allows you to enter the fairgrounds every day. Previously, this privilege was free, but as of the spring 1987 fair, participants must pay \$11 for their pass. Those who forget their invitations need only make a quick trip to the No. 1 Liaison Office located in the Dongfang Hotel and find their name on the master invitation list. If going to Guangzhou was a last-minute decision and no invitation was received, bring a business card and some company literature to the liaison office and you can usually get a pass.

Once at the fairgrounds, show your badge at the booth by the door to obtain a copy of the official fair bulletin. This valuable book, containing a map of the fair building layout, delegation locations, and the names of delegation leaders, will quickly become your best friend. The 120,000 sq. m. fair layout can only be described as a maze. Because more buildings have been added over the years, the 11 halls are not numbered consecutively; hall 11 is on the east side next to hall 6, quite far from hall 9 to the north and 10 in the middle. Just as you are hurrying to your next appointment, you will inevitably run up against a dead end since hallways on the higher floors are not always linked to the next building. And

there never seems to be a stairway where you need one.

The hallways are lined with negotiation booths where serious discussions take place behind makeshift walls. Once you find the right building and floor for your product, check the booths for signs indicating what products are discussed there. Much of the visible action takes place at the small tables in front of these booths. Most of the time, Chinese sellers—both trade officials who handle sales and technical staff who can discuss production with potential buyers—will be at these tables. While you may already have appointments with key officials, it is worth taking the time to talk with these ringside sellers. They can provide new leads, key information, and set up appointments with other trade officials.

Be forewarned, however, to prepare your strategy and talking points before you go, since many Chinese traders prefer holding a meeting on the spot to scheduling one for the next day. It is generally not necessary to hire an interpreter because Chinese trading delegations usually bring their own translators.

Take some time to wander—there are always surprises around the corner. The rapidly growing number of groups participating in the fair—including combined industry-trade organizations, joint ventures, small Chinese trading compa-

nies, and investment corporations such as CITIC—may offer alternative sources for your product. The presence of multiple suppliers can sometimes work to your advantage if competition becomes keen. But before leaping to a new supplier, talk to your old source at the fair or other traders to

ascertain that the new group really does have the products to meet your specifications.

The fair is open from 8:30–11:30 am and 2:30–5:30 pm every day except the middle Sunday of the three weeks, when the trading groups estimate their totals for the first half of the fair and high-level trade officials meet to discuss how to boost their export totals. The daily schedule thus leaves plenty of time to make phone calls or send telexes back to your office. A new addition to the business communications offices of the major ho-



Photo by Karen Green

There's rarely a shortage of taxis at the fair.

tels are facsimile machines, which can cut the time spent waiting in line to type and send telexes.

Around town

After an exhausting day of trading, you may want to escape the fairgrounds and hotel to sample the night life in Guangzhou. Good restaurants abound, and most accept reservations. The city's several open-air markets teem with young people on the prowl for "stylish" clothing from Hong Kong and beyond.

Guangzhou is also entertaining by day. Remnants of the British enclave in Canton are evident in the buildings on Shamian Island on the city's south side. Just across a canal from this island is the Qingping Market, reputedly the largest and most diverse free market in China, which sells everything from Chinese herbal medicines to the makings for some of Guangdong's more exotic dishes—monkeys, turtles, snakes, cats, and dogs. Other favorite tourist spots are the Guangzhou Museum in Yue Xiu Park just east of the fairgrounds, the Peasant Movement Institute and Exhibition Hall of the Revolution located north of Sun Yatsen Street, and the Temple of Six Banyan Trees with its decorative pagoda.

Rest assured that, whatever the time of day, you can find a taxi to take you home. In Guangzhou, unlike most Chinese cities, you can actually hail a taxi on the street. Even when taxis are in greatest demand—just after the fair closes each day—the maximum wait at the China Hotel generally runs only 10 minutes.

If you stay in town during the Sunday when the fair is closed, a side trip may be in order. Some of the more comprehensive guide books provide information on popular day trips from Guangzhou. And two-day options might include taking the train to the booming Shenzhen SEZ or hiring a car to drive to Sun Yatsen's birthplace in Zhongshan city, where there is even a golf course designed by Arnold Palmer and a warm spring to relax in after several hectic days at the fair.

MAIN HOTELS CATERING TO FAIR-GOERS

Baiyun (White Cloud) Hotel
(700 rooms)
East Huanshi Rd.
Tel: 667700
Telex: 44029 BYHTL CN

China Hotel (1,017 rooms)
Lihua Rd.
Tel: 666888
Telex: 44888 CHLZG CN

Dongfang Hotel (1,200 rooms)
1 Lihua Rd.
Tel: 669900
Telex: 44139 GZDFH CN

Garden Hotel (1,100 rooms)
368 Huanshi East Rd.
Tel: 773388
Telex: 44788 GDHTL CN
(Part of the Peninsula Group in Hong Kong.)

Liu Hua Hotel (650 rooms)
North Renmin Rd.
Tel: 668800
Cable: 0248

White Swan Hotel (1,000 rooms)
Shamian Island, 1 South St.
Tel: 668968
Telex: 44688 WSH CN
(Part of the Leading Hotels of the World.)

A RESTAURANT SELECTION

Panxi
(specializes in dim sum pastries)
151 Longjing Rd. West
Tel: 885655

Beiyuan (Northern Garden)
(Cantonese food)
202 Xiaobei Rd.
Tel: 333365

Datong (Great Harmony)
63 Yanjiang Rd.
Tel: 888988

Guangzhou Restaurant
(traditional Cantonese food)
2 Wenchang South Rd.
Tel: 887136, 887840

Nanyuan (Southern Garden)
(Cantonese and Chaozhou style food)
142 Qianjin Rd.
Tel: 448380, 449211

Snake Food Restaurant
(for the daring . . .)
43 Jianglan Rd.
Tel: 882517

Vegetarian Fragrance Restaurant
167 Zhongshan Liu Rd.
Tel: 886836

The effort to sort out the skies becomes the nation's number-one aviation priority

**SPECIAL
REPORT**

Improving China's Air Traffic Control

Thomas P. Messier, James Etgen, and Edward Harris

After several years of grappling with the break up of China's civil airline monopoly, top aviation officials are now turning to the equally complex problem of reorganizing and modernizing the country's air traffic control system. The basic equipment now in use is a 1953 vintage system based on the Soviet model. Civil aviation authorities control only "ribbons in the sky" and limited airspace around airports; the remainder falls under the military's jurisdiction.

With air traffic expected to increase several times by the year 2000, such an antiquated system can no longer safely meet China's needs. The emergence of new domestic airlines and the growing number of international carriers establishing or increasing air passenger and freight services to China adds to the urgency of the modernization effort. A major shift must be made from manual control of air traffic (based on time and distance separation of aircraft) to radar-based systems, a shift that was made in the United States during the 1950s and 1960s. And civil and military airspace must be safely integrated—as was done in the United States in 1958.

There is near-unanimous agreement in China on the need to upgrade China's air traffic control facilities and develop a national system that integrates civilian and military air traffic. The outstanding questions are who will lead the effort, and how quickly can it be done?

Little organizational coordination

China's aviation planners have turned first to the complicated institutional issues surrounding air traffic control. In many Western countries, a strong civilian organization (such as

the Federal Aviation Administration in the United States) handles the nation's air traffic control, providing service to both civil and military users and setting aside airspace strictly for military use.

In China, the situation is reversed, with the air force controlling all of the country's airspace. Indeed, until the 1970s, the bulk of China's air transportation was military: civilian passengers and cargo traveled mostly by rail. The General Administration of Civil Aviation in China (or CAAC as it is commonly known) is responsible for safe civilian air travel throughout China. Its department of Flight Operations handles civilian air traffic control, air navigation, telecommunications, surveillance, landing aids, and meteorology.

The air force allocates just enough airspace to CAAC for its immediate needs: a width of eight kilometers surrounding China's 18 international air routes (with two more to be added later this year) and domestic routes (about 200), as well as an additional 30–35 kilometers of airspace surrounding China's 80 civilian airports. According to CAAC officials, the State Council currently approves all proposed civil air routes and resolves any conflicts between CAAC and the air force.

The air force also allocates a small amount of airspace to the Ministry of Aeronautics Industry for flight tests of new aircraft, and to other ministries for general aviation purposes including agricultural spraying, map-

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ping, and natural resource survey flights. Helicopters used for industrial purposes also operate outside of CAAC's air traffic control system. CAAC therefore does not have any control over—or generally any knowledge about—military and general aviation flights.

This lack of coordination between civilian, military, and general purpose aviation causes numerous problems and duplication of efforts. About half of China's 80 civilian airports are shared with the military, but at each facility civil air traffic controllers monitor civil traffic, and a separate group of military air traffic controllers regulate military traffic.

Another problem is the lack of standardization between civil and military equipment. Unlike the practice in the United States, there are no radar sites in China from which both civil and military controllers can share data. The air force uses primary radar for air traffic control and other purposes, while CAAC uses more sophisticated secondary radar—with which most military aircraft are not equipped. The two systems also use different communications equipment, instrument landing systems (ILS), and automated direction finding (ADF) equipment, making interchange between them difficult at best.

NATCA: The beginnings of unified planning

The urgent need to unify air traffic control planning is being addressed through a major organizational reshuffling. The changes began last August, when a special Air Traffic Control Leading Group was formed under the direction of the State Council. The group includes influential representatives from all of Chi-

na's air traffic control bureaucracies, including CAAC Director General Hu Yizhou and leaders of the air force.

But this was just the beginning. Shortly thereafter, the State Council and the Central Military Commission announced the creation of the National Air Traffic Control Administration (NATCA), a major new initiative in developing an integrated national air traffic control system. Officially set up in February 1987, NATCA represents the most significant aviation policy decision of the last year. Reporting directly to the State Council, NATCA is charged with unifying the control of China's air traffic—the first step toward creating a Chinese version of the US common air traffic control system. For the time being its staff is preoccupied with long-range planning, but NATCA is scheduled to assume operational control of air traffic by late 1990, the end of the current five-year plan and thus a natural institutional break-point.

Although plans are not yet finalized, NATCA is expected to continue absorbing many air traffic control personnel from CAAC and the air force, and technical cadre from ministries such as astronautics and electronics. Some air traffic control research institutes will be transferred intact from CAAC and the military to NATCA. The military will probably continue to play an important role in air traffic control, but the way in which responsibility will be shared with NATCA remains to be worked out.

Although these organizational changes represent a major step forward, there may be problems and delays in transferring ideas from paper to practice. Among the numerous issues to be resolved include how to structure and share airspace, how to ensure the commonality of equipment and the necessary civil/military coordination, and when to give the military priority in certain airspace.

Long-range plans still up in the air

While the question of who will be responsible for air traffic control in China's future is beginning to be resolved, the practical issues of how the air traffic control system should be structured are just beginning to be addressed.

NATCA's first major task is to evaluate China's air traffic control situa-



International air terminal at the Beijing Airport

tion. By the end of this year NATCA intends to submit a proposal for reforming China's air traffic control system to the State Council, together with a long-range plan for modernizing air traffic control. After the system design and architecture are agreed upon by both CAAC and the military, a more detailed implemen-

tation plan will be required, but when this will be drawn up is not yet clear.

To handle this job, NATCA will have to get more funding from the State Council after the initial report is approved. NATCA did not obtain the budget it expected for its initial cadre of about 100 people and has not been allocated funds to contract

THE US ROLE IN CHINA'S AIR TRAFFIC CONTROL

The United States has begun to help with China's air traffic control modernization and is poised to play an even more active role.

The US Federal Aviation Administration is working actively with China's civil air authorities in several areas. In March 1986 CAAC and the FAA signed a Memorandum of Agreement for Technical Cooperation in the Field of Civil Aviation. The first annex to that agreement, also signed in March, allowed the FAA to extend a production certificate to the MD-82 aircraft now being built in Shanghai by McDonnell Douglas, in conjunction with the Shanghai Aircraft Industry Corporation. The annex was put to work almost immediately, as FAA authorities certified the first aircraft off the assembly line on July 31 (see p. 36).

The FAA is also involved in China's air traffic control programs, and has a working relationship with CAAC's air traffic control authorities. The FAA is also getting to know officials in China's newly created National Air Traffic Control Administration (NATCA). Senior NATCA officials visiting the United States, Canada, and Europe were hosted by the FAA in August, just two months after the FAA hosted a CAAC delegation. NATCA and the

FAA are already discussing the possibility of signing a memorandum of agreement similar to that between the FAA and CAAC.

Last year, when China expressed interest in developing a plan to guide future aviation system development and operation, the US government Trade and Development Program (TDP) offered to fund such a study—if performed by US firms. TDP asked the Federal Aviation Administration to propose the outline for the study, and sent the authors of this article, with National Council Vice President Richard E. Gillespie, to Beijing in March to meet Chinese aviation officials, tour CAAC facilities, and develop the terms of reference for such a study. Last spring TDP extended an official offer to China to fund the study, and is awaiting CAAC's decision, expected later this year.

Such a study could prove useful to both the US government and industry in identifying future areas of cooperation in air traffic control. Guo Yunzhong, director general of NATCA, has already expressed an interest in the US system as a starting point for guiding the development of China's air traffic control system, tailoring it to China's special needs.

CHINA'S AIR TRAFFIC CONTROL



out for additional help. NATCA plans to ask for more people and funding from the State Council for the 1988–90 time frame, and because of the priority now being given to this sector, they are optimistic that the request will be approved.

Funding for NATCA will only be the first test of China's commitment to improving air traffic control. To

catch up with the key developments and technologies now being used in many other countries, China will need to spend significant sums of money (see p. 32). These improvements will not only enhance efficiency but safety as well. As utilization of China's air traffic control system grows, the potential for accidents increases apace. More sophisti-

cated tools are required to accommodate additional air traffic without causing long delays or compromising safety. These include microwave landing systems (MLS), automated weather observation stations, aircraft collision avoidance systems, improved terminal and en route radars, and advanced computers for use in air traffic control.

Answers to CHINASPEAK: China Expert Level

(see also p. 45)

- | | | |
|---|---|---|
| 1. China National Arts and Crafts I/E Corp. | 20. China Light Industrial Corp. for Economic and Technical Cooperation | 39. China National Medicines and Health Care Products I/E Corp. |
| 2. Beijing International Trust & Investment Corp. | 21. China National Machinery and Equipment I/E Corp. | 40. China National Metals and Minerals I/E Corp. |
| 3. Bank of China | 22. Center for Market and Trade Development | 41. Ministry of Machine-Building Industry |
| 4. General Administration of Civil Aviation of China | 23. China National Chemical Construction Company | 42. Ministry of Metallurgical Industry |
| 5. China National Automotive Industry Corp. | 24. China National Oil Development Corp. | 43. Ministry of Foreign Economic Relations and Trade |
| 6. China National Agricultural Machinery I/E Corp. | 25. China National Offshore Oil Corp. | 44. Ministry of Petroleum Industry |
| 7. Chinese Academy of Social Sciences | 26. China National Publications I/E Corp. | 45. China North Industries Corp. |
| 8. The China Business Review | 27. China National Tobacco Corp. | 46. National People's Congress |
| 9. China Consultants of Accounting and Financial Management, Inc. | 28. China National Technology Import Corp. (see #60) | 47. People's Bank of China |
| 10. CCIC Finance Ltd. | 29. Coordinating Committee on Multilateral Export Controls | 48. China Ocean Shipping Agency |
| 11. China Council for Promotion of International Trade | 30. China Economic and Trade Consultants Corp. | 49. People's Insurance Company of China |
| 12. China Central Television | 31. China Ocean Shipping Company | 50. People's Republic of China |
| 13. China Electronics I/E Corp. | 32. China State Construction Engineering Corp. | 51. Renminbi |
| 14. China National Cereals, Oil, and Foodstuffs I/E Corp. | 33. China State Shipbuilding Corp. | 52. State Administration of Exchange Control |
| 15. China National Silk Corp. | 34. China Travel Service | 53. State Administration of Industry and Commerce |
| 16. China National Textiles I/E Corp. | 35. Beijing Foreign Enterprise Service Corp. | 54. China National Chartering Corp. |
| 17. China International Economic Consultants | 36. Foreign Exchange Certificates | 55. China National Chemicals I/E Corp. |
| 18. China International Trust and Investment Corp. | 37. China National Instruments I/E Corp. | 56. China National Petrochemical Corp. |
| 19. China International Travel Service | 38. China National Machinery I/E Corp. | 57. China National Foreign Trade Transportation Corp. |
| | | 58. Shanghai Investment & Trust Corp. |
| | | 59. State Science and Technology Commission |
| | | 60. (Same as #28) |

Managing short-term challenges

Until a long-range plan to unify air traffic control is agreed upon, CAAC will continue to handle day-to-day civilian air traffic control, within the limitations imposed by the current system.

And as long as the current air traffic control structure remains in place, prospects for increased numbers of flights or improved service are limited. High altitude en route traffic is restricted to one flight level in any given direction. For instance, aircraft flying from Beijing to Shanghai must stay at 9,000 meters, while flights from Shanghai to Beijing must remain at 6,000 meters. Since planes cannot change altitudes when turbulence occurs, travelers are often subjected to bumpy flights. And only three planes per hour can travel any one route, because China's manual air traffic control system requires a 20-minute separation between aircraft.

China's civilian air system handled approximately 400,000 take-offs and landings last year, carrying some 10 million passengers—about the same

level handled in 1986 by Dulles International Airport near Washington, DC. Only 16 of the 80 airports used for civilian air traffic are considered major airports, and just three of these—Beijing, Guangzhou, and Shanghai—see as much air traffic as a small American city.

Throughout the country there are 10 regional control areas, 14 terminal control areas (regulating airport approaches), and one control zone in Beijing. Currently, approaches to all airports except Beijing are routinely run from towers—using non-radar control procedures. The process is further slowed by a 10-minute terminal separation requirement, which means that no more than six aircraft per hour can use one runway.

Goals for 1990

CAAC is attempting to work within this structure to solve some of the immediate problems before NATCA becomes fully operational. The Asian Games that Beijing plans to host in 1990, for instance, will require many more flights and better scheduling than can be handled at present.

CAAC has developed a plan for priority equipment purchases during the Seventh Five-Year Plan period. An important goal is to improve communications and upgrade precision landing systems at major airports—problems that contribute to the flight cancellations and disruptions for which CAAC is frequently criticized. Several high-use routes in the eastern third of China need improved navigation aids and better communications equipment to handle more traffic safely. And in northwest China, existing air traffic control facilities are poor, and better navigation, communication, and landing systems are needed.

The following summary illustrates some of the short-term challenges and solutions CAAC will be working on for the next few years:

- Instrument Landing Systems (ILS) are available at only 16 major airports (see map), all qualified for Category I approaches (200-foot vertical ceiling and one-half mile horizontal visibility). The lack of precision landing aids at even the largest airports severely handicaps schedule reliability. Authorities hope to install

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REPORT FROM THE BEIJING AIRPORT

Beijing's airport—the newest and most modern in China—is ready to take on a greater role in air traffic control as China's air traffic rises. But for now its facilities and equipment remain underutilized.

Open from 6 am until 10 pm daily, the Beijing Airport averages only 20 to 30 take-offs and landings each hour in fair weather, compared to about 120 operations per hour at a major US airport. Some 20 air traffic controllers—11 fully trained and certified—work at the Beijing Airport, a number sufficient to handle the present level of traffic.

The Beijing Airport includes a new but rather austere terminal building. It is connected to the city by a modern two-lane roadway that should easily be able to accommodate an increase in the traffic traveling that route today. The airport is served by a pair of relatively smooth and well constructed parallel runways—18 and 36 left and right—suitable for handling 747-class airplanes.

Planes approach and depart the Beijing Airport via six routes, four south and east, two north and west, operating to and from the two parallel runways. The routes are eight kilometers wide and authorized for CAAC's use at altitudes up to 12,000 meters and a distance of approximately 35 kilometers from the airport.

Both runways are served by Category I instrument landing systems (ILS) manufactured by Plessey (UK) and touch-down runway visibility range (RVR) equipment. For some time, the ILS systems were not completely trusted by pilots, due to CAAC's lack of flight inspection capability. They are now inspected and being used with greater confidence.

A Wilcox (US) 585B Very High Frequency Omnidirectional Range (VOR) radar system also serves the airport,



Air traffic controllers in the Beijing tower use approach control radar supplied by Thomson CSF.



The area control center houses five long-range secondary surveillance radar consoles, two of which are in operation.

Air-to-ground voice tape recorder supplied by Racal.



along with dual nondirectional beacons (NDBs). The VOR system is currently inoperative due to signal interference and is awaiting relocation to a more suitable site. A doppler VOR system less susceptible to interference may be purchased to replace the current system.

The airport is equipped with airport surveillance radar manufactured by Thomson CSF (France), although Beijing's air traffic controllers only use it to confirm control instructions based on manual time and distance procedures. There are also dual precision approach radars of Japanese manufacture servicing both parallel runways, but they are seldom used due to the lack of trained personnel.



The flight control briefing room. 'Notice to Airmen' bulletin board at right lists equipment that is not operational at various airports on China's major domestic and international routes.

The air traffic control tower at Beijing has two control positions, one for approaches and departures and another for landings, takeoffs, and ground control. The approach/departure position is equipped with one VHF frequency and a Thomson CSF BRITE radar display that uses radar data processed by a Thomson system, providing alpha-numeric tags for the targets to permit easy aircraft identification. An approach control room in the old terminal building is currently not in use. Opened in 1985, it remained in operation only about six months, because CAAC lacked the approximately 40 controllers needed to staff both the tower positions and the radar room. The low volume of air traffic does not warrant the investment—yet.

Category I systems at all major airports, while upgrading the ILS systems at Beijing, Shanghai, and Guangzhou to Category II (100-foot ceiling and 700-foot horizontal visibility) by the early 1990s. This will help reduce many of the long delays travelers are subject to when visibility at the departure or arrival points is poor.

- Radar is used only for tracking aircraft, not for directing and controlling them. The shift to full radar air traffic control will require a massive retraining of personnel and allocation of additional airspace to maneuver aircraft both vertically and horizontally. CAAC hopes to begin this process by extending secondary radar coverage throughout the eastern third of the country by the early 1990s.

