1. Introduction

The future of China's oil supply has figured prominently in the country's energy debate in recent years. Rapid modernization and industrial growth has meant that the People's Republic is in need of ever larger supplies of crude oil, refined oil products, and petrochemicals. Since the early 1990s China's domestic oil fields have not been able to fully meet this demand, and as a result refiners have had to import an ever larger share of their feedstock from foreign sources. The gap between domestic crude oil production and imports from abroad has widened continuously over the past two decades, and as of 2013 China imported 64 percent of its total needs for crude oil and refined products (BP, 2014). This internationalization in terms of expanding trade relations has been paralleled by a much-debated expansion of China's state-owned oil companies abroad, particularly in Africa, one purpose being to lower Chinese vulnerability to crises and turmoil on international fuel markets (Taylor, 2006).

But there was a time when things looked very different. Throughout the 1960s and 1970s, China's domestic oil production grew at a spectacular pace and the People's Republic surprised foreign analysts by rising to become the world's fifth largest oil producer. The People's Republic emerged as an oil exporter of regional importance in East and Southeast Asia, signing large contracts not only with two of its communist neighbors – North Korea and Vietnam – but also and above all with Japan, the Philippines, and Thailand, as well as smaller contracts with a whole range of other countries. Industry observers predicted that if the trend continued, China might emerge as a “new Saudi Arabia” – with far-reaching consequences not only for the country's export earnings and trade balance, but also for Beijing's ability to navigate the international political arena.

The article traces the evolution of this debate, focusing not only on the twists and turns that made the vision possible in the first place, but also on the machinations that ultimately made actors and analysts conclude that China's future would not be in exports, after all, but in massive imports of oil.
This gave rise to severe problems not only for the military, however, the country was abruptly cut off from the global oil markets early on. With the onset of the Sino-Japanese War, Dutch Shell and the (Swedish-Russian) Branobel Oil Production turn to imports from abroad. Western oil companies, such as Royal result, industrializing hotspots such as Shanghai were forced to major consumption centers tedious or simply impossible. As a distances and lack of transport infrastructure made distribution to regions was largely considered irrelevant, because the extreme geologists (Hu, 2013:2 ; Feng et al., 2013: 4). The Sino-Swedish conclusion that China had virtually no petroleum potential at all – much-cited American expedition, for example, arrived at the explore China's petroleum resources – with varying results. A however, foreign and Chinese geologists increasingly set out to understand and explain the most important twists and turns in the debate about China's rise and fall as an oil exporter.

2. The long road to Daqing

There was no industrial-scale production of oil in China before the collapse of the Qing Empire. During the 1910s and 1920s, however, foreign and Chinese geologists increasingly set out to explore China's petroleum resources – with varying results. A much-cited American expedition, for example, arrived at the conclusion that China had virtually no petroleum potential at all – much to the amusement of later generations of Chinese petroleum geologists (Hu, 2013: 2; Feng et al., 2013: 4). The Sino-Swedish expedition (1927–1935), which took an interest in Chinese oil sources in the context of a much large scientific effort, yielded more positive evaluations, concluding that several areas in Xinjiang and Gansu bore strong potential for petroleum discoveries (Hu, 2013: 37; Millward, 2007: 300). Through the 1930s the British, Japanese, Americans, and Germans all sent teams to survey Xinjiang's oil possibilities (Millward, 2007: 300).

Yet before 1937 the oil potential of the northwestern Chinese regions was largely considered irrelevant, because the extreme distances and lack of transport infrastructure made distribution to major consumption centers tedious or simply impossible. As a result, industrializing hotspots such as Shanghai were forced to turn to imports from abroad. Western oil companies, such as Royal Dutch Shell and the (Swedish-Russian) Branobel Oil Production Company, regarded Imperial China as one of their most important markets early on. With the onset of the Sino-Japanese War, however, the country was abruptly cut off from the global oil market. This gave rise to severe problems not only for the military, but also for industries and households. “A drop of oil is a drop of blood,” a saying went at the time (Hu, 2013: 37). In this new situation, interest in northwestern China's oil prospects increased, particularly with regard to the area around Yumen, a remote location in Gansu Province. By 1938, oil flowed from the first wells. Imported American equipment helped China's oil geologists to scale up production. By 1949, 7000 people were working at Yumen, which for some time produced about 90 percent of China's total (Hu, 2013: 37).