- En route communications rely on extremely outdated High Frequency (HF) equipment; Very High Frequency (VHF) coverage in China is limited to airport terminal areas. By contrast, in the United States, VHF and UHF (ultra high frequency) communications have been the rule since the 1950s. Military aircraft are equipped with a different range of

the frequency spectrum, so very few can tune to civil communications equipment when operating at the civil airports. CAAC would like to install VHF communications for en route control. The expense and logistical problems of placing receivers and transmitters in remote locations are daunting—especially when air traffic control centers must be linked to remote facilities using China's unreliable telephone lines. But China's aviation authorities hope to establish VHF/ground communications along all major air routes in time to serve increased traffic during the Asian Games.

- En route navigational aids are still primarily nondirectional beacons (NDB). There are also some VHF omnidirectional ranges with distance measuring equipment (VOR/DMEs), although they frequently do not overlap. CAAC would like to establish a comprehensive VOR en route structure in time for the Asian Games.

- Ground-to-ground civil aviation communications still rely in large part on the public telecommunications network, operated by China's Ministry of Posts and Telecommuni-

cations (MPT). Although MPT is trying to upgrade telecommunications throughout the country, it is expected to have considerable difficulty meeting the needs of a modern air traffic control system. Top CAAC officials concede that their own satellite system may eventually be needed to solve their communications problems.

CAAC is busy coping with the short-term challenges of managing air traffic control between now and 1990, when it expects to turn over these functions to NATCA. But the structure it must work within allows for only limited improvement to the air traffic control system. There is a desperate need to unify the control of airspace between the military and civil users and move toward a full radar-based air traffic control system. These are the long range challenges that NATCA is now studying. Although the organizational changes have begun, and operational questions are under study, it will still take many years before a unified system can be put into operation given the normal budgetary, bureaucratic, and technical constraints any developing country can expect to face. 完

Chamber Releases 1987 Guide To Over Two Thousand AmCham Members

The 1987 *Members Directory* to the American Chamber of Commerce in Hong Kong has been released. The 462-page directory is divided into six major categories of information:

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- B) Companies Listing of the company members represented, defining their nature of business, contact information (e.g. telex, facsimile, etc.), and lists of company employees who are Chamber members;



- C) A separate Products and Services listing which groups company members into over 30 categories of business;
- D) A guide to AmCham services for members and non-members on how to join;
- E) An organization profile that defines the approximately 20 action committees of AmCham, as well as the elected and staff authority structures;
- F) A contact and address directory to all other American Chambers of Commerce or related organizations in the Asia-Pacific region.
- G) A directory to U.S. Consulate officers and their special interest areas.

It is now available for purchase at HK\$750/US\$100 for non-members.

Checks should be made payable to the American Chamber of Commerce in Hong Kong and sent with orders to the attention of the Publications Manager, Rm 1030, Swire House, Central, Hong Kong.

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When and where will China's limited funds be spent?

Sizing up the Air Traffic Control Market

Richard E. Gillespie and Beverly Musolf Lopinto

Although China is similar in size to the United States, it has neither the need nor the resources to invest anywhere near the \$12-\$15 billion allocated to the US National Airspace System Plan, which will guide air traffic control modernization in the United States through the year 2000.

In fact, China has spent less than \$50 million since it began to procure a new generation of air traffic control equipment in the early 1970s. Purchases have been made from an assortment of foreign suppliers, with apparently little effort at national coordination. Political considerations, as well as price, appear to have figured prominently in these decisions.

Major suppliers to date have been largely Western European and Japanese firms. Thomson CSF of France, under a contract negotiated in 1973, provided primary and secondary radar for the top-priority Beijing-Shanghai air corridor. Other important sales have been awarded to the Japanese companies Toshiba and Nippon Electric Corporation, and Racal and Plessey of the United Kingdom. US firms began to make some inroads in the early 1980s, including small sales of approach radars and instrument landing systems from companies such as Eaton's AIL Division and Northrop's Wilcox Electric Corporation (see table).

China appears to be continuing this uncoordinated approach to air traffic control purchases. Of the eight major airports where secondary radars are now being installed, equipment from at least five foreign vendors is in the pipeline: Thomson CSF, Plessey, Toshiba, Nippon Electric, and Cossor (in conjunction with

Raytheon). This could create serious problems in making equipment compatible, acquiring spare parts, and training personnel for each type of equipment.

Purchase plans for the future

Purchases of air traffic control equipment are currently funded by CAAC and the central government and usually negotiated by the China Aviation Supplies Corporation under CAAC. Some equipment orders originate with local aviation authorities, who submit their equipment needs to CAAC. But procurement plans are also formulated by CAAC's planning department, which came up with a plan to purchase equipment for 20 airports during 1986-90. After two rounds of negotiations with foreign suppliers in 1984 and 1985, CAAC bought equipment from Toshiba (secondary surveillance radar), Nippon Electric Corporation (air traffic control equipment), and Plessey (advanced Watchman radar systems).

Modernization during the rest of this decade will focus on upgrading major air routes in the eastern third of China, with the heavily traveled Beijing-Shanghai-Tokyo, Shanghai-Guangzhou, Beijing-Guangzhou, Beijing-Chengdu, and northern European routes receiving the greatest attention. Increasing secondary surveillance radar coverage, extending Very High Frequency (VHF) air-ground communication facilities along major routes, upgrading preci-

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sion landing capability, and providing VHF omnidirectional range with distance measuring equipment (VOR/DME) coverage on these routes will take priority.

The US Federal Aviation Administration estimates that imports worth \$8-\$12 million will be needed for these programs, including navigational aids, landing aids, communications equipment, and installation services. To make these purchases, China's newly established National Air Traffic Control Administration (NATCA) is predicting a significant rise in spending and foreign procurement during the last two years of the Seventh Five-Year Plan (1989-90).

China's spending on air traffic control should continue to climb during the 1990-2000 period, assuming aviation officials go forward with the plan to establish a new nationwide air traffic control system. The outline of the system will remain unclear until NATCA's ongoing study of long-term air traffic control needs has been completed. But NATCA officials provided some clue as to what may lie ahead when they voiced interest in equipping at least some airports with the modern microwave landing systems (MLS); further expanding VHF air-ground communications, perhaps by renting one or more INTELSAT transponders to allow satellite coverage; extending VOR/DME coverage to all air routes; and purchasing airport surface detection equipment (ASDE) radars for China's busiest airports.

These improvements could prove expensive. According to FAA estimates, foreign procurement of air traffic control equipment could run in excess of \$1 billion during the 1990s. Establishing modern air route traffic control centers in each of China's 10 flight information regions, for instance, could cost up to \$40 million per region. And installing terminal radar approach and tower controls in high-density airports such as Beijing, Shanghai, and Guangzhou could generate another \$10-\$20 million worth of foreign imports at each airport, depending on the size of the facility.

Efforts to upgrade domestic production

While significant purchases of foreign services, technology, and equipment are definitely required to move

China toward its air traffic control goals, the Ministry of Electronics Industry (MEI) hopes to replace imports with domestically manufactured equipment wherever possible. But domestically made equipment will be able to make only a small dent in China's equipment needs through the end of the decade.

Some of the equipment that can be produced in China is still only in the testing stage and is not yet used for commercial operations. For instance, China now produces two types of air traffic control radar: a primary radar system, capable of search and detection, and a more advanced secondary radar system. The first was installed last year for experimentation at Chengdu's Shuangliu Airport, and MEI hopes to make similar radars commercially available for other airports with heavy traffic by mid-1988. The secondary radar system is being installed for testing at the Jinan Airport in Shandong.

MEI has also been in touch with a number of foreign firms to explore the possibility of jointly producing some types of equipment such as radar and navigational aids. The first technology transfer agreement in the air traffic control area was signed in 1985 with the British firm Racal for the assembly of nondirectional beacons in China, and NATCA officials say that there will be more opportunities for similar types of deals.

Maximizing US competitiveness

Chinese aviation authorities have made it clear that they are looking to the United States as the source of much of the world's most advanced air traffic control technology. The decline in the value of the US dollar, combined with the relaxation of US export controls, has helped make US firms more competitive in China's air traffic control market. At least 25 US companies are already trying to market services, technology, and equipment to China, and many more may become active if China's purchases begin to pick up.

But maximum US competitiveness will require further relaxation in US export controls. Most air traffic control radars, VOR, ILS, and MLS equipment fall within acceptable technical limits for sales to China on the US government Commodity Control List. But the data processing and networking required to process some of the information supplied by more

sophisticated radar is technology that remains tightly controlled by the US government.

Other countries also stand to gain from China's expected rise in purchases, and these governments will continue to offer mixed credits to stimulate their technology and equip-

ment exports to China. As China begins to reorganize its air traffic control structure, the market appears set to pick up in the next few years. Potential suppliers around the world are already busy assessing the prospects and positioning themselves. The race is on. 完

MAJOR AIR TRAFFIC CONTROL PURCHASES 1980-87

Company	Item	Date of Contract	Remarks
Thomson CSF (France)	SSR	NA	
Racal Corp. (UK)	Doppler VOR (11)	July 1987	China will make some components of the antenna system
Racal (UK)	HF linear amplifiers/transmitters (3)	June 1987	For Beijing Airport
Wilcox Electric Corp. (US)	ILS (7)	1987	For Guiyang, Shantou, Chengdu, Foshan, Huiyang, Yantai, Guangzhou
Cossor Electronics (UK)	Monopulse SSR (1)	1986	
Wilcox	ILS (6)	1986	For Beijing (2), Tianjin, Hefei, Changchun
Nippon Electric Corp. (Japan)	ATC system	1986	For Shanghai
Plessey (UK)	ATC system	1986	For Xiamen
Racal	DVOR station (1) NDB (40)	1985	DVOR for remote site in south China; NDBs to be assembled in China under technology transfer agreement
Toshiba Corp. and Nissho Iwai Corp. (Japan)	ATC system (including airport surveillance radar and 9 SSRs)	1985	For Beijing, Guangzhou/Beihai, Wuhan, Dalian, and Xi'an
Standard Electric Lorenz (FRG)	System 4000 Navaid (1)	1985	For Beijing and Tianjin
Denro (US)	ATC communication system (1)	1984	For Guangzhou
Wilcox	VOR (2)	1985	For Beijing and Shanghai
Wilcox	DME (1)	1985	
Wilcox	ILS (6)	1985	For Beijing, Beihai, Meixian, Guangzhou, and Qingdao
Park Air Electronics (UK)	VHF-FM transmitters and receivers (200+)	1984	For ground-to-air communications
Wilcox	DME (4)	1983	
Racal	International communications recorders (40)	1982-85	
Wilcox	VOR and DME (1)	1982	
Wilcox	VOR/DME/ILS (1)	1982	For Xiamen
Eaton Corp./AIL (US)	SSR (1)	1981	For Guangzhou
Wilcox (US)	DME (7)	1981	For colocation with Wilcox ILS and VOR equipment purchased in 1980
Wilcox	VOR (2)	1980	
Wilcox	ILS (5)	1980	For Chengdu, Xi'an, Guilin, Shenyang, and Xiamen

(Thomson CSF (France) was a major ATC equipment supplier in the 1970s.)
Compiled by John D. Lewis

ATC = Air Traffic Control	Navaid = Navigational Aid
DME = Distance Measuring Equipment	NDB = Non-Directional Beacon
ILS = Instrument Landing Systems	SSR = Secondary Surveillance Radar
HF = High Frequency	VHF = Very High Frequency
	VOR = VHF Omnidirectional Range

SOURCE: The National Council for US-China Trade

Forecasting China's Aircraft Needs

Adam M. Pilarski

The demand for aircraft in a given country depends on the health of the airline industry, which in turn is a function of the level of air traffic. In China, both international and domestic air traffic are booming. Domestic air travel grew at an average annual rate of more than 25 percent between 1972 and 1985, while international travel increased almost 240 times, or more than 50 percent annually! Although such a rapid pace cannot be sustained forever, both China's domestic and international air traffic are expected to continue growing at double-digit rates for the remainder of the century—putting tremendous pressure on the airline industry to increase its service.

Predicting air traffic

Since most of China's air passengers are traveling on business for State-owned enterprises, and because CAAC and the recently formed regional airlines are owned by the government, the Chinese government ultimately both pays out and collects most airline industry revenue. This dominance of the government is, however, less important in forecasting air travel than one might suspect. In fact, a centrally planned economy allocates resources to air transportation in much the same way that individual travel decisions are made in other countries.

Studies in country after country confirm the same basic relationship: as national income grows, so does air traffic—and at a pace one-and-a-half to two-and-a-half times faster than income. As levels of productivity and education rise, the value of people's time increases, making them more likely to hop a plane than take a train. And as incomes go up, people can afford to spend more on luxuries like

The existing fleet—minus anticipated retirements and including the 69 firm orders for new aircraft as of early 1987—falls far short of satisfying China's needs.

air travel. These principles apply in China as well as in other countries: as national income rises, the government has more money to send personnel on business trips. And recognizing the importance of efficiency, the government is likely to want to get them there and back as fast as possible.

The need to decrease CAAC's high load factors (the measure of how many plane seats are filled on average) will also have an impact on air traffic in the coming years. In the last few years, CAAC's load factors have been substantially higher than those of airlines in other regions of the

Adam M. Pilarski is chief economist at Douglas Aircraft Company, part of the McDonnell Douglas Corporation. The China fleet forecast is based on early 1987 data from official Chinese sources. The opinions are those of the author, and do not necessarily reflect the views of the McDonnell Douglas Corporation. A full text of the speech from which this article is adapted will appear in China's Global Presence, to be published this year by the American Enterprise Institute's Center for Public Policy Research.

world. In 1985 most CAAC routes were being flown at 70 percent—and in some cases more than 80 percent—of capacity, showing the difficulty China is having in meeting the rapid increases in demand. Although high load factors are profitable, they do not necessarily maximize profits. China's planes are so crowded that CAAC is actually turning away many passengers. Making greater use of an aircraft (a fixed cost) by adding new flights could therefore bring in more revenue even if the plane is less full. It can be assumed that aircraft use in China will increase and load factors will decrease to an average load factor of 65 percent by the year 2000—the level Chinese aviation analysts claim is reasonable for their country.

The number of plane departures should continue to rise an average of 11 percent annually between 1985 and 2000. This figure is unusually high because CAAC's current level of service is still very low compared with other countries.

Based on these and other calculations, China's domestic air traffic is predicted to grow at double-digit rates for the remainder of the century: 13.7 percent from 1986–90; 12.1 percent from 1991–95; and 10.5 percent from 1996–2000, yielding an average 12.1 percent annual increase in air traffic over the next 15 years. These numbers are twice the world average, which is expected to increase by only about 6 percent annually during these years.

According to this forecast, China's domestic air traffic in the year 2000 will be more than five times greater than in 1985. In other words, by the year 2000, China's domestic air traffic should reach 43.85 billion passenger-kilometers, up from 7.88 billion in 1985. But the size of this increase should be put into perspective. Even this level of growth will amount to only 12.5 percent of the projected air traffic in the Soviet Union in the year 2000, and less than 5 percent of the level in the United States.

Implications for the fleet


While China's air traffic in the year 2000 will still be relatively small by international standards, it will be large enough to pose a serious challenge to the country's aging fleet of aircraft. The country's civil fleet consists of less than 150 planes of some 18 different types, most of them old and no longer efficient. As a conse-

quence, CAAC's average plane productivity is low compared with other world airlines. If CAAC continues to retire its aircraft after 20 to 30 years, most of the planes currently in operation will be out of service by the year 2000, leaving only about 35 of today's aircraft in operation. Those put out of commission will generally be smaller, short-range planes. The existing fleet—minus anticipated retirements and including the 69 firm orders for new aircraft as of early 1987—falls far short of satisfying China's needs, based on the forecasted 12.1 percent average annual traffic growth over the period.

To satisfy demand, the CAAC fleet must grow to an estimated 462 planes by the year 2000. If China chooses to buy all of these aircraft from abroad, it will need to purchase an additional 358 passenger aircraft by the year 2000 at a cost of about \$7 billion (in 1986 dollars). During the first five years of the forecast, mainly small, short-range planes will be needed. But between 1996 and 2000 larger aircraft are likely to gain favor to allow China to meet rising demand without causing delays or overcrowding in the skies. If feeder aircraft are excluded from this calculation, China would need 186 jets, costing \$5.7 billion in 1986 dollars—roughly 3.3 percent of total predicted international demand for aircraft during this 15-year period.

The need for large quantities of new aircraft poses a difficult question for China. Should the country take advantage of its huge labor force to try to play a major role in the international aircraft market during the 21st century? Or should it stick to a more modest role as a producer of smaller aircraft, buying or jointly producing large trunk aircraft with the assistance of foreign aviation firms?

China's present strategy aims to balance imports of foreign equipment and technology with increased production of some domestically designed aircraft. Between \$300 and \$350 million is set aside in the State budget for commercial aircraft development programs during the years 1986-90. The money will be used to keep China basically self-sufficient in feeder planes by improving the domestically designed Yun-7, Yun-8, and Yun-12. CAAC has already ordered 40 of the Yun-7, now being modified in Hong Kong, to be delivered by 1990. In all, China plans to



CHINA'S CURRENT OPERATING AIRCRAFT

Type	Number	Date delivered	Passenger capacity
Airbus A-310-200	3	1985-86	224
Antonov AN-12	1	1974	Cargo
	1 (W)	1984	
Antonov AN-24	22	1974	32-44
	1 (W)	1984	
Boeing 707-320	10	1973-74	160
	5 (S)	1985	160
Boeing 737-200	14	1983: 4	130
		1985: 10	
	1 (X)	1985	
Boeing 737-300	2	1986	140
	4 (C)	1986	
	2 (Y)	1985-86	
Boeing 747-SP	4	1980: 3	291
		1983: 1	291
Boeing 747-200 Combi	2	1984-85	291
Boeing 767-200	2	1985	214
British Aerospace 146	4	1986-87	80
British Aerospace Trident 2E	25	1972-78	112
	1 (X)	1985	112
British Aerospace Trident 3B	2	1975	48-52
de Havilland DHC-6	6	1978: 2	14
		1979: 2	
		1985: 2	
Ilyushin IL-18	10	1973-75	84-110
Ilyushin IL-62	5	1971-72	186
McDonnell Douglas 82	5	1983, 1985	147
Shorts 360	1	1985	36
Tupolev 154M	2	1986	164
Yun 7	10	1984	52

Key:
(W) = Wuhan Air Transport Service
(S) = Shanghai Airlines
(X) = Xiamen Airlines
(C) = China Southwest Airlines
(Y) = Yunnan Provincial Aviation

SOURCE: AVMARK, March 1987




build some 200 commercial aircraft during the 1986-90 period, including the Yun-7, Yun-8, Yun-12, MD-82, and general aviation planes.

China's aircraft industry leaders also appear interested in assuming a major international role by producing greater numbers of large trunk aircraft—but the risks are great and the costs high. While the country either possesses or will acquire sufficient technical knowledge to plan, design, and manufacture such a plane, it will have to raise the productivity of its work force and skill of

middle-level management if it hopes to make a viable product for the world market. What's more, the non-recurring costs of developing an all-new plane normally reach more than \$2 billion. The additional tooling, component purchases, and other production costs will require an investment of up to \$10 billion prior to delivery of the first plane.

Trying to close a gap of decades in too short a time may only produce frustration, waste large sums of money, and result in noncompetitive products that are difficult to sell. 完

AIRCRAFT INVENTORY OUTLOOK, 1986-2000

	1986-90	1991-95	1996-2000
 Firm orders for new aircraft	65	4	—
 Aircraft to be retired from fleet	49	55	5
 Estimated need for additional aircraft	41	163	154

SOURCE: Author's projections

PROJECT NOTEBOOK

McDonnell Douglas: The Management Challenge

Madelyn C. Ross

In March 1985, McDonnell Douglas Corporation (MDC) made history by signing the largest Sino-American technology transfer agreement to date, through which it will help a Shanghai factory join the highly select fraternity of factories throughout the world producing major passenger aircraft. The 500-page, 12-year agreement between McDonnell Douglas, the Shanghai Aviation Industrial Corporation (SAIC), and the China Aviation Supply Corporation, covers the production license for the MD-82 aircraft, product support, the establishment of a flight crew maintenance and training center, offset and countertrade, future technology cooperation, and technical and management assistance.

Embroided in the technical complexities of finalizing this agreement, many Chinese project executives underestimated the management problem involved in getting such a huge venture off the ground. According to Gareth Chang, president of McDonnell Douglas China, there simply weren't enough Chinese managers with hands-on experience in commercial aircraft production. Although the Shanghai Aircraft Manufacturing Factory (the division of SAIC that is actually building the MD-82) had designed China's experimental Yun-10 passenger aircraft and done numerous aircraft overhaul projects, it had never before faced the rigors of commercial production.

Before McDonnell Douglas and SAIC could get down to work, the contractual partners' respective roles had to be clarified. McDonnell Douglas is not an equity partner in the project, a fact posing certain difficulties for company managers in China. Under the terms of the license agreement, McDonnell Douglas personnel are technical and management advisers who may express opinions but do

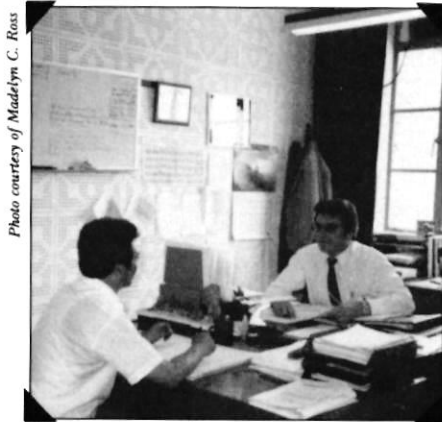


Photo courtesy of Madelyn C. Ross

Working face to face: Joseph A. Benko, MDC director of Manufacturing and Wang Hongnian, vice president of Shanghai Aircraft Manufacturing Factory.

not make most final decisions. For instance, since MDC personnel are not directly in charge of Chinese resources, they cannot make any changes in the number or type of Chinese personnel on the project. Great patience and diplomacy are required to resolve such differences of opinions to the satisfaction of both parties.

Technical and time pressures

Things might be easier on SAIC if it could afford to experiment and learn from its mistakes. But the factory has agreed to an ambitious delivery schedule with its customer, CAAC. Not only are the planes expected to be ready to go into operation when they come off the line, but at CAAC's insistence they must also be certified by the US Federal Aviation Administration.

Madelyn C. Ross, editor-in-chief of The China Business Review, has followed the McDonnell Douglas project since 1983. She interviewed American and Chinese managers at the Shanghai factory in 1986, and would like to thank free-lance reporter Charles Barton for sharing insights from his visits to SAIC this year.

In order to certify MD-82 aircraft built in China, the FAA must be satisfied that the procedures and quality control systems being followed at the factory in Shanghai are a mirror image of those in Long Beach; in other words SAIC must become "Long Beach West" in the words of one FAA executive. But all these systems have had to be built up from scratch at SAIC, where the factory has had more experience with Soviet than American technical procedures. SAIC Vice President Wang Hongnian explains that not only are US drawings more detailed, but material specifications also differ considerably.

The MD-82 certification program, a new role for the FAA, is a precedent that may soon be tried elsewhere—South Korea, for instance. Although the FAA has registered some concern about how closely its procedures are being followed in Shanghai, FAA officials have praise for the overall MD-82 program in China, which they see ushering in a new era of internationalization in aircraft production. They even credit the Shanghai factory with some procedural improvements, such as using a more precise tool than the FAA requires to solve a certain wing problem.

Creative team building

Because of the extreme pressures on the project, both sides admit that unusually close teamwork is vital to its success. This need has been met at the top through the creation of a 20-member joint executive management board that meets once a month, co-chaired by Gareth Chang of MDC and Jing Deyuan, president of SAIC. Board members not only resolve disagreements but oversee the progress of the entire cooperative program.

A great deal of effort has gone into creating a viable team of Chinese and



The beginnings: a delegation from China looks over the McDonnell Douglas commercial aircraft facility in Long Beach, CA, in 1977.

American managers. MDC executives and their Chinese counterparts share responsibility for important functions such as quality assurance, production, and engineering. Approximately 150 SAIC employees were sent to Long Beach for several months of training shortly after the contract was signed in 1985, and many returnees have since assumed leadership positions with the project. Their training in the United States has proven invaluable in understanding MDC management control and work procedures.

Gradually a closely knit team is being fashioned through innovative management—or, as Gareth Chang calls it, “People’s Integrated Team Building.” The first such effort, involving 15 top managers from each side, took the form of a four-day seminar in the fall of 1985. The participants were encouraged to lay their concerns on the table, no matter how insignificant—or sensitive. At first some of the Chinese participants were reluctant to say anything critical about the project. But gradually the team “broke the code,” and began to review not only the MD-82 project in general but individual responsibilities and actions. After much discussion, fist pounding, and even shouting, they ironed out a number of misunderstandings. These sessions are continuing, and managers on both sides of the project feel that they help clear the air, allowing them to get on with the work at hand.

And every Friday afternoon, Chinese managers meet to learn management theory from Chuck Nunnely, who is responsible for management development on the project. Nunnely is instructing them in the “grid” theory, which encourages

open communication, and lies at the heart of the management strategy used by McDonnell Douglas and many other US companies. Chinese workers are used to a more departmentalized approach, in which different factory units are assigned separate functions and have little need to communicate with each other. Nunnely hopes that once the Chinese personnel understand US management techniques, they and their US partners will be able to work together more effectively.

Breaking down barriers

One of the greatest challenges for Nunnely is encouraging workers to actively acquire and question knowledge. He explains that workers in China rely almost exclusively on an exam system as a measure of knowledge. “If you pass the examination, you’re qualified. The practical application of these things and the validity of the information itself is unquestioned. From our point of view, that’s just where you begin your questions.” This approach can lead to passivity on the job, summarized by one US executive as an attitude of “give us your manuals so we can translate and study them.” Nunnely has brought case studies and practical problem-solving exercises to Shanghai and feels that the workers are gradually becoming more willing to air their views and go to their immediate superior with questions.

The problem of language remains a basic roadblock to effective teamwork—and one of the most difficult to resolve given the vast amount of personnel and technical material involved in this project. The factory employs approximately 300 people to translate a mountain of produc-

MORE THAN A DECADE IN CHINA

1975: John Brizendine, president of Douglas Aircraft Company (part of the McDonnell Douglas Corp.), writes to the Ministry of Aeronautics proposing a technology transfer project.

1978: The Ministry of Aeronautics notifies Douglas that they are seriously considering the technology transfer proposal.

1979: Shanghai Aviation Industrial Corporation (SAIC) begins producing main landing gear doors for the McDonnell Douglas DC-9 at SAIC facilities in Shanghai. McDonnell Douglas Corporation (MDC) signs an agreement in principle for coproduction of MD-82 aircraft in China.

1980: MDC Chairman Sanford McDonnell meets with Deng Xiaoping to discuss the joint aircraft production project. Later, economic readjustment in China leads to a three-year postponement of the company’s negotiations.

1983: Delivery of two MD-82 aircraft sold to the Shanghai Regional Administration of CAAC.

January 1984: MDC signs a second preliminary agreement for the coproduction of aircraft in China.

March 1984: State Council gives its approval for Shanghai and the Ministry of Aeronautics to proceed with the second stage of aircraft coproduction negotiations.

March 1985: McDonnell Douglas Corporation and Shanghai Aviation Industry Corporation sign a technology license agreement covering the production of 25 MD-82 aircraft, with options on 15 additional aircraft.

May 1985: 143 personnel from Shanghai Aviation Industry Corporation go to Long Beach, California for up to eight months of training at McDonnell Douglas facilities.

September 1985: Delivery of the third MD-80 aircraft to the Shanghai Regional Administration of CAAC.

December 1985: Delivery of two MD-80 aircraft to CAAC’s Shenyang Regional Administration, bringing to five the number of aircraft MDC has sold and delivered to China.

January 1986: Shipment of the first aircraft assembly kit to Shanghai for the initial phase of the MD-82 coproduction project.

March 1986: The US Federal Aviation Administration and China sign a memorandum of agreement. The annex to this agreement makes US certification of the Shanghai-built MD-82 possible.

April 1986: Assembly of the first MD-82 begins with approximately 40 MDC personnel working on-site at SAIC. Official FAA inspection visits begin and continue at intervals of several months.

November 1986: Work begins on a flight crew training and service facility for the MD-82 aircraft at Shanghai's Hongqiao Airport, jointly established by McDonnell Douglas and CAAC.

March 1987: Approximately 75 MDC employees are working at SAIC. MDC responds to the Ministry of Aeronautics' call for a proposal to coproduce 150 trunk aircraft in China.

June 1987: The first MD-82 aircraft is completed at SAIC facilities.

July 1987: Successful test flight of the coproduced MD-82 aircraft in Shanghai. The aircraft is awarded an airworthiness certificate by the FAA and delivered to the Shenyang Regional Administration of CAAC.

August 1987: The first coproduced MD-82, based in Shenyang, goes into operation on domestic Chinese air routes.

December 1987: The second jointly produced MD-82 aircraft is scheduled for delivery to the Shanghai Regional Administration of CAAC.

1988: Four additional jointly produced MD-82 aircraft are scheduled to be produced by SAIC and delivered to CAAC. The MD-82 flight crew training and service facility is scheduled to open at Hongqiao Airport.

1989: Seven jointly produced MD-82 aircraft are to be delivered to CAAC.

1990: Eight jointly produced MD-82 aircraft are to be delivered to CAAC.

1991: Four jointly produced MD-82 aircraft are to be delivered to CAAC. Last year of the coproduction agreement.

tion documents and quality control procedures. Another 80 interpreters work in the factory. Many MDC employees have their own full-time personal interpreter. Some of the Americans are tutored in Chinese on Saturday, and the factory also sponsors English-language training sessions for interested Chinese employees. This army of translators, interpreters, and teachers are finally beginning to get both sides talking the same language, but it is a long, slow process.

Motivating employees is another challenge. In addition to the normal individual bonus system, extra bonuses are awarded every three months to the shops that have excelled in meeting quality standards and deadlines during the preceding evaluation period.

MDC advisers have also succeeded in getting an overtime system in place to help make up for delays in the production process—although first they had to convince factory employees that if they worked extra hours in a day, they were expected to accomplish more than they would in an average work day. The factory also implemented a two-shift, seven-day-a-week work schedule at the beginning of this year to bring the production of the first plane back on schedule.

Laying groundwork for the future

After long, hard years of negotiations, both McDonnell Douglas

and SAIC executives approached this coproduction project with high expectations and an overriding desire to finally start building airplanes. This sense of urgency may have compounded frustrations with the many inevitable delays that occur on a project of this magnitude in China.

But the story of building an effective team is far from a tale of total frustration. Despite all the problems, the factory has managed to stick to its original production schedule. The first plane rolled off the assembly line in June of this year, passed its test flight and received an airworthiness certificate from the FAA in July. Delivered to the customer, the Shenyang Regional Administration of CAAC on July 31, the plane was put into service immediately on domestic air routes.

Another measure of success is the optimism with which McDonnell Douglas views the prospect of even larger China projects in the future. The company is currently considering an option to produce additional aircraft in China between now and the 1990s. And early this year the company responded to a Ministry of Aeronautics request for foreign company proposals to jointly develop and manufacture 150 medium-range commercial jetliners in China. A foreign partner for this project may not be chosen for one to two years. In the meantime, McDonnell Douglas is continuing to learn the technical and management challenges of aircraft production in China in the most direct—and practical—way possible. The way McDonnell Douglas executives see it, that makes them a logical choice to take on China's even bigger aviation challenges in the future.



Photo courtesy of Madelyn C. Rice

Putting the aircraft together, July 1986.



Photo courtesy of McDonnell Douglas Corp.

The first flight of the MD-82.

Learning the Ropes

The influx of Chinese offices to the United States

Jinghong Guo

Much can be found in the China trade literature on the plans and problems of foreign representative offices in China. Far less well publicized are the activities of the growing number of Chinese businesses passing the *other* way through China's open door.

The United States, with its large, comparatively open domestic market and ample supply of technology, is the second most popular site for China's overseas offices after Hong Kong. Having grown in fits and starts since 1980, the number of registered Chinese offices in the United States jumped from 54 to 64 in just the first six months of 1987. And despite China's current emphasis on conserving precious foreign exchange, efforts to set up Chinese trade and investment organizations in the United States show no signs of abating.

Gaining a foothold

These offices are a diverse lot: 36 are wholly owned by the Chinese, 20 are joint ventures, and eight are Chinese representative offices that act as intermediaries, according to a survey conducted by the National Council for US-China Trade (*see* table, pp. 42). The first to arrive—in 1980—were Chinese companies with long-established contacts with the West, such as the People's Insurance Company of China and China InterOcean Transport Inc. The China Patent and Technology Trade (USA) Ltd., a consulting company specializing in patents and trademarks, is the latest to join the group, and openings are imminent for a second China National Tourist Office to be located in Los Angeles and a company based in New Jersey to trade in Western and Chinese medicines, set up by the National Medicines and Health Prod-

ucts Import-Export Corp.

Chinese organizations that want to set up an overseas office must receive permission to do so. Companies under the aegis of a ministry or national-level corporation get approval from the State Council, while trading companies must apply to the Ministry of Foreign Economic Relations and Trade (MOFERT). Local enterprises need only provincial-level approval.

Approval does not mean financial sponsorship, however, and once these companies are registered they must depend on parent company funds and—if an incorporated rather than representative office—on commissions. Most prefer incorporated status, since with it comes the opportunity to make a profit—even if this means paying the taxes from which representative offices are exempt. Whatever profits are made—and they tend to be small—are usually sent back to the parent company. Offices operating at a loss are subsidized by the same source.

The growing number of these organizations attests to China's determination to promote bilateral trade and investment. But most are still not well established. About half have been active in the United States for three years or less. Shortages of staff and tight budgets force the majority to operate on a small scale. And a lack of familiarity with US business practices has limited still further what many of these offices can accomplish.

For the present, Chinese parent companies appear convinced that

Jinghong Guo, a student at the Yale School of Organization and Management, worked in China's travel business before coming to the United States in 1986. From 1982 to 1983, she was based in a Chinese office in London.

their overseas branches serve a worthwhile purpose—at the very least, for the knowledge they provide about US markets and potential suppliers. They are also valuable training grounds in Western management, accounting, and marketing techniques for promising employees. Although these US-based organizations do not talk much about their operations, at least some appear to be thriving under the American system.

From agents to entrepreneurs

Before 1984 all but two of the Chinese corporations and representative offices in the United States could be found on the East Coast. But in the past three years the distribution has widened, with California stepping in as a popular location.

Most of the offices tend to be small, generally consisting of five to 20 staff members. At least five Chinese companies have registered under two distinct names that reflect their different functions, products, or type of ownership. For example, the *Cypress Book Company* buys books to send to China, while *Cypress Press* publishes Chinese books for distribution in the US market—although they share the same office and staff.

The offices can be divided into several general categories:

- **Trade and investment firms.**

Twenty-eight of the 37 Chinese wholly owned concerns are involved in trading; most are subsidiaries of the specialized import and export corporations under MOFERT. Chinese trading companies in the United States deal in a large range of products. They sell garments, tools, and canned fruit from China, and buy everything from American wheat to advanced machinery to sell back to China. Others, like California-based CATIC Industries, a subsidiary of the

China National Aero-Technology Import-Export Corp., focus on introducing American companies to investment opportunities in China.

At least one has used its status as a US firm to take an equity share in a joint venture back home—contributing the needed equipment or technology for the project, which it procured in the United States. Amico, a subsidiary of China National Metals and Minerals Import-Export Corp. (MINMETALS), acts as the US partner for a joint venture valve factory in Ningbo, Zhejiang. Chinese factories welcome such arrangements with overseas trading companies. Although their “foreign” partner is, strictly speaking, a Chinese firm, they still get advanced equipment and technology and enjoy the same favorable treatment accorded other Sino-foreign ventures.

By far the largest Chinese trading company with an office in the United States is the New York-based China United Trading Corp., set up by a group of national and local Chinese companies in February 1983. A branch of the China Economic and Trade Consultants Corp., which in turn is a division of MOFERT, China United acts as MOFERT’s agent in the United States. Its first president was a former director of MOFERT’s Department of Foreign Trade Administration. Ties between MOFERT and China United remain strong under the current president, a former senior vice president of MOFERT’s China National Machinery Import-Export Corp.

Like many other trading corporations, China United is coming under increasing pressure from controlling companies back home to assist in China’s current export drive. “Most of our business in the past has been selling to China,” says China United President Yue Jixian. But, he adds, “we hope to export more products to the US.” To do this, China United has begun to organize provincial trade shows in New York City (see *The CBR*, July-Aug. 1987, p. 40) and has stepped up its role as host to visiting provincial delegations.

China United has proven a good base for exploring the US business jungle. With more than 20 divisions, it is able to act as an agent for both national import-export corporations such as China National Instruments Import-Export Corp. and local foreign trade organizations in provinces such as Jiangsu and Liaoning. But like a parent caring for growing children, China United is aware that at least some provinces will choose independence when the time is ripe. Some municipalities and provinces already have—among them Beijing, Shanghai, and Guangdong—all of which recently moved from the China United umbrella into their own offices. By establishing an identity distinct from China United, these municipalities and provinces will have more direct control over trade: pricing can be more flexible and priorities can be worked out free from central-level monitoring.

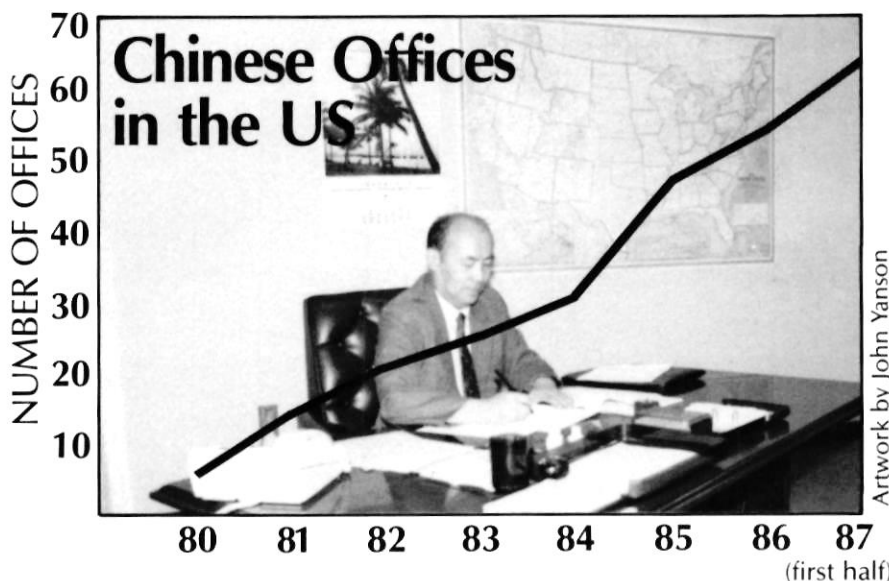
While local companies are established primarily to serve local needs,

they are by no means averse to handling business outside their geographic boundaries. But some restraints apply to their activities: products regarded as vital to China’s foreign trade (such as petroleum, diamonds, and textiles for export; lumber, iron and steel, and chemical fertilizers for import) are still controlled exclusively by the specialized national import-export corporations headquartered in Beijing.

• **Independent corporations.** Another force in China’s foreign trade are corporations that are relatively independent of MOFERT and other government control. Those with offices in the United States include such well-known groups as CITIC and Everbright Industrial Corp., and others such as GLNIC Corp. of America and Yue Xiu Investment Corp. Many have longstanding Hong Kong offices, where they have sharpened their business experience. These firms tend to be more accustomed to flexible negotiating, and some are active in real estate and banking in addition to trade and investment. Ambition runs high, and innovation is a hallmark of these companies. A president of one of these firms recently broke with convention by announcing plans to provide intensive management training to company executives, hire some locals to staff overseas offices, and take out commercial loans.

• **Service-sector organizations.** In addition to the companies handling trade, about 10 Chinese financial agencies, consulting firms, transportation agents, and publishing companies have opened for business in the United States. Most prominent among these is the Bank of China (BOC) which, with 135 employees, boasts the largest staff of any Chinese office in the United States. The New York office on Madison Avenue, which opened in 1981, was joined in 1985 by a branch in Chinatown set up specifically to handle retail banking. BOC employees are involved in the purchase and issuance of bonds; letter of credit preparations; financial dealings for Chinese delegations, students, or Chinese offices based in the United States; and maintaining working relations with US banks.

• **Joint ventures.** Compared to US joint ventures in China, China’s counterparts in the United States are small operations. Nearly all are trading companies set up in cooperation



SOURCE: The National Council for US-China Trade

with Chinese-Americans—and some are targeted at this group as well. Both the Chenghwa International Trading Co. and Meishan Co., for example, are very active importers of Chinese food and native products for the US market.

US joint venture partners can offer valuable advice on how to improve product quality, marketing techniques, and business skills. But partners to small joint ventures also tend to outgrow one another faster than larger ventures. Sometimes, when a partner becomes familiar with market conditions in the other partner's country, it may decide to go it alone. If disagreements arise on how to divide profits or management responsibilities, the decision to dissolve may come that much faster. At least two joint ventures have already dissolved for these reasons.

Learning Western ways

Most US-based Chinese offices are struggling to some degree with the American operating environment. The experience of Shandong Enterprises is typical. Vice President Wu Jingdong says his organization had a hard time when it first entered the American market, "because American businessmen are very strict about [delivery] schedules." But according to Wu, efficiency and quality control have improved. "We are able to do this because we have been dealing with particular products for anywhere from two to 30 years. We know exactly the quality of the product from each mine or factory."

The fact that most employees are posted to the United States for just two to four years makes it difficult for the Chinese offices to build up experience. The parent companies in China often offer attractive jobs back home to their US-based managers after they gain valuable on-the-job training in Western business skills. And while this continual "brain drain" heightens the need for experienced managers, most offices are reluctant to hire locally. This is due, in part, to their inability to pay competitive salaries, although a sense of unease with foreign personnel may also be a factor.

Telephone manners are one indication of how far many Chinese companies still have to go. When the telephone rings in one of these offices, the person answering often simply says "Hello" or "Wei" (hello in Chi-

nese) without indicating the firm's name. Although most staff can speak some English, communication is almost never very easy and can become more difficult as you move up the hierarchy.

Some American clients complain that these organizations do not always adequately brief them about the business deals they are pursuing. Upon arrival in Beijing, supposedly to cement a deal, some executives find themselves starting negotiations all over again with a different organization. Others learn only after arriving in China that there are many competitors for the same project, including Japanese or European firms introduced by other overseas offices of the same corporation they consulted in America. Sometimes, they find that American competitors have also been recommended by the same Chinese office in the United States.

Patience is a virtue in the USA, too

But China's US-based offices have complaints of their own. Sometimes enterprises in China request their assistance and then are never heard from again. "I guess the Chinese company is not to blame—they probably failed to get the foreign currency quota for the project," says one office representative. "But this makes our work really difficult." Chinese offices have tried to circumvent this problem by strengthening their ties to factories, sometimes developing exclusive relationships with large producers. A few have been successful, including China United's North Industry Division and China Nonferrous Metals Corp., which work closely with many factories and mines back home. Because they are in close touch with the exact requirements of producers and buyers, they claim to be more successful in finding the right match in the United States.

Another problem is the growing

number of visiting Chinese delegations the US offices are expected to handle. For an office consisting of only four or five staff members, hosting a delegation makes extraordinary demands on time. At least one representative must meet the delegation members at the airport and escort them to all their appointments, including those in other states.

The source of greatest frustration, for some trading corporations at least, is the complex web of US laws and regulations—in particular, US import restrictions. China United, for example, was initially successful in importing cookware to America, but the business came to a halt when antidumping actions were filed in the US. And CHINATEX, predictably, is frustrated by mounting restrictions on Chinese textile imports. As one representative explained, the quality of Chinese textiles has improved greatly in recent years, while delivery times have grown shorter. Yet just as China's textiles are becoming more competitive, the market is shrinking due to the rising number of import quotas. The representative sees no reason why contracts signed before quotas were imposed should not be honored.

Patience is clearly a virtue for Chinese business organizations in the United States, just as it is for US businesses in China. It will take time to sort out the various problems that have limited their effectiveness in the past. Corporations that now spend most of their time gathering information about US companies, translating technical articles, and making introductions for US and Chinese clients, will have to develop more aggressive means to promote trade and investment as US and Chinese companies outgrow the need for simple liaison work. Instead of waiting for customers to call, as is now often the case, these organizations will need to go out and make things happen. 完



China United President Yue Jixian meets with a client.

CHINESE OFFICES IN THE UNITED STATES

Company	Affiliation	Staff	Date opened; Business scope
* AERA Corp. 330 Franklin Street Oakland, CA 94607	Bank of China Ministry of Aeronautics	Wanyen Chang, president	1985; Software development, programming service, I/E with focus on high-tech equipment
* AMICELL, Inc. 6 Stamford Forum Stamford, CT 06901	China Natl Light Industrial Products I/E Corp.	J.H. Mao, president	1982; Exports forestry products, paper, paper board, and pulp to China
AMICO 2 Executive Drive Fort Lee, NJ 07024	China National Metals and Minerals I/E Corp.	Wenhai Yin, president	1985; I/E of minerals, metals, and other products
Bank of China 410 Madison Avenue New York, NY 10017	Bank of China (head office)	Zhenxing Zhou, director 130 employees	1981; Commercial banking
Beijing Book Company 701 East Linden Avenue Linden, NJ 07036	China Natl Publications I/E Corp.	Yulong Wang, president	1981; Exports books to China
* BITIC of California Alameda, CA 94501	Beijing Intl Investment & Trust Co.	Yongxu Wang, president	1985; Trade, investment, consulting, and real estate
* Carroway Enterprises (USA) Ltd. 713 Annoreno Drive Addison, IL 60101	China Natl Machinery & Equipment I/E Corp.	Man Kwan Wong, president 15 employees	1983; Imports electric appliances and housewares from China
CATIC Industries Inc. 12041 Mora Drive Santa Fe Springs, CA 90670	China Natl Aero-technology I/E Corp.	Shanjun Xiong, president 5 employees	1987; I/E of aviation equipment and products
CEROILFOOD NEW YORK, INC. 560 Sylvan Avenue Englewood Cliffs, NJ 07632	China Natl Cereals, Oils, and Foodstuffs I/E Corp.	Guofeng Li, president	1981; Imports canned food, seafoods, etc.; exports food and grain
* Chenghwa Intl Trading Co. 102 Bowery Street New York, NY 10013	Foshan Commission on Foreign Economic Relations and Trade	Yuan Liang, general manager	1985; Imports native products, food, light industrial products, and textiles from Foshan
* Chi Mei Metals Corp. 21 Village Square Glen Cove, NY 11542	China Natl Metals and Minerals I/E Corp.	John C. Li, president 15 employees	1980; I/E of nonferrous metals
* China American Insurance Co. Ltd 99 John Street New York, NY 10038	People's Insurance Co. of China	Art McDivett, manager	1980; Insurance and reinsurance
China Arts & Crafts (USA) Inc. 17 West 17th Street New York, NY 10011	China Natl Arts & Crafts I/E Corp.	Ying Ma, president 13 employees	1982; Promotes Chinese arts and crafts exports
† China Association for the Intl Exchange of Personnel 2755 Ordway Street, NW Washington, DC 20008	China Association for the Intl Exchange of Personnel	Zhouqian Jing, representative 1 employee	1986; Finds American consultants for Chinese firms; brings Chinese trainees to US
China Daily Distribution Corp. 15 Mercer Street New York, NY 10013	China Daily Newspaper	L.K. Wong, general manager	1983; Distributes China Daily; offers translation service
China FESCO American Corp. 350 S. Figueroa St. Los Angeles, CA 90071	Foreign Enterprises Service Corp.	Michael Chu, chairman 12 employees	1986; Facilitates trade; agent for CAAC and representative for Intl Cultural Exchange Center
China Film Export-Import Corp. 2500 Wilshire Blvd. Los Angeles, CA 90057	China National Film I/E Corp.	Xiaolin Chen, president	1985; I/E of films and videos; arranges film coproductions
† China Intl Trust & Investment Corp. Two World Trade Center New York, NY 10048	China Intl Trust & Investment Corp. (CITIC)	Chen Ding, North American representative 5 employees	1985; Investment banking
China Intercean Transport Inc. One World Trade Center New York, NY 10048 Houston Office and Warehouse San Francisco Office and Warehouse New Jersey Office and Warehouse	China National Foreign Trade Transportation Corp. (SINOTRANS)	S.W. Qiao 35 employees at 4 offices S.R. Zhang, general manager Xijin Yang, district manager Limou Li, vice president	1980; Sea, air, and inland transport, freight forwarding, warehousing 1986 1984 1983
* China Media Services 9700 Reseda Blvd. Northridge, CA 91324	China Tourism Audio-Visual Publications Corp. of Natl Tourism Administration	Roland Tseng, general manager	1985; Markets tourism videos and films; negotiates film/TV program production
† China Natl Marine Fisheries Corp. 817 West 72nd Avenue Anchorage, AL 99518	China Natl Marine Fisheries Corp.	Shanxuan Li, chief representative	1985; Represents Chinese fishing vessels; provides supplies to vessels
† China Natl Tourism Office 60 East 42nd Street New York, NY 10165	Natl Tourism Administration of China	Zihan Liu, director 4 employees	1981; Promotion, marketing and research, public relations
China Nonferrous Metals 70 Pine Street New York, NY 10270	China Natl Nonferrous Metals I/E Corp.	Chongyue Wu, president	1987; I/E of nonferrous metals, mining, and processing equipment
* China Ocean Shipping Co. North America Inc. One Harmon Tower Secaucus, NJ 07094	China Ocean Shipping Co.	Senchang Chang, president	1985; Ocean transportation services, focuses on container services
China Ocean Shipping Co. (COSCO) Inc. (address same as above) West Coast Office 633 Battery Street San Francisco, CA 94111	China Ocean Shipping Co. China Ocean Shipping Co. North America Inc.	Senchang Chang, president Weijie Gao, owner's representative	1985; Owns and manages shipping fleet 1982; Ocean transportation
† China Offshore Oil Corp. 10777 Westheimer Road Houston, TX 77042	China National Offshore Oil Corp. (CNOOC)	Xilin Zhu, director 4 employees	1984; Liaison between CNOOC and US firms

* China Overseas Thread Corp. 510 3rd Street San Francisco, CA 94107	CHINATEX Corp.	Sen Cheng, president	1987; I/E of thread (see CHINATEX below)
China Patent and Technology Trade One World Trade Center New York, NY 10048	China Council for the Promotion of International Trade; China Patent Agent (HK)	Lugang Xu, general manager 4 employees	1987; File and process patent and trademark applications; consults on technology and investment
China Resource Products (USA) Ltd. Head Office and I/E Division 225 West 34th Street New York, NY 10123	Beijing Commission for Foreign Economic Relations and Trade	Yingming Guo, chairman/president	1980; I/E of textiles, electric and petroleum products, etc.
Jewelry Division 450 7th Avenue New York, NY 10123		Baocai Wang, manager	1980; I/E of jewelry
Arts & Crafts Division 47-44 31st Street Long Island, NY 11101		Yushan Sun, manager 6 employees	1980; I/E of arts and crafts
China Sport, Inc. 1950 Stemmons Dallas, TX 75207	China North Industries Corp. of Ministry of Ordnance	Ran Men, chief representative	1986; Imports sports rifles
China Technical Corp. 7315 Wisconsin Avenue Bethesda, MD 20814	China Natl Technical Import Corp.	Jingshai Ma, president	1982; Imports technology and equipment to China
Houston Office 10777 Westheimer Road Houston, TX 77042	China Natl Technical Import Corp.	Yuanzhuang Li, president	1987; I/E of technology and equipment for oil industry
China United Trading Corp. ¹ One Penn Plaza 250 West 34th Street New York, NY 10119	Ministry of Foreign Economic Relations and Trade	Jixian Yue, president 50-60 employees at 20+ offices	1983; Trade and related business
Aeolus Automotive Division	Aeolus Automotive Corp.	Qibao Song, general manager	1983; I/E of automobiles and parts; technology transfer
Aerotechnology Division I	China Aerotechnology I/E Corp.	Shanjun Xiong, general manager	1983; I/E of aviation equipment; technology transfer
Aerotechnology Division II One Landmark Square Stamford, CT 06901	China Aerotechnology I/E Corp.	Jian Guan, manager	1986; I/E of aviation equipment; technology transfer
Automotive Division (Detroit) 30555 Southfield Rd. Southfield, MI 48076	China Natl Automotive Industry I/E Corp.	Yashun Cheng, general manager	1986; I/E of parts; technology transfer
Electronics Division	China Natl Electronics I/E Corp.	Qiang Gan, general manager	1983; I/E of electronic parts
Exhibition Division 14-16 West 24th Street New York, NY 10010	China United Trade Corp. in New York	Jian Zhang, deputy manager	1987; Arranges exhibitions in US and China; has exhibition hall in NYC
Fujian Division	Fujian Foreign Economic Relations and Trade Commission (FERTC)	Fengchi Huang, general manager	1983; US-Fujian trade
Guangdong Branch	Guangdong FERTC	Hanmin Li, general	1983; US-Guangdong trade
Guangxi Division	Guangxi FERTC	Guoheng Peng, general manager	1983; US-Guangxi trade
Guangzhou Division	Guangzhou FERTC	Baocheng Din, general manager	1983; US-Guangzhou trade
Hebei Division	Hebei FERTC	Hanbo Wang, general manager	1983; US-Hebei trade
Heilongjiang Division	Heilongjiang FERTC	Guaqing Wu, general manager	1983; US-Heilongjiang trade
Hubei Division	Hubei FERTC	Xuelin Li, general manager	1983; US-Hubei trade
Instruments Division	China Natl Instruments I/E Corp.	Zhengpin Tian, general manager	1983; I/E of instruments
Jiangsu Division	Jiangsu FERTC	Jianqun Tu, general manager	1983; US-Jiangsu trade
Liaoning Division	Liaoning FERTC	Xihong Chen, general manager	1983; US-Liaoning trade
Machinery I/E Division (LA) 931 E. Lomita Avenue Glendale, CA 91205	China Natl Machinery I/E Corp.	Hengchang Liu, general manager	1986; I/E of machinery, handtools, machine parts, and agricultural implements
Machinery Division	China Natl Machinery I/E Corp.	Chengjun He, president	1981; I/E of machinery
North Industries Corp.	China North Industries Corp.	Cai Xu, general manager	1983; I/E of equipment and machinery
Petrochemical Division	China Natl Petrochemical Corp.	Lieyang Liu, general manager	1983; I/E of petrochemical products
Shandong Division	Shandong FERTC	Xiangyu Wang, general manager	1983; US-Shandong trade
Technical Division	China Natl Technical Import Corp.	Fengwan Ye, general manager	1983; Exports technology and equipment to China
Tianjin Division 14-16 West 24th Street New York, NY 10010	Tianjin Commission for Foreign Economic Relations and Trade	Ximin Wang, general manager	1981; Trade between US and Tianjin; assists joint ventures in Tianjin
China-US Liaison Office for Intl Enterprises 425 Midcontinent Tower Tulsa, OK 74103	China-US Liaison Office for Intl Enterprises	He Wiling, director 3 employees	1987; Promotes trade between small and medium-sized enterprises in China and the US
CHINAM Inc. 177 Third Avenue Paterson, NJ 07514	China Natl Packaging Corp.	Ji Xing, vice president 13 employees	1986; Papermaking factory
CHINATEX America Inc. (Huafeng Trading Corp.) 209 West 40th Street New York, NY 10018	China Natl Textiles I/E Corp.	Sen Cheng, president	1981; Imports garments, knitwear, cotton yarn, and synthetic fiber
CITIFOR, Inc. 4270 1st Interstate Ctr. Seattle, WA 98104	China Intl Trust and Investment Corp.	Wei Yao, chairman 7 employees	1984; I/E of logs, lumber, and forest products; shipping
Civil Aviation of China (CAAC) 45 East 49th Street New York, NY 10017	Civil Aviation Administration of China	Nairong Zhang, general manager	1981; Airline and cargo services; ticketing; charters airplanes
* CMC Overseas Corp. 25 West 43rd Street New York, NY 10036	China Natl Machinery I/E Corp.	Nguy Anh, general manager	1982; I/E of hand tools, machinery, and equipment

CSCEC-US, Inc. 56 Perimeter Center East Atlanta, GA 30356-6024	China State Construction Engineering Corp.	Jintang Tao, president and CEO	1987; Contracts for construction projects
Cypress Book (USA) Co., Inc. 205 Robin Road Paramus, NJ 07652	China Intl Book Trading Corp.	Tingsun Chen, president	1985; Distributes Chinese publications
Cypress Press 204 Robin Road Paramus, NJ 07652	China Intl Book Trading Corp.	Tingsun Chen, president	1987; Publishes books and magazines about China
Exan Trading Ltd. 350 Fifth Avenue New York, NY 10118	Tianjin Economic Development Corp.	Sam Ko, president	1981; Technology transfer, equipment export, introducing joint venture partners
* GLNIC Corporation of America 350 S. Figueroa St. Los Angeles, CA 90071	Guangdong Lingnan Industrial Products I/E Corporation	J. Lee Fasum, president 10 employees	1987; Imports explosives, chemicals, electrical/mechanical products, instruments, and sporting goods
Goodring International 350 S. Figueroa St. Los Angeles, CA 90071	China National Chemicals I/E Corporation	Shuping Zhong, president 5 employees	1987; I/E of petroleum products, chemical fertilizers, plastic resins, paints, and synthetic rubber
Guangdong International, Ltd. The Embarcadero San Francisco, CA 94111	Guangdong Commission for Foreign Economic Relations and Trade	S.Y. Chen, president	1985; Imports foodstuffs, machinery, native and animal by-products
Guangzhou L.A. Trade 1101 7th St., West Los Angeles, CA 90017	Yue Xiu Enterprises HK, Ltd.; Guangzhou FERTC	Lin Wang, president	1986; Trade and investment between US and Guangzhou
* Meishan Co. Los Angeles, CA			Sells natural products from Shantou to overseas Chinese in US
MINMETALS 2 Executive Drive Fort Lee, NJ 07024	China National Metals and Minerals I/E Corporation	Wenhai Yin, president	1980; I/E of barite, bauxite, tin, pig-iron, steel, and hardware
NEM, Inc. 9801 Westheimer Road Houston, TX 77042	China National Machinery I/E Corporation	Zijiao Zhang, president	1980; I/E of machinery and equipment
* NT International 633 Hegenberger Rd. Oakland, CA 94621	Sino-American Machinery Corporation, New Jersey	Nelson Tsuy, president	1984; I/E of machines, equipment, and other products
* Shandong Enterprises, Inc. 310 Fifth Ave. New York, NY 10001	Shandong Foreign Trade Corporation	Allen C. Wong, president	1980; Imports textiles, minerals, medical, chemical, and light industrial products
Shanghai International Corp. The Embarcadero San Francisco, CA 94111 New York Office One World Trade Center New York, NY 10048	Shanghai Commission for Foreign Economic Relations and Trade	Rutang Yang, president Rutang Yang, president	1986; Trade; introduces investment to Shanghai 1983
* Shanghai Investment & Trust Corp. 909 Montgomery St. San Francisco, CA 94113	Shanghai International Trust And Investment Corporation	W.K. Zhang, C.E.O.	1985; Promotes business between US and Shanghai
* Shanghai Pacific Partners 909 Montgomery St. San Francisco, CA 94133	Shanghai International Trust and Investment Corporation	T.M. Chang, president	1985; International investment, finance, trade, and consulting; assists JVs
Sino-American Marine Co., Inc. China Interocean Transport, Inc. One World Trade Center New York, NY 10048	China National Foreign Trade Transportation Corporation (SINOTRANS)	Songyan Chen, president	1981; Freight forwarding; ocean transportation
Sino-American Machine Tool Corp. 709 East Gardens Blvd. Gardena, CA 90248	China National Machinery & Equipment I/E Corp.	Xiaofei Zhang, president	1984; I/E of machine tools
Sino-American Machinery Corp. 2100 North Central Road Fort Lee, NJ 07024	China National Machinery Equipment I/E Corporation	Yichuan Huang, president 15 employees	1983; I/E machinery and equipment
* Sino-Development Corporation 350 Fifth Ave. New York, NY 10019	China National Light Industrial Products I/E Corporation	A.E. Shvets, president 15 employees	1985; Imports apparel, leather goods, cosmetics, medical supplies, housewares, electronics, etc.
SINOCHEM (USA), Inc. Two World Trade Center New York, NY 10048	China National Chemical I/E Corp.	Dazhi Zhu, president and chairman 3 employees	1982; I/E of petroleum products, fertilizers, plastics, etc.
Solid Beam Industrial Corp. Overseas Technology & Equip., Inc. One World Trade Center New York, NY 10048	China Everbright Holding Co., Hong Kong; Beijing Everbright Industry Co.	X.W. Wan, director and vice president	1984; Exports machinery, equipment, and technology; imports Chinese products
SUNRY Import-Export Corporation Paramus Plaza II North Paramus, NJ 07652 SUNRY Seattle, Inc. 1010 S. 336th St. Federal Way, WA 98003	China National Native Produce and Animal By-Products Corp.	Weshan Jia, president Wenchai Li, vice president	1981; I/E of native and animal by-products, including tea, wood, and leather 1985; Exports logs and lumber
Tri-Union (USA) Corporation 6 Stamford Forum Stamford, CT 06901	China National Light Industrial Products I/E Corp.	J.H. Mao, president	1986; Exports light industrial products
Yue Xiu Investment Corp. 1105 W. 7th St. Los Angeles, CA 90017	Yue Xiu Enterprises Co., Hong Kong; Guangzhou FERTC		1987; Investment and trade

Key:

¹All China United Trading Corp. offices are located at 250 West 34th St NY unless otherwise listed.

* = joint venture

† = representative office

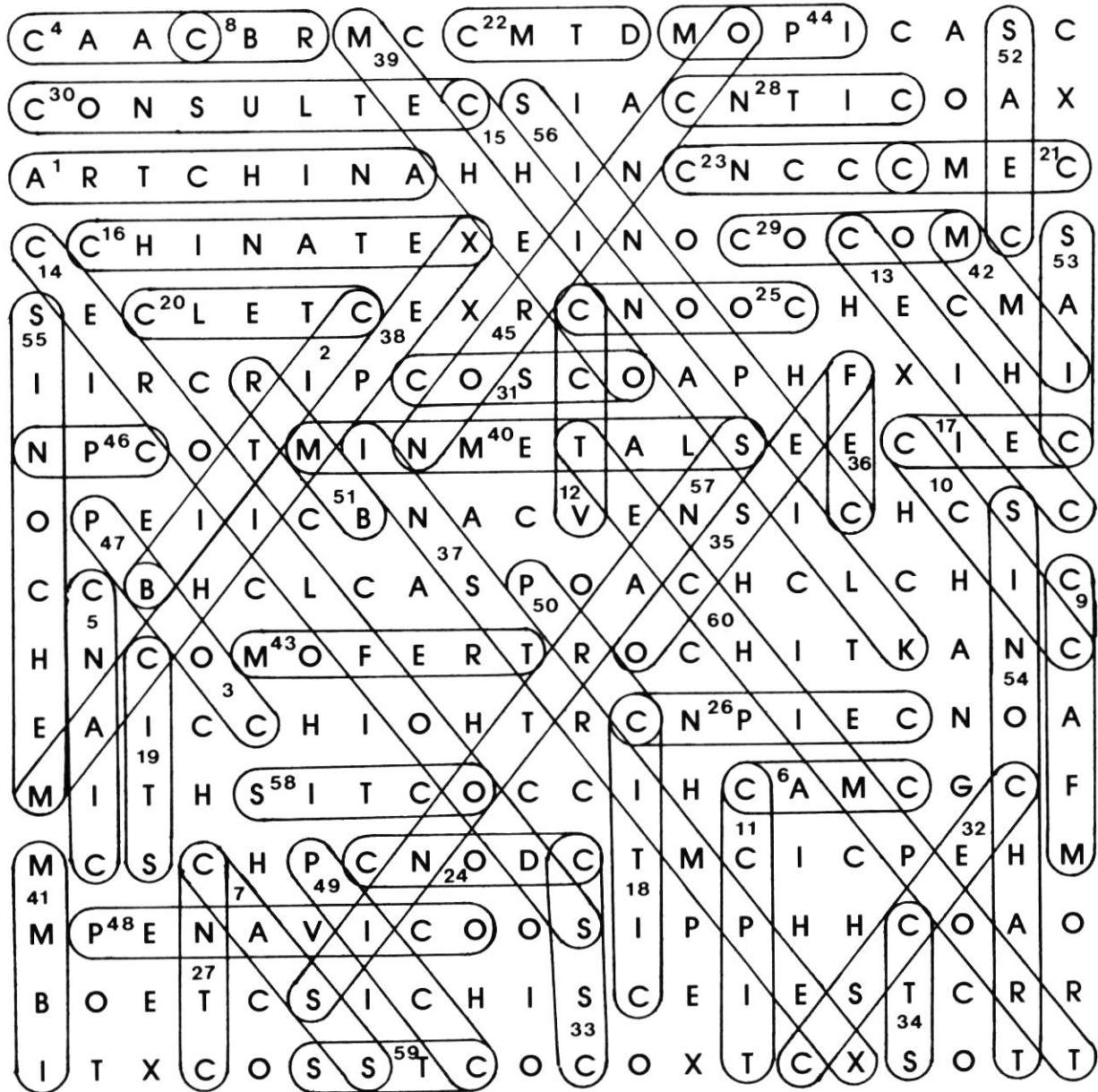
(All others incorporated trade and investment offices.)

Source: The National Council for US-China Trade.

Note: Number of staff provided where available.

List prepared by Betsy Saik and Jinghong Guo.

Answers to CHINASPEAK



Busy China Trader Level

- | | | | | |
|-------------|-----------------|---------------|----------------|----------------|
| 1. ARTCHINA | 13. CEIEC | 25. CNOOC | 37. INSTRIMPEX | 49. PICC |
| 2. BITIC | 14. CEROILFOODS | 26. CNPIEC | 38. MACHIMPEX | 50. PRC |
| 3. BOC | 15. CHINASILK | 27. CNTC | 39. MEHECO | 51. RMB |
| 4. CAAC | 16. CHINATEX | 28. CNTIC | 40. MINMETALS | 52. SAEC |
| 5. CNAIC | 17. CIEC | 29. COCOM | 41. MMBI | 53. SAIC |
| 6. CAMC | 18. CITIC | 30. CONSULTEC | 42. MMI | 54. SINOCHART |
| 7. CASS | 19. CITS | 31. COSCO | 43. MOFERT | 55. SINOCEM |
| 8. CBR | 20. CLETC | 32. CSCEC | 44. MOPI | 56. SINOPEC |
| 9. CCAFM | 21. CMEC | 33. CSSC | 45. NORINCO | 57. SINOTRANS |
| 10. CCIC | 22. CMTD | 34. CTS | 46. NPC | 58. SITCO |
| 11. CCPIT | 23. CNCCC | 35. FESCO | 47. PBOC | 59. SSTC |
| 12. CCTV | 24. CNODC | 36. FEC | 48. PENAVICO | 60. TECHIMPORT |

T.K. Chang, an attorney with Paul, Weiss, Rifkind, Wharton & Garrison, and Michèle Cone Chang have been residents of China for the past two years.

China's Plastics Problems

A highly fragmented industry experiences growing pains

Gideon Rosenblatt

many may recall the scene in the 1960s movie *The Graduate* in which a middle-aged executive buttonholes a young college graduate at a party. "I have just one word for you," the businessman whispers . . . "Plastics." In the movie, the student fails to heed the cryptic message. China, on the other hand, has since become the world's seventh-largest producer of plastics—the synthetic resin from which plastic products are made.

Plastic materials are quickly gaining ground as a substitute for short supplies of metals, wood, and other raw materials. As in other parts of the world, plastics are being used in China for everything from pipes for the building industry and agricultural sheeting to protect crops to consumer items such as household appliances and furniture. Export industries, too, are discovering growing uses ranging from zippers to slippers. And China's export drive is fueling growth in the packaging industry, which is adding to the rising demand for plastics.

With demand up in so many quarters, it comes as no surprise that China's total resin consumption has soared—from about 1 million tonnes in 1980 to 2.5 million tonnes in 1986. Yet production has a long way to go before it can satisfy the enormous demand of the 3,500 factories that mold and compound plastics into final products. Despite the large number of plastics producers and processors, China lags far below the world average in terms of per capita consumption: just under 2.3 kilograms a year compared to the 96 kilograms consumed in the United States every year. Even the developing economies of Latin America averaged a per capita plastics usage of 18

The biggest challenge for China's plastic sector in the coming years is how to coordinate its two very different and yet mutually reliant industries.

kilograms in 1983.

As consumption levels rise, China's plastic resin manufacturing may have difficulty supplying the needed raw materials for the plastics processing industry. The largely decentralized light industrial sector—where the majority of China's plastic processing occurs—is fast growing and more market-oriented than the centrally planned resins manufacturing industry. The biggest challenge for China's plastic sector in the coming years is how to coordinate these two very different and yet mutually reliant industries.

Building up plastics output

Gearing up to meet the challenge of increasing China's plastic resins output are the China National Petrochemical Corporation (SINOPEC) and the Ministry of Chemical Industry (MCI). Plastics resins are generally classified as either thermoplastics or thermosets. MCI is responsible for most of the more expensive thermo-

Gideon Rosenblatt is manager of the chemicals sector at the National Council for US-China Trade.

sets and engineering thermoplastics. But SINOPEC, a ministerial-level corporation that manages China's petrochemical industry, is the more important player in terms of sheer volume. It has primary responsibility for planning and coordinating the production of China's high-volume commodity thermoplastics—polyvinyl chloride (PVC), polyethylene, polypropylene, and polystyrene—which account for over 80 percent of China's total plastics production. Inexpensive and suitable for all but the most specialized applications, thermoplastics are used to make everything from styrofoam and plastic bags to heavy-duty containers.

- **Commodity thermoplastics** are petroleum-based resins that are most efficiently produced at petrochemical complexes. Back in the early to mid-1950s, however, production was extremely small-scale and dependent on raw materials other than petroleum. The opening of the Daqing oilfield and China's first refinery at Lanzhou in Gansu Province enabled China to build up reserves of ethane and propane, petroleum by-products essential to the production of modern petroleum-based thermoplastics. But ethane and propane by themselves were useless. To make thermoplastics on a large scale, China needed ethylene production centers.

The first step was taken in 1968, when the Lanzhou refinery and chemical complex installed an ethylene center from Lurgi (Italy), polyethylene technology from Imperial Chemical Industries (ICI) (UK), and polypropylene technology from Zimmer AG (FRG). In 1975 China set up an even bigger ethylene center, the Yanshan Petrochemical Complex in Beijing.

Anticipating a rapid growth in plastics demand, China's planners

decided it was time for another quantum leap in plastics production. But in 1979, having bought four large (300,000 tonne) ethylene centers, China had to postpone plans to install them due to a lack of foreign exchange.

Then, in 1983, as China's foreign exchange reserves were picking up, SINOPEC was created to assume control over the poorly managed petrochemical industry from the Ministry of Petroleum Industry and MCI. SINOPEC's first major task was reviving the four ethylene projects to be located at Daqing (Heilongjiang Province), Qilu (Shengli oil fields in Shandong Province), Yangzi (Nanjing), and Jinshan (Shanghai). Limited production began in Daqing in 1986, and trial production got under way this summer at both Qilu and Yangzi. The last of these, at Jinshan, was finally launched last spring, thanks to a \$242 million loan from a consortium of foreign banks.

In addition to these four facilities, contracts signed at Panjin (Liaoning Province) and plans for added capacity at Fushun (Liaoning) and Luoyang (Henan Province) should increase China's production capacity for polyethylene, polyvinyl chloride, polypropylene, and polystyrene some 120 percent by 1990 (see table).

• **Engineering thermoplastics** such as nylon, polycarbonate, and acrylonitrile butadiene styrene (ABS), account for only 2 percent of China's total thermoplastic production. Most of the 18,000 tonnes of engineering thermoplastics China made in 1985 was allocated to the industrial sectors because superior qualities such as tensile strength and flame resistance make them well suited for use in electronic products and precision equipment. SINOPEC and MCI share responsibility for the production of thermoplastics, with SINOPEC handling the commodity thermoplastics and MCI the more complex engineering thermoplastics.

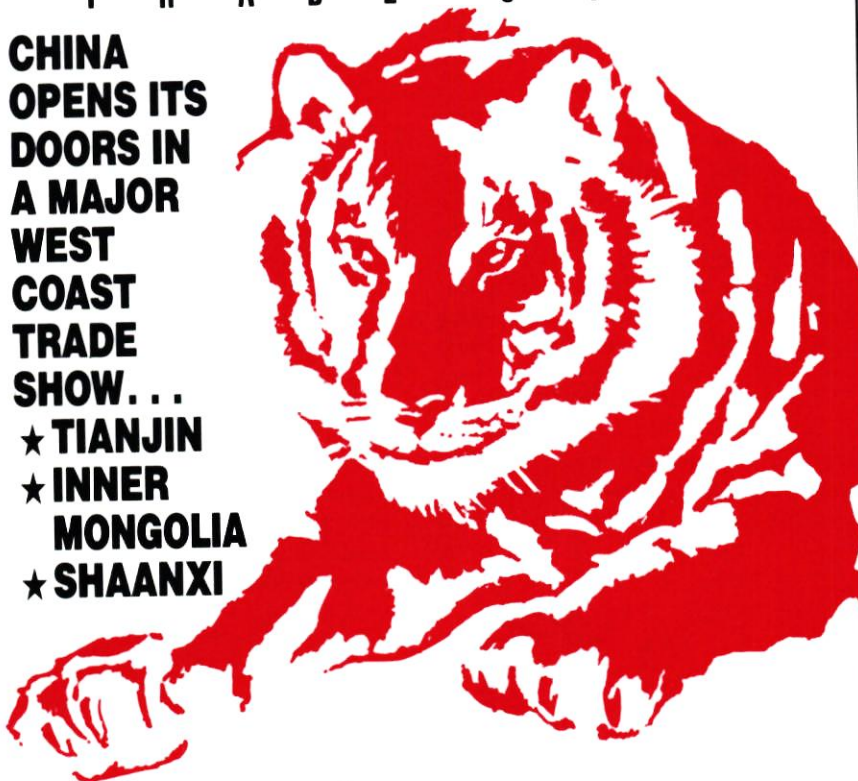
• **Thermosets** differ from thermoplastics in that their chemical structure does not allow them to be remelted once they are formed—"or set". These plastics account for less than 20 percent of China's total plastics output and fall mainly under MCI jurisdiction. Like engineering plastics, thermosets play an important role in industrial sectors due to their special properties such as nonconductivity.

CHINA

T R A D E ' 8 7

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Phenolic resins are the largest single type of thermoset, accounting for almost 40 percent of China's total 210,000 tonne production of thermosets in 1985. Inexpensive, since about 50 percent of the resin consists of fillers such as sawdust and glass, phenolic resins are easy to mold, nonconductive, and thus well suited for use in electronic appliances. About 85 percent of phenolic resins are used for this purpose.

The fastest-growing type of thermoset production in China is unsaturated polyester plastics. Total production in 1985 was over 40,000 tonnes, up 27.4 percent from the previous year. Much of this increase is tied to its use in China's fast-growing fiber reinforced plastics industry (see *The CBR* May-June 1986, p. 56).

Using foreign technology

To obtain technology to modernize plastics production and raise capacity, SINOPEC turned to licensing foreign technology. Japan, more

than any other country, has led the way both in technology and engineering sales to China's plastics industry (see table). Some of the more successful firms have been Mitsui, Mitsubishi, and Toyo Engineering. But Western firms have by no means been left out of the picture. British Petroleum recently signed two major contracts at Lanzhou for the production of linear low-density polyethylene, and at Panjin for low-density polyethylene. Himont (US) has continued its impressive record in licensing its polypropylene technology with the recent signing of a contract at Panjin. Engineering contracts for these projects have been awarded to Western firms as well.

Licensing, by and large, has greater appeal than joint ventures to SINOPEC's foreign partners. The majority of SINOPEC plants are fully integrated facilities that are not easily compartmentalized into the smaller undertakings that foreign investors have proven most comfortable with. And since these plants use older technologies, foreign companies do not find it as necessary to closely supervise use of their technology.

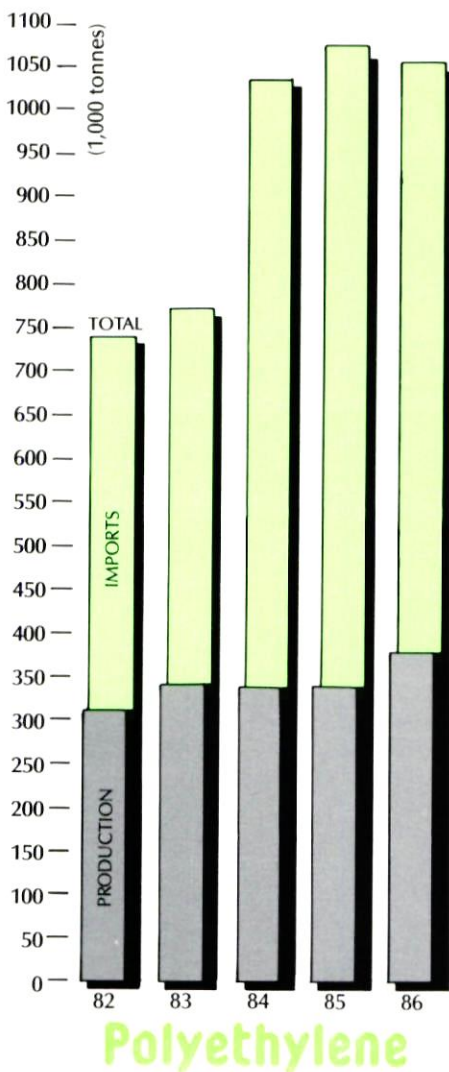
MCI has already been involved in a number of licensing arrangements, like last year's acquisition of PVC

technology for plants in Tianjin, Shanghai, and Jinxi from B.F. Goodrich (US). MCI, moreover, has found a number of firms interested in pursuing plastic-producing joint ventures in China. US companies that work with the newer engineering and thermoset plastics are usually less willing to license their technologies, preferring investment as a means of retaining closer control over their technology. To date, however, no joint venture contracts have been signed in this area due to concerns over the protection of intellectual property and length of the joint venture contract. In addition, companies have voiced concern that MCI often wants to locate joint ventures far from the main consuming factories in Shanghai.

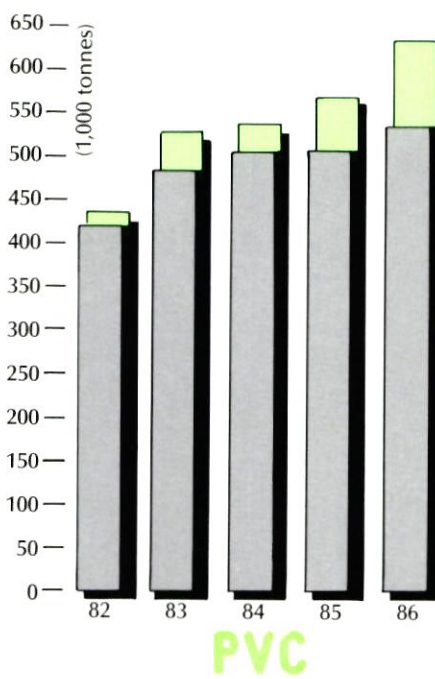
Demand still exceeds supply

As a result of SINOPEC and MCI efforts to develop a comprehensive production plan, plastics production capacity is planned to increase from 1.2 million tonnes in 1985 to 2.5 million tonnes in 1990. But even this astounding growth rate is not enough to meet demand.

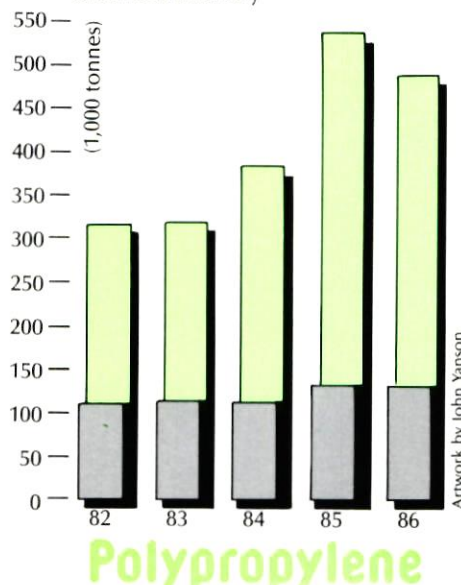
MLI reports that its factories will need to consume 3.6 million tonnes of plastic resins in 1990, suggesting that MLI already plans to import 1.1



Thermoplastics: China's Production and Imports



SOURCE: China's Customs Statistics, Planning Bureau of the Ministry of Chemical Industry



Artwork by John Yanson

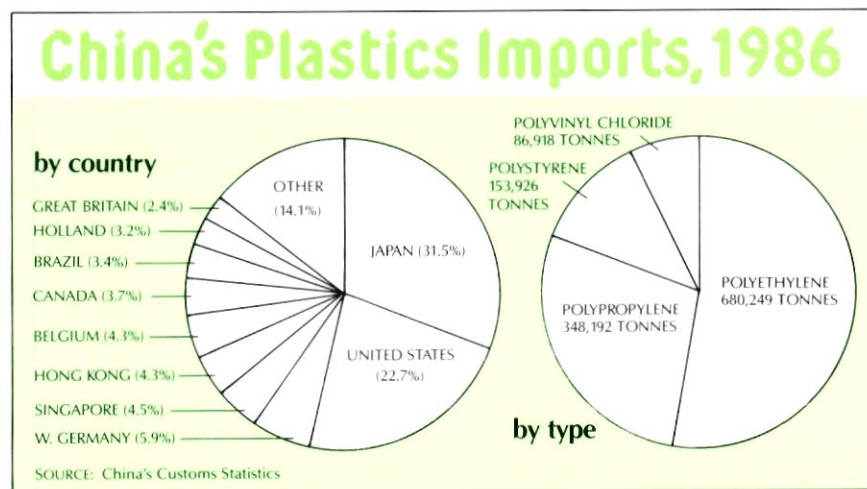
million tonnes on top of the 2.5 million tonnes that domestic producers expect to supply. But actually, the domestic supply situation will be worse than these figures suggest, since MLI factories are not the only consumers of plastics in China. Total nationwide demand in 1990 is projected to reach 5.44 million tonnes, based on reports submitted by provincial and local authorities in 1985. If accurate, these figures point to an additional shortfall of 1.84 million tonnes that non-MLI factories will either have to import or do without. The domestic shortfall could be worse still if domestic production does not run at full capacity.

Some types of thermoplastics should come closer to meeting projected demand than others, although all will be in short supply. MLI predicts that in 1990 polyethylene production will be able to meet only two-thirds of the demand from its factories, PVC about three-quarters, and polypropylene just over two-thirds of demand. Polystyrene production will meet only one-third of projected demand, although total demand for this type of thermoplastic is much smaller than that for the other three.

Plastics imports fill the gap

All or part of this shortage will have to be made up through imports—depending on the amount of foreign exchange China is willing to spend. As demand for plastics has grown, China has become increasingly reliant on imports for much of its plastics supply. Over the last three years, domestic polyethylene accounted for only one-third of total consumption, polypropylene for 27 percent and polystyrene for 21 percent. All told, China now spends a total of \$1.22 billion on plastics each year (see graph).

The largest single importer of plastics is the China National Chemicals Import-Export Corp. (SINOCHEM), under the Ministry of Foreign Rela-



tions and Trade (MOFERT). SINOCHEM is responsible for fulfilling annual State import plans. It was the exclusive buyer until 1983, when local Chinese import-export companies were allowed to make direct purchases. Removed as it is from processing factory concerns about maintaining a production line at full capacity, SINOCHEM is more concerned with price than reliable supply, quality, and follow-up service. Consequently, SINOCHEM's long history of working with these companies has been summed up by one US company spokesman as "a series of short-term relations over a long period of time."

By carefully timing its purchases on the spot market, SINOCHEM has succeeded in buying plastics at some of the world's lowest prices—but not without some hidden costs. Foreign companies may be willing to accept cut-throat prices for their plastics in times of excess supply, but when supplies drop, they are unlikely to see SINOCHEM as a priority customer. Now that a worldwide shortage has pushed prices for polyethylene, polypropylene, and polystyrene up 15–50 percent, China is having trouble buying the plastics it needs. When SINOCHEM General Manager Zheng Dunxun led a sourcing mission to the United States this June, he soon learned that companies were unable to provide the quantities he was seeking because most supplies had already been committed through long-term contracts to more reliable customers. When it became clear that SINOCHEM would be unable to fulfill its purchasing targets this year, Zheng predicted that during 1987 and 1988, factories in the plastic processing industry would feel the pinch

and growth rates would fall 1–2 percent from the annual 8 percent growth targets set for each year through 1990.

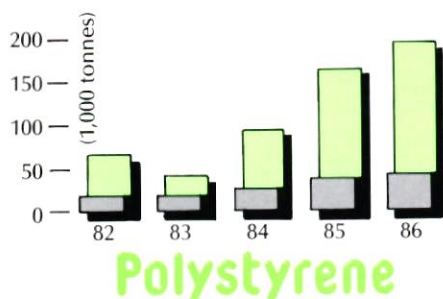
SINOCHEM now appears to have recognized that a single-minded emphasis on price can affect the reliability of supplies for the plastics processing industry. In the future, SINOCHEM may well try to establish long-term relationships with a few foreign suppliers to ensure at least a partial supply of resins should China again be faced with a tight world market.

But China's plastics processors have already lost patience. Out of desperation caused by severe plastics shortages this year, many factories are now approaching US suppliers directly to ensure the reliable and long-term supplies SINOCHEM has been unable to provide.

Learning to live with shortages

Factories that are unable to import have had to find other ways to adjust to domestic shortages. One way is to work with a combination of different plastics. When one type of plastic is in short supply, the factory simply shifts to another processing line if possible. This hardly makes for economies of scale but is often the only way a factory can continue operating.

In an attempt to get around critical shortages of polypropylene, for example, some enterprises are blending it with easier-to-obtain plastics such as high-density polyethylene. As supplies of polypropylene drop, its proportion in these blends decreases accordingly. US suppliers are now reporting that some factories are working with ratios as low as 20 percent.



Another means of coping with these shortages has been the widespread recycling of plastic products in the countryside. According to Chinese press reports, farmers now take

products like plastic agricultural sheeting and bags and recycle them at small local factories into everything from plastic bottles to rain-coats.

Poor central planning

The Bureau of Plastics Industry under the Ministry of Light Industry establishes annual and long-term production goals for the majority of enterprises engaged in plastics processing. But while the State-run plastics producers have and will continue to receive a great deal of planning guidance and control, the processing enterprises have been given a great deal of freedom. Currently about 70 percent of them are collectives, and thus generally less tied to State plans.

The result is a plethora of local producers, most simply too small—with output averaging just several hundred to several thousand tonnes per year—to achieve economies of scale. While these factories are relatively well equipped in terms of molding machinery, domestic mold-making capability is poor. A Japanese plastics expert visiting some of China's plastics molding factories was shocked to find molds produced using measurements but no technical drawings.

A lack of constraints and planning in this sector has also resulted in duplication and excess capacity for some products, while China is faced with shortages in other plastic goods. For example, a glut in the supply of plastic pipes and fittings appears to be around the corner. The Beijing Branch of the Construction Bank of China is estimating that production capacity for these products will reach 233,206 tonnes in 1990—but demand will lag far behind at only 12,000 tonnes. Other examples include production capacity for plastic wall paper that will reach more than six times the forecasted demand, and plastic flooring capacity that is estimated to exceed demand by more than 25 times.

Processors seek foreign help

Faced with these problems, China is increasingly turning to outside help. Last year, Mitsubishi Petrochemical and Sumitomo Chemical, along with 13 other Japanese firms, signed an agreement with SINOPEC and MLI to assist with production technology and quality control know-how for polyethylene films. And the Dalian Plastic Industrial Company and another Japanese company set up a joint venture to develop mold-making technologies in

CHINA'S MAJOR THERMOPLASTIC PRODUCERS

Plant and location	Target capacity	Details
Daqing Petrochemical Complex, Heilongjiang Province	LDPE: 60,000 tonnes	Imhausen/Ruhrchemie (FRG) technology; Uhde (FRG) engineering; purchased July 1978; on stream 1986. Union Carbide (US) technology; Mitsubishi Heavy Industries (JPN) engineering; purchased in 1984; expected on stream 1988. Mitsui (JPN) technology; Mitsui engineering; commissioned in mid-1986. Planning for 25,000-tonne project in progress.
	LLDPE: 60,000 tonnes	
	HDPE: 140,000 tonnes	
	PS: NA	
Fushan Petrochemical Corp., Beijing	PS: 10,000 tonnes	New plant; licensing by Cosden (UK) Technology.
Fushun Petrochemical Works, Liaoning Prov.	PVC: 15,000 tonnes	Chiyoda (JPN) technology; expected on stream 1988. New plant believed to be under consideration. New plant believed to be under consideration.
	PP: NA	
	LLDPE:	
Zhuzhou, Hunan Prov.	PVC: 25,000 tonnes	Mitsui Engineering and Shipbuilding, Nippon Zeon (JPN), and Nissho Iwai (JPN) to build plant; expected on stream 1989.
Fuzhou No. 2 Chemical Plant, Fujian Prov.	PVC: 15,000 tonnes	Chisso Engineering (JPN) and C. Itoh engineering; BF Goodrich (US) licensing.
Gaoqiao Petrochemical Plant, Shanghai	PS: under 5,000 tonnes PVC: 15,000 tonnes	Domestic design and construction. Domestic technology; Polysar (Canada) to raise capacity 3–5,000 tonnes; plan for 100,000 tonnes capacity using Jinshan ethylbenzene not yet finalized.
Jilin Petrochemical Works	PS: 5,000 tonnes	Domestic technology and engineering. Toyo (JPN) contracting; expected on stream 1989.
Jinjiang Chemical Factory	PVC: 20,000 tonnes	On stream 1984.
Jinshan Petrochemical Complex, Shanghai	PP: 70,000 tonnes	Himont/Mitsui (US/JPN) technology; Tecnimont (Italy) engineering; expected on stream late 1989. Mitsubishi technology; Hitachi (JPN) equipment; purchased in 1970s. Additional 80–100,000 tonnes LDPE expected on stream 1992; no contract yet signed.
	LDPE: 140–160,000 tonnes	
Lanzhou Petrochemical Plant, Gansu Province	PP: 10,000 tonnes	Zimmer (FRG) technology; purchased 1963; on stream 1968. 24,000 tonnes with ICI (UK) technology; Simon-Carves (UK) engineering; purchased 1964; on stream 1968. Subsequent expansion to 40,000 tonnes LDPE. British Petroleum (UK) technology; Sinokellog (UK) engineering for LLDPE renovation; expected on stream 1990. GDR or USSR technology; Chinese built.
	LDPE: 40,000 tonnes LLDPE: 60,000 tonnes	
	PS: 30,000 tonnes	
Liaoyang Petrochemical Plant, Liaoning Province	PP: 35,000 tonnes	AMOCO (US) technology; Technipetrol (Italy) engineering; on stream 1983. Hoechst (FRG) technology; Uhde engineering.
	HDPE: 35,000 tonnes	
Liaoyuan Chemical Works, Shanghai	PVC: 35,000+ tonnes	Domestic technology and engineering.

Japan.

A large number of plastic processing factories see the joint venture as a solution to their problems. The majority of these projects are small ventures with Hong Kong partners that produce inexpensive products like plastic slippers, purses, and toys. A portion of the factory's products are usually exported to Hong Kong, where they are either sold or re-exported by the Hong Kong partner. Because of low startup costs and the popularity of their products on the world market, most of these ventures have proven successful, according to Chinese press reports.

A few Western and Japanese companies have also chosen to set up joint ventures. The Nanjing No. 4 Plastics Factory has hooked up with a West German company to produce PVC imitation leather and PVC carpeting and wallpaper. Australian Industrial Pipe System Ltd. and Esdan Flavel Pty Ltd. of Australia announced in July that they were forming a joint venture with China North Industries Corp. (NORINCO) to produce PVC plastic piping as well. As to US involvement in this area, Tennessee Plastics and Engineering Co., Manton Division of Cadillac Rubber and Plastics Inc., Talon Inc., and Atlantic Ocean International Co. have all established joint ventures with various Chinese partners; most will produce nylon zippers for the garment industry.

Brighter days ahead?

The tremendous potential for bringing in valuable technology and capital from abroad to make plastics and plastic products has to this day remained untapped. Careful planning and investment is needed to relieve some of the strains on the plastics industry—and help may be on the way. In response to a request from SINOPEC, the World Bank agreed in July to provide SINOPEC with a \$3 million grant to fund an in-depth study of China's petrochemical industry. The study is planned to begin this year and is slated for completion in mid-1989. Its goal is to examine the needs of the industry—particularly with regard to plastics production—during China's Eighth Five-Year Plan (1991–95), but it will also examine options to the year 2000. The study will take a look at the plastic industry's current status and outline a number of development

strategies to close the gap between the centrally planned plastic resin industry and the rapidly increasing processing capacity of the many factories it is trying to supply. As a

means to this end, the World Bank-funded study will lay the groundwork for the selection of China's new thermoplastics bases—the Daqings and Jinshans of the 1990s. 完

Luoyang Petrochemical Works, Henan Province	PP: 50,000 tonnes	West German and Italian involvement for technology and engineering; expected on stream 1990.
Panjin Petrochemical Plant, Liaoning Province	PP: 40,000 tonnes	Himont/Mitsui technology; Technipetrol engineering; expected on stream 1991. Portion of PP exported as compensation.
	LDPE: 125,000 tonnes	British Petroleum technology; Technipetrol engineering; purchased in 1987, expected on stream 1991.
Qilu Petrochemical Complex, Shandong Province	PP: 70,000 tonnes	Himont/Mitsui technology; Fluor (US) engineering; expected on stream 1989.
	LDPE: 60,000 tonnes	Status unknown.
	HDPE: 140,000 tonnes	Union Carbide technology; CJB (UK) engineering; expected on stream 1988.
	PVC: 200,000 tonnes	Shin Etsu (JPN) technology; expected on stream 1988.
Quzhou General Chemical Works, Zhejiang Province	PS: 25,000 tonnes	Dow Chemical (US) technology; Lummus Crest (US) engineering; expected on stream 1988.
	PVC: 20,000 tonnes	20,000 tonne expansion from previous 8,000 tonne capacity.
Tianjin Chemical Plant	PVC: 10,000 tonnes	Mitsubishi Kasei Vinyl, Kanematsu-Gosho (JPN) technology and equipment; Mitsubishi-Kasei and one other company technoengineering.
Tianyuan Chemical Works, Chongqing	PVC: 10,000 tonnes	Mitsubishi Kasei Vinyl technology; Kanematsu-Gosho, Mitsubishi-Kasei, and one other company technoengineering; expected on stream 1988.
Wujing Chemical Works, Shanghai	PVC: 200,000 tonnes	Toyo Engineering engineering; expected on stream 1989.
Yangzi Petrochemical Complex, Nanjing	PP: 140,000 tonnes	Himont/Mitsui Technology; expected on stream 1988.
	HDPE: 140,000 tonnes	Mitsui technology and equipment; expected on stream 1988.
Yanshan Petrochemical Complex, Beijing	PP: 115,000 tonnes	80,000 tonnes with Mitsui Petrochemical technology; C. Itoh engineering; purchased 1973; on stream 1976. Additional 35,000 tonnes with Himont technology; Mitsui Petrochemical engineering; expected on stream 1988.
	LDPE: 180,000 tonnes	Sumitomo (JPN) technology; Ishikawajima-Harima Heavy Industries (JPN) engineering. Purchased 1973; on stream 1976.
	PS: 50,000 tonnes	Dow Chemical technology; Lummus Crest engineering; purchased mid-1986; expected on stream 1988.
	PVC: 120,000 tonnes	Hoechst technology for original 80,000 tonnes; BF Goodrich technology for 40,000 tonnes; expected on stream mid-1988.
Key: LDPE: Low-Density Polyethylene LLDPE: Linear Low-Density Polyethylene HDPE: High-Density Polyethylene PS: Polystyrene PVC: Polyvinyl Chloride PP: Polypropylene NA: Not Available		
SOURCE: The National Council for US-China Trade Compiled by Gideon Rosenblatt and John D. Lewis		

When US companies do business in China, they find that sales and purchase contracts are almost always drafted on the basis of standard forms provided by the Chinese side that do not provide a choice-of-law clause. When they propose amending the contract to apply US law, the Chinese side often disagrees. Nor will the US side usually agree to applying Chinese law to the contract. To break the deadlock, the parties may leave the standard form contract without such a clause—a practice that can make interpreting the contract difficult later on.

Starting next year all this will change when a new international contract law comes into effect. The United Nations Commission on International Trade Law organized a working group in 1969 to draft a contract law that foreign contracting parties can apply in place of domestic law. The result is the United Nations Convention on the International Sales of Goods (CISG). Signed by 11 countries so far, including the United States and China, the law will take effect on January 1, 1988.

By its terms the CISG will automatically apply to contracts for the sale of goods between parties with "places of business" in the United States and China unless the parties specifically state their desire to exclude the CISG in their contract. In a few cases, one party will have sufficient bargaining power to convince the other side to agree to exclude the CISG and apply either Chinese or US law to the contract. But the majority of contracts between US and Chinese parties will probably continue to omit a choice-of-law clause after January 1, 1988—thus activating the CISG terms.

Just how much of an improvement the CISG will be over existing arrangements should be more evident after it has been applied on a large scale. But this much is clear: the CISG will offer greater flexibility and reliability to US companies negotiating sales or purchase contracts with their Chinese partners. Because it appears that no other country omits a choice-of-law clause as frequently as does China, the CISG may have a wider impact on trade with China than on US trade with any other country.

Some distinct ambiguities

As comprehensive as the new law is, it will not apply to all business

The UN Convention on the International Sale of Goods

*How will it
affect US trade
with China?*

Preston M. Torbert and Jia Zhao

transactions. The CISG will not, for example, apply to sales of ships, vessels, hovercraft, or aircraft. Such exceptions leave some room for ambiguities that will need to be addressed. For example, does the exclusion of aircraft also cover contracts for kits or spare parts needed to produce or repair aircraft? Are long-term distribution contracts covered? What about the sale of computer software?

Also excluded are contracts for the supply of labor or services (including technology transfer contracts) and those in which the buyer supplies most of the materials necessary for production. Thus, many compensa-

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tion trade deals will not be covered. As for sales involving a mixture of goods and services, it is still not clear whether the CISG will apply.

Another ambiguous point in the law concerns the definition of a "place of business." The meaning of this term seems clear in most contexts, but not all. For example, will the site of protracted negotiations in China constitute a "place of business?" In most cases, the contracting parties will have places of business only in the United States or China. But what happens when a US company has a representative office or commission agent in Beijing? In such cases, the issue is whether the head office or the representative office has the "closest relationship" to the contract. If the head office of the US company is making the sale, it would probably be designated the place of business. The CISG would then automatically apply to the contract because the relevant places of business of the buyer and the seller would be in different contracting countries. But if the company's representative office in Beijing negotiates and signs the contract, while the head office merely notifies the factory to ship the goods, the representative office might have the "closest relationship" to the contract. In such cases, the CISG would not automatically apply because the places of business of both buyer and seller would be in the same country, i.e., China.

Similar issues arise when a Chinese entity sells or purchases through an office in the United States or when a US party makes sales to China with the assistance of a Hong Kong branch.

These questions will have to be resolved on a case-by-case basis in US and Chinese courts. This poses a problem since similar cases could be resolved differently in each country. It has been proposed that an international conference be held every few years to discuss differences in interpretations of the CISG.

Issues left to domestic law

The CISG also leaves a number of issues to be resolved by domestic law. Among the key items not covered by the CISG, which will continue to be covered by US or Chinese law, are the following:

- **Agency.** The CISG mentions "parties" to the contract but does not clarify the legal authority of one

person to represent another as an agent. Under what conditions will an agent's authority be sufficient to make a valid contract? The answer is left to domestic law.

• **Statute of Limitation.** The CISG does not set a deadline for bringing claims for damages based on the CISG. The United Nations prepared a convention on the Limitation Period in the International Sale of Goods and a 1980 Protocol aligning the convention with the CISG, but the United States has not ratified this convention.

• **Validity of contracts.** The CISG does not state when a contract will be considered invalid due to a defect in its formation (e.g., fraud) or in its effect (e.g., contrary to public policy). Domestic law will govern these issues.

• **Product liability.** The CISG governs the legal relationship between the buyer and the seller, but not between the manufacturer and the ultimate user of the product. Claims for death or personal injury by consumers against manufacturers will therefore continue to be governed by domestic law.

• **Third party claims.** The CISG places a general obligation on the seller to deliver goods free from any right or claims of a third party. But it does not address how claims by third parties may affect a contract governed by the CISG. For example, whether a bona fide seller can transfer the title of the goods to a purchaser regardless of claims by third parties is a question of local law.

• **Warranty disclaimers.** The CISG obliges the seller to deliver goods that are of the quantity, quality, and description required by the contract. This includes any guarantee by the seller that for a period of time the goods will remain fit for their ordinary purpose or some particular purpose, or will retain specified qualities or characteristics. But the CISG does not impose any other warranties on the seller and does not state whether any warranties are implied or under what circumstances disclaimers are valid.

• **Trade terms.** The CISG does not define certain commonly used trade terms, such as "CIF," "FOB," and "FAS." Definitions of these terms will be left to domestic law.

Advantages and objections

The CISG provides US and Chinese trade partners, at last, with an oppor-

tunity to agree upon a law to govern their contracts. Because it is an *international* convention drafted and agreed upon through consensus by representatives of many countries, it does not favor any particular country or buyers or sellers. It is written in simple language free of Anglo-American legal jargon. It is to be interpreted, first, in conformity with the general principles of law on which it is based, and alternatively, in accordance with ordinary choice-of-law rules that will apply the law of a particular country.

Perhaps most important, the CISG emphasizes the freedom of the parties to determine the terms and conditions of a contract. Under the CISG they may choose to exclude its application completely, to apply it completely (subject to a few reservations), or to apply it to all but a few provisions. The CISG also allows the parties to supplement its provisions by clarifying issues that the convention did not cover or only covered in part.

China has objected to the fact that, under the CISG, oral promises could constitute a valid contract. At present all contracts in China must be executed in writing and signed by authorized Chinese officials. This will continue to be the case after January 1, 1988, since China notified the convention of its reservation.

Roots of CISG

Like any other contract law, the CISG sets forth rules governing the formation of contracts and the rights and obligations of buyers and sellers. Many of these rules are similar to those in American contract law for the sale of goods as specified in Article 2 of the Uniform Commercial Code and to those in China's contract law applicable to foreign sales and purchases spelled out in the Foreign Economic Contract Law (FECL).

The CISG appears to be based on the Uniform Commercial Code, but there are subtle differences that can substantially affect any particular contract. For example, under the CISG: "consideration" is not required for the formation of a contract; a contract will not be formed when there are significant alterations in the purported acceptance of an offer; the buyer has the right to reduce the price for the difference in value for goods not conforming to contract specifications; interest is granted for payments in arrears; and damages

can include lost profits.

The final instrument of the CISG, adopted in 1980, predates China's Foreign Economic Contract Law (FECL) by five years and in some respects may have inspired it. The FECL, in fact, seems to have adopted the CISG language almost verbatim in some instances. The articles of the FECL that stipulate the obligation of the breaching party to mitigate damages, the payment of interest on payment in arrears, and the excuse for nonperformance due to an event classified as *force majeure* are almost identical to those in the CISG.

The CISG, however, is a more specific and complex law than the FECL. For example, it provides details on the role of offer and acceptance in the formation of contracts that are not included in the FECL. But both the CISG and the FECL, unlike the Uniform Commercial Code, are relatively new laws that lack a body of interpretation by the courts.

Consider your options

Assuming present practice continues after January 1, 1988, and no choice-of-law clause is inserted in sales and purchase contracts between US and Chinese parties, the CISG will apply automatically to these contracts. In light of this development, US parties should review their current practices in drafting and negotiating contracts with the following questions in mind:

- Do we have sufficient bargaining power to insist on contract provisions applying US law?

- Are our contracts covered by the CISG?

- Is the CISG preferable to Chinese law?

- How should we draft our contracts to fill important gaps in the CISG or delete some of its undesirable provisions?

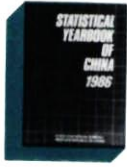
- How will the domestic law of the parties affect our contracts despite the application of the CISG?

- How can we reconcile our conclusions regarding the application of the CISG with tax considerations regarding the situs for a sales company?

Although the CISG will certainly be welcomed by many US companies doing business with China, it may not be the law of choice for everyone. US companies will have to consider their options carefully to ensure that they choose the contract law and provisions best suited to their needs. 完

BOOKSHELF

书刊介绍



The Statistical Yearbook of China 1986, compiled by the State Statistical Bureau. Oxford: Oxford University Press; Hong Kong: Economic Information & Agency;

Beijing: China Statistical Information & Consulting Service Centre, 1986. 761 pp. \$84.

This annual reference compendium, expanded from its previous editions and updated with 1985 statistics, offers more than 100 new tables and two new chapters covering developments in capital construction, city construction, and environmental protection. The *Yearbook* also includes more provincial information than before and more than is available from any other English-language publication. Each chapter has been expanded with new statistical categories. Of note are figures for utilization of foreign capital, the number of foreign and domestic patents filed, and details of civil legal personnel and documents. The notes at the end of the book that define terms and explain statistical methods are more extensive and better organized than in past editions. —JLL

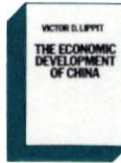
China Economic Handbook, by Karsten Grummitt. London: Euromonitor Publications Ltd. 1986. 246 pp. \$80. Distributed in the United States by Gale Research Co.

This book is arranged in two parts. The first part outlines the history of China's economic development from 1979 to 1984 and discusses individual sectors of China's economy. Among the sectors covered are agriculture and rural development, industry and energy, transport and communications, and finance and banking. With only 133 pages of text, however, this volume provides little insight into the complexities of China's developments in these areas.

The second part provides statistical information as well as addresses of major Chinese government and foreign-trade related organizations.

The book would have better served its readers by including descriptions and charts identifying the functions and affiliations of these organizations. Even less satisfying are the 55 pages of statistics, none more recent than 1984, taken from the *Statistical Yearbook of China 1984* and *China: A Statistical Survey in 1985*. This portion of the book offers little new material and is superseded by reference works that are more up-to-date.

The value of this work is its encapsulated review of China's economy, although it is a high price to pay for distilled and already outdated information. —JLL



The Economic Development of China, by Victor D. Lippit. Armonk, NY: M.E. Sharpe, 1987. 269 pp. \$35 hardcover, \$14.95 softcover.

Is China going capitalist? Ever since the country began introducing a package of economic reforms and open door policies in the late 1970s, some observers have jumped to this conclusion. But in his thoughtful book, Professor Lippit of the University of California, Riverside, argues that the development of a completely privatized economic system in China is highly unlikely. Written from a Marxist perspective, Lippit provides a refreshing and sympathetic view of the ideological as well as purely economic considerations that will shape China's reform policies in the years to come.

Unlike many other Western economists, Lippit is cautiously optimistic that China's leaders will find a way to combine market-oriented reforms with central controls. He believes that China's reforms have already benefited the working class by raising their living standards and giving them a measure of control over their enterprises. To Lippit, these improvements form the true essence of socialism, providing both the ideological and practical basis for workers' support of the reform movement.

Lippit concedes the possibility of reforms going awry if the State fails to remove basic impediments to market socialism like the irrational price structure and bureaucratic interference in enterprise management. He also fears the consequences of growing economic and social inequalities as living standards rise for some more than others. Unless the State can solve such problems, China may revert to a highly centralized system of economic planning. But Lippit believes that the success of the reforms so far provides grounds for optimism.

Lippit's book is not for the uninitiated. His use of Marxist terminology will not attract popular audiences. In explaining his essential analytical framework, for example, Lippit writes: "Economic development is a class-specific process both in the sense that whether it occurs depends above all on the interest of the dominant class, and in the sense that if it occurs, it does so in a way that reflects that interest." And those looking for an up-to-date account of China's reforms will not find it here: the author has written an essay, not a textbook. Most of Lippit's discussion of industrial reforms is based on pre-1984 developments. Given the difficulties that have arisen over the past three years, readers will wonder if Lippit is still so optimistic about China's future. But they can rest assured that the questions Lippit raises in his book are still very much on the minds of China's leaders at present.

—David Denny

China's Development Strategies and Foreign Trade, by James T. H. Tsao. Lexington, MA: Lexington Books. 1987. 209 pp. \$32.

This book represents one of the most recent efforts by a Western scholar to examine China's domestic and foreign economic policies since 1949. Given the tremendous changes that have occurred in both these areas since 1979 and the volume of economic information that China has re-

leased over the past few years, there is ample room for many such retrospective works on China's post-liberation economy and foreign trade.

Regrettably, and in spite of its title, this book has little to say about strategies, domestic or foreign. So little, in fact, that the book serves mainly as a chronology of State plans and targets, made only somewhat more comprehensible by brief, desultory references to the political and social context in which they appeared. The fierce debate between Maoists and reformers over development strategies during the first three decades of the PRC is poorly summarized in a small paragraph. The brief chapter on problems in China's economic development might have made amends for the lack of analysis in previous chapters. Instead, it fails even to sort out the salient bottlenecks in China's economic development. Five of the 12 pages in the chapter describe energy shortages in China, but not one mention is made of China's inadequate transportation system, which Chinese officials have themselves identified for decades as one of the most serious obstacles to economic growth. Part II on foreign trade is even more disappointing. Statistical descriptions of China's two-way trade, which account for much of this section, merely restate the information provided in tables in the appendix.

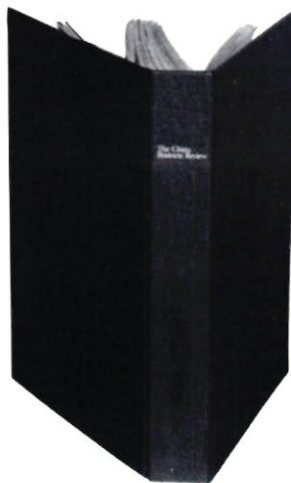
Some general interest readers will appreciate the format of the book, which is arranged in small, digestible paragraphs preceded by subheadings. And scholars may want to review the author's econometric model of the Chinese economy, outlined in Appendix C. But for a comprehensive analysis of policies, readers will have to turn elsewhere. —DDK

BOOKS RECEIVED

Physical Geography of China, by Zhao Songqiao. Edited by Christopher Salter. Beijing: Science Press; New York: John Wiley & Sons, 1986. 234 pp. \$29.95.

The 14 Coastal Cities and Hainan Island, edited by Su Wenming. Beijing: Beijing Review, 1986. Distributed in the US by China Books and Periodicals. 261 pp. \$5.95.

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CHINA BUSINESS



Sarah R. Peaslee

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

National Council member firms can contact the library to obtain a copy of news sources and other available background information concerning the business arrangements appearing below. Moreover, firms whose sales and other business arrangements with China do not normally appear in press reports may have them published in *The CBR* by sending the information to the attention of the Business Information Center at the National Council for US-China Trade.

中外 貿易	SALES AND INVESTMENT THROUGH MAY 31
Foreign Party/ Chinese Party	Arrangement/Value/ Date Reported

Agricultural Technology

China's Imports

Cooper Energy Services International (US)/CNCC	Signed contract to provide a process air compressor to the World Bank-supported China Fertilizer and Energy Saving Project. \$1.1 million. 3/87.
John Deere International Ltd. (US)/CNTIC	Awarded contract to supply 53 tractors and spare parts, 90 front loaders, and 90 rear blade levellers and parts for harvesters for World Bank-supported agricultural project. \$3.3 million. 4/87.
Semodja Holland B.V. (Netherlands)/CNTIC	Awarded contract to supply beet analysis instruments for World Bank-supported agricultural project. \$141,936 (NG290,260). 4/87.
Foss Electric Co. (Denmark)/International Tendering Company of CNTIC	Awarded contract to supply eight sets of instant seed water content analyzers for World Bank-supported agricultural project. \$41,429 (DK282,900). 4/87.

Chemicals and Chemical and Petrochemical Plants and Equipment

China's Imports

Haldor Topsoe A/S (Denmark)	Signed contract to reconstruct an ammonia plant. \$4.4 million (DK30 million). 10/86.
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Worthington Compressor (US)/CNCC Signed contract to provide a carbon dioxide compressor to the World Bank-supported China Fertilizer and Energy Saving Project. \$1.6 million. 1/87.

Sumitomo Corporation (Japan)/CNCC Awarded contract to supply carbon dioxide and refrigeration compressors to the World Bank-supported China Fertilizer Rehabilitation and Energy Saving Project. \$3.3 million. 3/87.

MAAC Canada Ltd. and Fort Saskatchewan Engineering Services Ltd. (Canada)/Hunan Province Import Corp. Will supply 1,500 TPY ethylene amine plant to be operated by the Xiangtan Fine Chemical Co. \$3 million. 4/87.

Toyo Engineering Corp. (Japan)/Jilin Chemical Industry Constructing 9,500 TPY polystyrene unit to be completed in 1989. 4/87.

NA (Japan)/Jinling Petrochemical Co., Nanjing Exported a set of cycloparaffin equipment with 10,000 TPY production capacity. \$9.1 million (¥34 million). 5/87.

Hitachi Ltd., Marubeni Corp., and NA (Japan)/CNTIC Signed contract to provide equipment to the Jinan Polyester Fiber Factory in Shandong for making 66,000 tonnes of polyester annually. 5/87.

Mitsui Petrochemical Corp., Mitsui Shipbuilding Corp., and C. Itoh & Co. Ltd. (Japan)/CNTIC Signed contract to provide equipment to the Jinan Polyester Fiber Factory in Shandong for making 75,000 tonnes of para-phenylene dimethyl acid annually. 5/87.

Three Japanese companies/CITIC Signed contract to provide the Zibo Petrochemical Plant in Shandong with equipment for producing 10,000 TPY of acrylic oxide. \$4.5 million (¥640 million).

MDA Scientific Inc. (US)/Jilin Chemical Industry Corp., Beijing Everbright Industrial Co. Signed two-year agreement to supply toxic gas monitoring systems. \$1 million. 5/87.

Scientific Design Company Inc. (US)/Shanghai Petrochemical Complex Awarded contract to build and license monoethylene glycol plant with 120,000 TPY capacity. \$50 million. 5/87.

Investments in China

NA (Singapore)/Guizhou Province Put into operation joint venture to produce 1000 TPY of plastic bags and industrial and agricultural plastic sheeting. \$440,000. 3/87.

Hong Kong-Macau International Investment Co. (HK)/Anda Chemical Industrial Co. Ltd. Signed joint venture contract for the construction of the Anda Chemical Industrial Co. Ltd. to produce organic glass. \$42.7 million (¥159 million). 4/87.

Lixingyanghang Co. (HK)/Qionghai County Development and Construction Corp., Hainan Began operation of jointly managed Qionghai Polyester Fiber Factory to produce 5,000 tonnes of polyester filament annually. \$2 million (HK\$16 million). 5/87.

Abbreviations used throughout text: BOC: Bank of China; CAAC: Civil Aviation Administration of China; CAIEC: China National Automotive Industry Import-Export Corp.; CCTV: China Central Television; CEIEC: China Electronics Import-Export Corp.; CEROILFOODS: China National Cereals, Oil, and Foodstuffs Import-Export Corp.; CHINATEX: China National Textiles Import-Export Corp.; CITIC: China International Trust and Investment Corp.; CITS: China International Travel Service; CNCCC: China National Chemical Construction Co.; CNOOC: China National Offshore Oil Corp.; CNTIC: China National Technical Import Corp.; COSCO: China Ocean Shipping Co.; CPIC: China National Corporation of Pharmaceutical Economic and Technical International Cooperation; ICBC: Industrial and Commercial Bank of China; INSTRIMPEX: China National Instruments Import-Export Corp.; ITIC: International Trust and Investment Corp.; MACHIMPEX: China National Machinery Import-Export Corp.; MAI: Ministry of Aviation Industry; MEI: Ministry of Electronics Industry; MINMETALS: China National Metals and Minerals Import and Export Corp.; MLI: Ministry of Light Industry; MOCI: Ministry of Coal Industry; MOPI: Ministry of Petroleum Industry; MPT: Ministry of Posts and Telecommunications; MWREP: Ministry of Water Resources and Electric Power; NA: Not Available; NDSTIC: National Defense, Science, Technology, and Industry Commission; NORINCO: China North Industries Corp.; SINOCEM: China National Chemicals Import-Export Corp.; SINOPEC: China National Petrochemical Corp.; SINOTRANS: China National Foreign Trade Transportation Corp.; SITCO: Shanghai Investment and Trust Corp.; SPC: State Planning Commission

Chemicals (Agricultural)

China's Imports

Sinochem International Oil (HK) Company Ltd. (supplier, Philippines)/Anhui Province

Signed contract to supply diammonium phosphate to the World Bank-supported Pishihang Chaohu Area Development Project. \$2.7 million. 2/87.

M.W. Kellogg Co. (US)/Cangzhou (Hebei), Shuifu (Yunnan), Liaohe (Liaoning), Luzhou (Sichuan)

Constructing ammonia retrofits at these sites. 4/87.

Mitsubishi Corp. (Japan)/CNTIC

Awarded contract to supply 20 tonnes of pesticide and 20,000 liters of agents for World Bank-supported agricultural project. \$87,245 (DM158,000). 4/87.

Sinochem International Oil (HK) Company Ltd. (supplier, Norway)/Anhui Province

Signed contract to supply NPK compound fertilizer to the World Bank-supported Pishihang Chaohu Area Development Project. \$5.4 million. 4/87.

Construction Materials and Equipment

China's Imports

Duplus Domes Ltd. (UK)/Guilin Mandarin Hotel

Will supply aluminum base curbs and polycarbonate rooflights. \$195,648 (£120,000). 12/86.

Sumitomo Corporation (Japan)/International Tendering Company of the CNTIC

Awarded contract to supply 40 sets of hydraulic excavators and parts. \$78,206 (¥301 million). 4/87.

NA (Austria)/Building Materials Factory of the Taiyuan Chemical Plant

Began operation of plastic window and door frames production line imported from Austria. 3/87.

ASK Corp. (Japan)/East China Power Administration, Shanghai

Received order for a piping insulation materials plant. \$40.3 million (¥150 million). 5/87.

NA (Italy)/China-Italian Glass Fiber Reinforced Plastics Factory (Sino-Italian joint venture), Jixian, Heilongjiang

Imported fiber-bound glass fiber reinforced plastic pipe and vessel production line. 5/87.

Investments in China

NA (Japan)/Two Chinese companies

Signed contract establishing joint venture to make 2000 lifts annually using Mitsubishi technology. \$9.5 million. (JPN:25%-PRC:75%). 1/87.

Philco International Co. (US)/Tianjin Municipality

Signed joint venture agreement to manufacture air conditioners. \$1 million. 3/87.

McAir Industries (Singapore)/China National AeroTechnology Import & Export Corp. and the Xiamen Industry and Trade Center

Will construct joint venture air conditioner manufacturing plant in Xiamen. \$3.4 million. (50-50). 4/87.

NA (Japan)

Opened the Shanghai-Sinko Air Conditioning Equipment Co. Ltd. 10-year joint venture to produce fan coil units for air conditioners. \$2.7 million. (50-50). 5/87.

Esdan Flavell and Industrial Pipe System (IPS) (Australia)/Ling Yun Factory, Hebei

Established Asia-Oceania Plastic Products Corporation 20-year joint venture in Zhuo Xian, Hebei to produce plastic and nylon gas pipes, hoses, and other products. 5/87.

Caterpillar Inc. (US)/China Machine Building International Corporation and CNTIC

Signed technology transfer and training agreements under which China will manufacture track-type tractors, wheel loaders, log skidders, and diesel engines for construction equipment. 5/87.

Consumer Goods

China's Imports

Tokyo Maruichi Shoji Co. (Japan)/Beijing Everbright Industrial Co.

Received order for leaf tobacco processing plant and technical assistance in quality control.

Investments in China

Molins Plc (UK)/China Tobacco Import and Export Corporation, Shanghai

Opened a joint venture parts store to service cigarette factories throughout China. 1/87.

Two Japanese companies and a Hong Kong company/Guangzhou Baoyunshan Pharmaceuticals Factory

Signed contract establishing joint venture to produce chemical and medical products for skin care and cosmetics. \$3 million. 1/87.

Fushi Enterprise Co. Ltd. (HK)/Yichun Wooden Articles Industrial Co., Heilongjiang

Established the joint venture Yichun Guangming Furniture Co. 3/87.

Brevetti Orafi SpA (Italy)/Beijing Arts and Crafts General Corporation

Began sales of Italian-style jewelry made by the joint venture Beijing Orafi Ornament Company. Registered capital: \$2.4 million. 5/87.

Simpson Holdings (Australia)/Tianjin Household Electrical Co., and BOC

Signed agreement establishing Tianjin Simpson Household Appliance Co. joint venture to produce 200,000 washing machines annually. \$4.9 million (Aus\$7 million). (AU:50%-TJ:35%-BOC:15%).

Perusahaan Tinggi (Malaysia)/Zhengzhou Liquefied Natural Gas Control Department, Henan

Signed 15-year agreement establishing Shaolin Kitchen Appliances to jointly manufacture gas stoves. Registered capital: \$500,000. (50-50). 5/87.

A furniture group (Canada)/Anshan Steel Wood Furniture Factory and Anshan Huali Technology Development Co.

Established the Anyi Furniture Co. Ltd. joint venture to manufacture office and household furniture. Registered capital: \$1.5 million (¥5.56 million). 5/87.

Fujitsu Co. (Japan)/CEIEC and Tianjin Communication Machines and Household Electrical Appliances Factory

Established cooperative venture to produce color televisions. 5/87.

Takasago Perfume Industrial Co. (Japan)/Shanghai Jianchen Perfumery and Shanghai Daily-Use Chemical Industrial Co.

Established the Sanlian Perfume Co. Ltd. joint venture. \$591,064 (¥2.2 million). (PRC:51%-JPN:49%). 5/87.

Far East Technology Trade Co. (Japan)/China Yunhai Aeratechnology Development Industry-Trade Co. and China Guangzhou Economic Technology Cooperation Development Co.

Established the Guangzhou Yunhai International Consultancy Co. Ltd. joint venture which set up a bicycle factory in Zhuhai. \$699,399 (¥100 million). (JPN:70%-PRC:30%). 5/87.

Electronics and Electrical Equipment

China's Imports

Cybernex Company (Canada)/No. 1 Radio Factory, Chengdu

Supplied semi-automatic production line to make 36,000 computer terminals annually. 7/86.

Tomorrow Discovery Company (Canada)/Jiangsu Technology Development Company

Will supply two million pocket-size digital computers for English-language educational project. \$97.7 million. 7/86.

ARC Company (US)/Beifang Computers Company

Signed agreement to provide advanced technological service to computer users in China. 9/86.

Ryoden Electric (HK)/Century Plaza Hotel, Shenzhen

Supplied an IBM computer system and Lodgistic software. \$160,000. 12/86.

Apollo Computer Ltd. (US)/Ministry of Machine Building Industry, and educational institutes

Signed contracts to supply computers. \$3 million. 1/87.

Synercom Co. (US)/Guangzhou municipal government

Will supply a Synercom mapping and information management system. 1/87.

Cable & Wireless Systems Ltd. (HK), subs. of Cable & Wireless Plc (UK)/Guangzhou Foreign Trade Corporation

Will supply, install, and service recorders for five electric power organizations in Guangdong. \$128,057 (HK\$1 million). 3/87.

Telex Communications Inc. (US)/Bank of China

Received order for 70 telex terminals and 20 printers. \$128,300. 4/87.

Fort Worth Corporation (US)/International Tendering Company of the CNTIC

Awarded contract to supply computer system for a World Bank-supported project. \$466,744. 4/87.

Nestar Systems Inc. (US)/ Computer Technology Research Institute of the Chinese Academy of Sci- ences and an army hospi- tal	Supplied a PLAN-2000 network system for the creation of a computerized hospital management system. 4/87.	Nihon Keizai Shimbun, Inc. (Japan)/China Statis- tical Information and Consultancy Service Cen- ter	Signed agreement to process Chinese busi- ness, economic, and social statistics on Ni- hon's Nikkei data system. 5/87.
Control Data Corpora- tion (US)/NA	Negotiating the sale of two computer sys- tems. \$869,450. 4/87.	Electronics (Consumer) <i>Investments in China</i>	
Far East Computers Pte. Ltd. (Singapore)/China Shipbuilding and Trading Corp., CNTIC, INSTRIMPEX, and three other import companies	Received orders for computer-aided design and manufacturing hardware and software packages. \$795,000. 5/87.	NA (HK) and NA (Japan)/ Tianjin Jinrong Company (Sino-Japanese joint ven- ture)	Signed contracts for the sale of 780,000 cas- sette recorder sets and player parts. 5/87.
ECCO Computer Co. (US)/ Beijing-Toronto Hotel, Dragon Hotel (Hangzhou), Guilin Man- darin Hotel, and Ramada Renaissance Hotel (Guilin)	Signed contracts to supply ECCO hotel man- agement systems. 3/87.	Engineering and Construction <i>Investments in China</i>	
Westinghouse Electric Corp. (US)/East China Power Administration and the Guangdong Power Bureau	Awarded contract to provide control and automation services for the Wangting and Guangdong power plants and for a blast furnace at the Panzhuhua steel mill. 5/87.	Wah Tak Marine Engi- neering Co. Ltd. (HK)/ Guangzhou Tunnel Development Co.	Will cooperate to construct a 1,130-m cross river tunnel from Huangsha to Fangcun. \$41.4 million (¥154 million). 2/87.
Asian Instruments Co. Ltd. (AIC)/Zhao Jun Hotel, Hohhot, Inner Mongolia	Signed contract to install hotel management system. 5/87.	Shanghai Pacific Partners (US)/SITCO and Shanghai Hongqiao United Devel- opment Co. Ltd.	Will construct Shanghai Golden Bridge Mansion apartment building. 5/87.
Far East Computers Pte. Ltd. (Singapore)/China Shipbuilding and Trading Corp.	Received order for computer-aided design and manufacturing hardware and software packages. \$795,000. 5/87.	Finance, Leasing, and Insurance	
<i>Investments in China</i>		<i>Other</i>	
NA (HK) and NA (Can- ada)/Zhuhai Develop- ment Co., and Radar Bu- reau of the MAI	Signed contract establishing joint venture to produce multi-layer printed circuit boards for civilian use in Zhuhai and export to the United States. \$1.4 million. 1/87.	Osthoff, Goller and Bruckner (FRG)/MOFERT and Shaanxi No. 3 Print- ing and Dyeing Mill	Will provide loan for technical renovation of mill and purchase of washing and drying ranges and coating units. 2/87.
NA/Fuxin TV Kinescopes Factory, Liaoning	Signed contract to establish joint venture to produce 300,000-500,000 color TV kine- scopes annually. \$7.7 million (¥28.4 million). 1/87.	Banque National de Paris (France) and other French, Portuguese and British banks/Chinese banks	Signed loan agreement to finance the con- struction of a fiberglass joint venture in Zhuhai. \$23 million. 3/87.
NA (Japan)/Xiamen Spe- cial Economic Zone	Will establish Xiari Electronics Co. joint ven- ture in Xiamen. 2/87.	Trilease International (HK)/Beijing Trust and Consultancy Corp.	Signed contract to cooperate on the struc- turing of finance and leasing packages. 4/ 87.
IBS Company (Japan)/ Shanghai Computer Technology Research In- stitute	Signed agreement to establish jointly man- aged computer software development com- pany. 3/87.	Westpac Finance Asia Ltd. (Australia)/Tiantan Hotel, two members of the BOC Group	Signed contract to finance the construction of the Tiantan Hotel in Beijing. \$8.5 million. 4/87.
General Electric CALMA Company (US)/CNTIC and the Electric Power Plan- ning Engineering Institute of the MWREP	Opened the General Electric CALMA CAD Technical Service Center joint venture to provide users with training, repair services, and parts. 4/87.	Knutsen & Terpstra Inter- national Associates (US)/ MACHIMPEX, Shanghai	Signed agreement to provide market re- search and financial consulting on shipping and transport. 5/87.
Prime Computer Inc. (US)/CEIEC	Signed contract establishing service center in Beijing to provide service and parts. 5/87.	Bank of America (US)/ Communications Bank of China	Signed agreement to develop a range of fi- nancial links. 5/87.
Hamilton/Brighton/ INSTRIMPEX	Will co-establish the Computer Technology Center under the Ministry of Railways to service American-made systems. 5/87.	IBJ Schroder Bank and Trust Company (US)/BOC	Negotiating five-year loan. \$150 million. 5/ 87.
Leemah Datacom Secu- rity Corporation (US)/ Zhongyuan Radio Fac- tory, Wuhan	Will cooperate to import and manufacture modems. 5/87.	Bank of Montreal (Can- ada)/Communications Bank of China	Signed agreement to begin correspondent and depository relationship and cooperate in trade and investment financing. 5/87.
Huafei Color Display Sys- tem Company Ltd., Novel Technology Development Company Ltd. (HK) and Philips Co. Ltd. (Nether- lands)/Huadong Elec- tronic Tube Factory	Signed agreement to coproduce 15,000 electronic color picture tubes annually. 5/87.	Nanyang Commercial Bank (HK) and syndicate of other banks/Guishan Tourist Hotel Co. (joint venture between Kwong Li Nam Investment Agency, Mildew Co. and Credit Glory Co. (HK) and Guilin Tourist Co., BOC, and Nanning Branch Trust & Consul- tancy Co).	Signed loan agreement for construction and development of the Guishan Hotel joint venture. \$33 million. 5/87.
<i>Other</i>		Connecticut National Bank (US)/China Industry Commerce and Develop- ment Bank	Signed agreement to assist New England companies in export efforts to China. 5/87.
Technical Center of the Engineering Society (FRG)/Electronics Scien- tific Research Institute of the MEI	Opened offices in Beijing and West Berlin to promote cooperation in electronics and information transfer and to provide services to Chinese and West German institutions.	South America Corpora- tion/Tianjin Huajian Cor- poration and Tianjin In- dustrial Investment Corporation	Established Tianjin Huamei Corporation Ltd. joint venture to improve the investment cli- mate in Tianjin. Registered capital: \$100,000. 5/87.
Synercom Co. (US)/China Zhuhai Corp.	Will install a Synercom mapping and in- formation management system for dem- onstration purposes in the Huangshan Computer Center in Beijing. 2/87.	Food Processing and Food Service <i>China's Imports</i>	
		FMC Company (US)/ China Food Industrial Technology Development Corp.	Supplied concentrated orange juice produc- tion line that recently went into operation. 5/87.

Investments in China

Nissan Co. (Japan)/
Qingdao Foodstuffs Factory

Established Nissan International Food Development Co. joint venture to produce sweetened bean paste for export to Japan.

Torin Sangyo Kaisha Co. Ltd. (Japan)/Shenzhen SEZ

Established Dongnan (Southeast) Food Co. joint venture that recently began producing beancurd. \$805,997 (¥3 million). (50-50). 3/87.

Toyo Seaweed Co. (Japan)/Dalian Aquatics Bureau

Established Dalian Aquatics Co. Ltd. 17-year joint venture to produce essence of kelp products. \$2.1 million (¥300 million). (50-50). 3/87.

Tokyo International Trade Company (Japan)/Beijing Foodstuffs Industry Technical Development Company

Signed agreement to establish joint venture to cultivate, process, and export vegetables and other farm products. \$139,880 (¥20 million). (50-50). 3/87.

Kente Co. and Hokkaido Shoji Co. Ltd. (Japan)/Shanghai Confectionary, Cigarette and Wind Co., and Shanghai Foreign Trade Corp.

Established Shanghai Xianghe Foodstuffs Co. Ltd. joint venture to market and export sweetened bean paste, chestnut, and biscuit products. \$1.5 million (¥5.5 million). 3/87.

A HK investment company/Shanghai Xinxin Clothing Co. and Shanghai Foreign Trade Corp.

Established Shanghai Wanshida Shoes Co. Ltd. joint venture to produce sports and rain shoes and slippers. \$730,000. 3/87.

SEN Co. (FRG), Mitsubishi Co. (Japan), FMC Co. (US), and two other US companies/CEROILFOODS

Will supply equipment for beverage production line to be installed at Shanghai No. 5 Cold Storage Plant. 3/87.

NA (Poland)/NA

Constructing cold storage facilities in Beijing. 3/87.

NA (Poland)/No. 4 Import Business Division of MACHIMPEX

Signed contract to import three sausage casing production lines.

NA (FRG) and NA (UK)/Shenzhen

Signed agreement to establish joint venture brewery, with all equipment and technology to be imported from West Germany. 5/87.

Machine Tools and Machinery

China's Imports

Schmidt Manufacturing & Equipment (UK)/Shanghai Municipality

Supplied compact suction sweepers. 10/86.

Mather & Platt (UK)/CNTIC Beijing Branch

Signed agreement to supply reservoir and booster pumps and training to Beijing No. 9 Water Treatment Plant. \$3.3 million (£2 million). 1/87.

Ferranti Metrology Systems (UK)/Renmin Machinery Company, Beijing

Received order for coordinate measuring machine. \$244,560 (£150,000). 2/87.

KTM (UK)/Dalian Machine Tool Company, Liaoning

Signed contracts supplying kit and fully built machining centers and a machine cell and systems software package. \$2 million. 4/87.

Johnson Corp. (US)/NA

Signed contract to supply seven steam units used to return high temperature condensate in heating systems back to the original source. \$140,000. 4/87.

Investments in China

Rotorex Corp., subs. of NYCOR Inc. (US)/China Leasing Ltd. (Beijing) and Jinling Machinery Factory (Nanjing)

Signed agreement licensing for Jinling Factory to produce rotary compressors for air conditioning and commercial refrigeration products. 6/87.

Medical Equipment and Devices

National Cancer Research Center (US)/Tongji Medical University

Will conduct joint research on the relationship between silicosis and lung cancer, to be completed by 1988; NCR will provide funds, equipment, and latest information. 2/87.

Medical Laser Center, Luebeck (FRG)/Beijing, Guangzhou, and Zhejiang universities

Signed cooperative agreements. 3/87.

Metals, Minerals, and Processing

China's Imports

Dowa Mining Co., Toho Zinc Co., and five other companies (Japan)

Signed contract to export 3,000-4,000 tonnes of zinc ingots between March and May 1987. 3/87.

Mannesmann Demag Sack GmbH and AEG AG (FRG)/Wuhan Iron and Steel Co.

Will construct a complete cold rolling mill to produce 130,000 tonnes of tin plate annually. \$21 million (DM38 million). 3/87.

Associated Iron & Metal Co., div. of Adlestone International Inc. (US)

Exported 22,000 tonnes of scrap steel. \$2-\$3 million. 3/87.

New Japan Iron Smelting Co. (Japan)/Shanghai Baoshan Iron and Steel Complex

Received order for heat retrieving equipment to retrieve steam discharged by sintering, ventilating, and cooling machines. \$7 million (¥1 billion). 3/87.

Mesta Engineering Co. (US)/Capital Iron and Steel Complex, Beijing

Signed contract to supply highly automated, twin-strand continuous slab caster and related technical services. 3/87.

Lamp Metals, subs. of Thorn EMI (HK)/China National Import and Export Corp.

Signed contract to supply new production line to Ganzhou Tungsten and Molybdenum Plant, Jiangxi. \$742,733 (HK\$8.5 million). 4/87.

SAMP SpA (Italy)/Shenyang Cable Works

Signed agreement to supply computer-controlled, robot-assisted plant to produce annealed copper wire. 4/87.

Investments in China

Wong's Hong Kong International Ltd. (HK)/China Huanyu Electronic Union Co. and Eurasky Co.

Established North Lamination joint venture to make copper-clad laminated sheets in Hubei. \$5.3 million. 2/87.

Kanthal AB (Sweden)/Beijing Steel Wire Plant, div. of Capital Iron and Steel Complex, Beijing

Established 20-year wire-making joint venture. Registered capital: \$53.7 million (¥200 million). (50-50). 5/87.

Bundy Tubing Company (Australia), assoc. of Bundy Corporation (US)/Qinhuangdao municipal government, Central Iron and Steel Research Institute of MMI

Established Huayan-Bundy Tubing Corporation 20-year joint venture to produce "Bundy" tubes, refrigerator condenser pieces, and equipment to form automobile brake tubes. Registered capital: \$4.5 million. 5/87.

Other

Kreditanstalt fur Wiederauf Bank (FRG)/MOFERT

Will conduct feasibility study for Guilin talc mine. \$82,827 (DM150,000). 2/87.

Broken Hill Proprietary Company Limited (BHP) (UK)/MMI

Signed memorandum of understanding calling for cooperation in the fields of mining and steel production. 2/87.

Broken Hill Proprietary Company Limited (BHP) (Australia)/Yichang, Hubei

Signed agreement to conduct joint feasibility study for a major ferroalloy smelter. 3/87.

Ministry of Metallurgy and Heavy Engineering (Czechoslovakia)/MMI

Will establish group to promote technology exchange and cooperate in the manufacturing of equipment. 5/87.

Military Equipment

Investments in China

Weaver Arms Corp. (US)/China North Industries Corp. (NORINCO)

Negotiating joint venture to manufacture automatic and semi-automatic weapons. 4/87.

Petroleum, Natural Gas, and Related Equipment

China's Imports

Japanese Gas Equipment Factory (Japan)/CNTIC, Beijing

Signed agreement to supply technology for producing gas-fueled water heaters. \$2.1 million (¥300 million). 12/86.

Inductoheat Inc. (US)/MACHIMPEX

Supplied six induction processing systems to two oil goods plants in Yumen, Gansu, and Tianjin. \$1 million. 3/87.

NA (New Zealand)/Sichuan Province

Will construct a compressed natural gas plant in Sichuan.

Ampac Oil Ltd. (HK), subs. of Chintex Oil & Gas Co./NA, Beijing

Signed agreement to finance Ampac Oil Refinery joint venture in Zhanjiang, Guangdong. \$1.1 million (¥4 million). 4/87.

Caterpillar Inc. (US)/Nanhai West Oil Corporation (NWOC) Received order for two generator sets to be used at Potou, Zhanjiang. 4/87.

KRW Energy System (Kellogg Rust Synfuels), subs. of The Signal Companies Inc. (US)/First Heavy Machinery Works, Fularji, Heilongjiang Engineering fuel gas from coal gasification plant. \$25 million. 4/87.

Trico Industries Inc. (US)/CNTIC Received order for hydraulic pumping units for Liaohe oil field, Liaoning. \$6 million. 4/87.

Caltex Oil Hongkong Ltd. (HK), subs. of Caltex Petroleum Corp. (US) Supplied 3,000 tonnes of diesel engine lubricating oil. \$1.5 million. 5/87.

Investments in China

Total CFP, Technip, and the French Petroleum Institute (France)/Gaoqiao refining company, Shanghai Concluded agreement to jointly construct paraffin wax hydrotreating units. 4/87.

Sofregaz, subs. of Gaz de France (France)/NA Made bid to construct pipeline between Hainan Island and Guangzhou for Yinggehai Gasfield project. 3/87.

Other

Kawasaki Heavy Industries Ltd (Japan)/China Oil Industry Bureau and MACHIMPEX Signed contract to cooperate in producing high-pressure steamers to force out petroleum in heavy content offshore oilfields. \$1.4 million. 1/87.

Canadian International Submarine Project Company (Canada)/Jiaotong University, Shanghai Signed contract to jointly develop remote control underwater device used for oil exploration. 5/87.

Japan-China Oil Development Corp. (Japan)/CNOOC Signed agreement on joint development plan for southern Bohai oilfields. 3/87.

Fairfield Industries, Inc. (US)/Anhui Oil Corp. Signed agreement to conduct onshore seismic exploration in Anhui. 3/87.

Ports

China's Imports

EKPAC (Sweden)/CNTIC and Communications Bureau, Hangzhou Signed loan-financed contract to supply goods for Hangzhou wharf construction project. \$2.4 million (SK15.4 million). 4/87.

Mitsubishi Heavy Industries Ltd. and Mitsubishi Corp. (Japan)/CNTIC Signed contract to manufacture a coal-handling system to serve Beilungang and Zhenghai coal-fired power stations in Zhejiang. 3/87.

Other

Singaporean Consultancy Service Pte (Singapore)/Tianjin Port Administration Signed contract to provide consultancy services for wharf construction project. 2/87.

Japan International Cooperation Agency, Japan/China Northeast Development Association (Japan)/Overseas Coastal Development Institute Will conduct feasibility study on Dalian port expansion. 3/87.

Power Plants and Equipment

China's Imports

Dulmison Australia (Australia)/CNTIC Will supply 13,950 space dampers for use on 500,000-volt transmission line. 12/86.

Systems Control Inc. (US)/CNTIC Signed contract to provide energy management system for the World Bank-supported Lubuge Hydroelectric Power Project. \$4 million. 12/86.

Combustion Engineering (US)/CNTIC Signed contract to supply 600-MW boiler island for World Bank-supported Beilungang Thermal Power Project. \$54.7 million. 1/87.

US Zurn Industries Inc. (US)/Beijing International Service Center Ltd. Signed contract to supply four Keystone boilers. \$8 million. 4/87.

Mitsui & Co. Ltd. (Japan)/Ningbo, Zhejiang

Will supply 600,000 kw coal-fired generating equipment for World Bank-supported Beilungang Thermal Power Project. 5/87.

Investments in China

Cheung Kong (Holdings) Ltd., Hutchison Whampoa Ltd., and Hong Kong Electric Co. (HK) Signed agreement to build 2.4 million kw power plant in Wuxi in exchange for coal shipments to HK. \$1.3 billion (HK\$10 billion). (HK:40%-PRC:60%). 5/87.

Other

Institute of Nuclear Safety & Protection (France)/National Nuclear Safety Administration Will cooperate on seven-year joint assessment of safety of Daya Bay Nuclear Power Plant. 12/86.

ASEA AB (Sweden)/Electric Power Research Institute of MWREP Signed letter of intent to establish power transmission development center at Beijing Power Research Institute. 4/87.

Electricity Advisory Services Ltd. (EASL), subs. of China Light and Power Co. Ltd. (HK)/MWREP Signed memorandum of cooperation to exchange information relating to the electricity industry. 5/87.

Printing Equipment, Publishing, and Broadcasting

China's Imports

(FRG)/BOC, Jiangnan Paper Mill, Shanghai Sold set of art printing paper equipment. \$10 million. 3/87.

Porelok Co. (US)/Nanjing Seal Engraving Factory Put into operation imported atom seal production line. 3/87.

Man Roland (US), subs. of Man Roland (FRG)/Jiangsu Provincial Foreign Trade Corp. and SITCO Supplied Uniman presses to upgrade newspaper printing in Nanjing and Shanghai. 4/87.

Investments in China

Hong Kong United Holdings Company (HK)/Hangzhou Signed contract establishing copper paper joint venture. \$13 million. 2/87.

Great Hakka Inc. (US)/China Welfare Institute Established Shanghai Ouai Fast Printing Co. Ltd. commercial printing joint venture. \$270,000. (GH:60%-PRC:40%). 3/87.

Yukonsha Publishing Co. (Japan)/"China Village and Town Information" publication and China Computer Technical Service Corp. Established the China Information Center joint venture to encourage Japanese and foreign investment in China. \$2 million. (50-50). 4/87.

Shibuya Chikagai Co. Ltd. and Tokyo Maruichi Shoji Co. Ltd. (Japan)/Beijing Municipal Catering Service Corporation Established Beijing-Tokyo Photo and Graphic Art Co. Ltd. joint venture. Registered capital: \$1.1 million (¥4 million). (SC:44%-TMS:5%-PRC:51%). 5/87.

Philips NV (Netherlands)/Shenzhen Will establish Shenzhen Hi-Tech Laser Video Corporation Ltd. joint venture to manufacture videos and compact disks. Registered capital: \$40 million. 5/87.

Other

Radio-Television Organization (ERT-1) (Greece)/China Central Television (CCTV) Signed agreement to exchange television programs, films, and tapes pertaining to political, economic, scientific, and athletic topics. 5/87.

State Committee of USSR for Television and Radio Broadcasting (USSR)/Ministry of Radio, Film, and Television (PRC) Signed agreement for cooperation in areas of television and radio. 5/87.

Property Development and Property Management

Investments in China

Wing On (Holdings) Ltd. (HK)/Shanghai Industrial Investment Co. Ltd. Signed joint venture contract to construct Shanghai Wing On Center. \$100 million. 2/87.

NA (HK)/Xinjiang Bofeng Trade Co. Will jointly build Silk Road Hotel in Shanghai. \$10 million. (50-50). 3/87.

NA (Italy)/NA

Established the Shanghai International Television Exchange Company Ltd. joint venture that will build a hotel to be financed by Italy. \$55 million. 3/87.

Two Hong Kong companies/Shanghai Haigang Industrial Co. Ltd.	Will construct Shanghai Haigang Hotel. Registered capital: \$1.4 million. 3/87.	Philips Telecommunications & Data Systems, div. of Philips Hong Kong/public security bureau, Shenyang	Signed contract for one PABX system. 5/87.
Shanghai Industrial Investment Co. Ltd. (HK)/Shanghai Commercial Development Company	Signed contract to jointly build architectural complex in western Shanghai. Registered capital: \$100 million. 3/87.	Nokia Telecommunications (Finland)/Ministry of Railways	Received order for digital telecommunications network for Datong-Dashizhuang railway. 5/87.
Chah Sing Investments, subs. of Jurong Engineering (Singapore)/Beijing Jinglin Enterprise	Will jointly construct hotels in Hangzhou, Xi'an, and Guilin. Total investment: \$134 million. 4/87.	Kabmatik AB (Sweden)/CNTIC	Signed contract to supply production line for Tianjin No. 2 Cable Factory. \$2.7 million. 5/87.
Kosaido Development Co. Ltd. and Toko Bussan Co. Ltd. (Japan)/China Sports Service Company, Dongfeng Farm of Beijing Corporation of Agriculture and Industry	Established Chaoyang Golf Club 15-year joint venture in Beijing. Registered capital: \$3 million. 4/87.	Investments in China	
US Shelter International Inc. (US)/Lhasa travel service	Signed joint venture agreement to build hotel at Dekhong in the Maizhokungar County hot spring area. 4/87.	NA (Japan)	Signed 20-year contract to establish joint venture to produce optical fiber cables in Xi'an. \$14 million (¥2 billion). (50-50). 6/86.
A construction co. (Singapore)/China National Building Engineering Corp.	Will cooperate to build projects in China and Singapore, including the Xi'an Restaurant and garden of the Qindu Restaurant. Chinese investment: \$10 million. 5/87.	Wandel and Goltermann (FRG)/China National Posts and Telecommunications Appliance Corp.	Opened cooperative service center for imported communications measuring equipment in Beijing. 4/87.
Other		Ericsson L.M. Telephone Co. (Sweden)/Liaoning Provincial Posts and Telecommunications Bureau	Signed agreement to jointly establish training center for AXE-10 program-controlled telephone system. \$1.6 million. (50-50). 5/87.
A Libyan company/Guangzhou Yuexiu Park	Will cooperate in establishing an exhibition hall inside the park to display advanced foreign electricity and telecommunications hardware and software. \$5 million. 3/87.	Textiles and Textile Plants and Equipment	
		China's Imports	
		NA (France)/Heilongjiang	Began operation of imported linen production line in Shuangcheng County. 3/87.
Scientific Instruments		Mitsui Co. (Japan)/Yih Ju League Cashmere Knitwear Factory, Inner Mongolia	Signed compensation trade contract to set up a second production line, doubling cashmere output. 5/87.
Investments in China		Investments in China	
ACT Enterprises Co. (Singapore)/Tianjin Municipal Science & Technology Co.	Signed agreement establishing joint venture to provide consulting services to Chinese and foreign firms on science and technology market. 2/87.	A textile mill (HK)/Hangzhou	Signed contract establishing joint venture denim cloth plant. \$550,647 (HK4.3 million). 2/87.
Shipping		NA/China Drawnwork Export United Corp.	Signed contract to construct joint venture linen fabric factory in Shanghai. \$30 million. 3/87.
Investments in China		NA/China Drawnwork Export United Corp.	Signed agreement to construct joint venture textile factory to produce cotton-yarn fabrics. \$2.7 million (¥10 million). 3/87.
International Shipping Co. Ltd. (Czechoslovakia)/COSCO	Signed agreement establishing jointly run shipping company. 4/87.	Marubeni Co. (Japan), Nanyi Textile Co., and Guanglun Industrial Co. (HK)/Yuanhua Textile Co. and Nanjing Youyi Garment Co.	Will jointly establish Yuanhong Garment Co. Ltd. in Shenzhen. \$192,086 (HK1.5 million). (JPN:30%-HK:20%-YH:35%-NJ:15%). 3/87.
Telecommunications		Nanyi Textile Co. and Guanglun Industrial Co. (HK), Marubeni Co. and Urata Textile Co. (Japan)	Will jointly establish Nanquan Clothes-Making Co. Ltd. in Nanan, Fujian. \$192,086 (HK1.5 million). (NTC:50%-GI:15%-M:20%-UT:15%). 3/87.
China's Imports		Transportation and Transportation Equipment	
Taletera-Pirelli (Italy)/Fujian Administration of Posts and Telecommunications	Signed contract to import optical fiber equipment for first stage of Xiamen-Nanping telecommunications project. 7/86.	China's Imports	
Alcatel (France)/NA	Awarded contract to supply 72,000 line switches to Beijing. 11/86.	Motokov foreign trade enterprise (Czechoslovakia)/Engineering Machinery Import-Export Company	Signed agreement to increase cooperation in the production of trucks. 4/87.
Italtel (Italy)/NA	Awarded contract to produce telephone equipment in China. 11/86.	Daimler-Benz AG (FRG)/Nos. 1 and 2 Machinery Plants, Baotou City, Inner Mongolia	Will supply manufacturing technology and machinery for producing heavy-duty trucks. \$180 million (¥670 million). 5/87.
Nokia Telecommunications (Finland)/MOPI	Received order to supply Daqing Oil Field with communications network for both fixed and mobile subscribers. 3/87.	ASK Corp. (Japan)/Beijing City Building Materials Products General Factory	Received order for factory to manufacture beater sheets to seal automobile engines. 5/87.
NA (Canada)/Nanjing Radio Factory	Supplied production line to make satellite ground telecommunications stations. 3/87.	Investments in China	
Cable & Wireless Systems Ltd. (HK), subs. of Cable & Wireless Plc (UK)/Guangzhou Foreign Trade Corp.	Signed contract to supply, install, and service Dictaphone recorders to five power-generating organizations. \$128,057 (HK\$1 million). 4/87.	Orlando Helicopter Airways Inc. (US)/Guangzhou No. 3 Machine Tool Works	Established Guangzhou Orlando Helicopter Corporation Ltd. joint venture to assemble S-55 helicopters. 5/87.
Philips Telecommunications & Data Systems, div. of Philips Hong Kong/Beijing Institute of Information Technology Application	Signed contract for the sale of eight PABX systems for an integrated services digital network linking eight cities. 5/87.	Airborne Express (US)/China Courier Service	Signed agreement to establish China Courier Airborne Express joint venture to provide express services both in and outside of China. 5/87.
Philips Telecommunications & Data Systems, div. of Philips Hong Kong/Zhenhua Electronics Industry Corporation, Beijing	Signed contract for the sale of five PABX systems. 5/87.		

Hongkong Shanghai Industrial Investment Co. Ltd. (HK)/Shanghai Binhai Industrial Technology Service Company and Shanghai Huashen Cultural Service Company

Werkzeugmaschinen-Werkzeuge Company (GDR)/No. 4 Import Business Division of MACHIMPEX

NA (Brazil)/China National Foreign Trade Transportation Corporation and MINMETALS

Other

(Macau)/Zhuhai municipal government

A tourism development company, subs. of Japan Airlines (Japan)/CAAC

Boeing Aircraft Company (US)/MAI

Established Shanghai Xiangdao Machine Manufacturing Company Ltd. joint venture to produce parts for motor vehicles. \$362,698 (¥1.35 million). 3/87.

Signed contract to import 72 large and medium-size presses for use by motor manufacturers. 4/87.

Established L.A.-Asia Transportation Agency Ltd. joint venture to ship iron from Brazil. 5/87.

Discussing construction of international airport on Xiao Hengqin Island 5 km from Zhuhai and 2 km from Macau. \$53.7 million (¥200 million). (50-50). 2/87.

Signed agreement to build helicopter base for tourism in Ming Tombs area. 3/87.

Will help in wind tunnel tests on Yun-7 aircraft. 4/87.

Miscellaneous

Investments in China

Yidali Fire-Fighting Co. Ltd. (HK)/Shanghai branch of EQUIPEX and Shenda Technical Service Co.

Gakken Co. Ltd. and Tanaka Promotion Co. Ltd. (Japan)/China Film Co-production Corporation and E'mei Film Studio

Other

(Poland)

Republic of Serbia (Yugoslavia)/Heilongjiang Province

Mitsubishi Bank and Mitsubishi Corporation (Japan)/China Industry and Commerce Development Corp.

Schwabe, Williamson & Wyatt (US)/China Industry and Commerce Development Corp. (INCOMIC)

Coast Guard (US)/Bureau of Harbor Superintendency

Completed construction of jointly operated Shanghai Yili Fire-Fighting and Protecting Engineering Co. Ltd. \$200,000. 3/87.

Shooting Sino-Japanese coproduction film "The Story of the Pandas" in Sichuan. 5/87.

Signed trade protocol committing Poland to import Chinese rice, maize, tea, textiles, minerals, light industrial products, and handicrafts, and China to import Polish machinery, cars, steel, soda, and copper. 1/87.

Signed long-term cooperative economic and trade agreement calling for mutually balanced exchange of goods. 1/87.

Signed agreement to promote Japanese technology transfer and investment in China. 3/87.

Signed agreement to provide mutual legal counsel, as well as business and governmental services to Schwabe clients. 4/87.

Signed bilateral agreement on maritime search and rescue operations, including cooperation in equipment, communications, and technical matters. 5/87.

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