In the meantime Xinjiang's oil production increased as well. This oil, however, was more or less out of reach for the Chinese. This was because from 1933 to 1944, Xinjiang was ruled by Sheng Shicai, a warlord whose regime was at times virtually autonomous and at times plagued by Turkic-led separatist movements and Soviet influence. Russian technicians worked the oil fields at Dushanzi on and off through the 1940s (Millward, 2007: 300).

The founding of the People's Republic of China in October 1949 initially did not generate any radical break with the past in terms of China's oil supply efforts. Developments that were already under way in Xinjiang and neighboring Gansu continued to be at the focus, and earlier cooperation with the Soviet Union in Xinjiang was expanded to cover China as a whole. The most important change was organizational, as the central government in Beijing was eventually able to seize control over all oil production in the country, including Xinjiang's oil fields. By 1955 the government had launched a major oil search initiative and set up the new Ministry of Petroleum Industry.

In October 1955, Chinese geologists and Soviet experts struck oil at Karamay in Xinjiang's Junggar Basin (Hu, 2013: 56–57). The find, which turned out to be very large, stimulated further Sino-Soviet cooperation. This involved not only Soviet technical assistance and technology transfer to China, but in the course of the 1950s China also became a major importer of Soviet crude oil and refined oil products, brought in by the Trans-Siberian Railway (OGJ, December 11, 1961). The emerging Sino-Soviet ideological split in the early 1960s, however, made cooperation between the oil industries of the two countries impossible to sustain. Moscow opted to withdraw its geologists and technical experts who had been stationed in the country, and oil exports to China plummeted (OGJ, October 14, 1963). In the period that followed, China managed to acquire some technology and equipment from Western Europe instead, but the extent of these supplies was nowhere near enough to compensate for the loss of the Soviet Union's earlier support. Moreover, with the onset of the Cultural Revolution in 1966, cooperation with Western Europe declined to virtually nothing. Throughout the 1960s, China thus found itself dependent on domestic knowledge and technology to an overwhelming extent – or, as the government preferred to formulate it, the country retained independence from foreign supplies (e.g. OGJ, December 13, 1971).

For China's petroleum geologists, the new times were both a curse and a blessing. On the one hand, they regretted the loss of competence that their fellow Soviet geologists had brought with them. On the other, they were now freer to try out their own ideas and solutions. It was an exciting period of experimentation, of intense learning by doing, and of enthusiasm for building a science-based industry (Hu, 2013). Although sporadic Western visitors during this period were typically shocked by what they regarded as primitive equipment, outdated technologies, and a lack of concern for environmental protection, a new generation of university-trained Chinese petroleum geologists gradually gained experience, looking with great self-confidence to the future.

The single most important source of enthusiasm in the Chinese oil industry during these turbulent years was the spectacular discovery of a previously unknown giant oil field. Situated in the Songliao Plain in Heilongjiang province, it had been found in September 1959, on the eve of the Sino-Soviet split. Daqing, as it was baptized, was far larger than any other oil field known in the country at the time. But it was not only large; it also enjoyed a logistically favorable location. The terrain was flat, making it easy to move drilling rigs from one part of the field to another. A dense

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2 The extent to which Daqing's discovery was the result of Chinese or Soviet efforts has been subject to lively debate among Chinese historians. Some have argued that the field was actually discovered only after the departure of the Soviet experts, and that the latter thus did not play any decisive role. Official Chinese sources, however, date the field's discovery to 1959, i.e. just before the Sino-Soviet split.
network of railways, built by the Russians, the Japanese, and the Chinese over the past half century, facilitated transport of heavy equipment and of the oil itself, and most technical support functions were available from nearby industrial centers. Above all, Daqing was much closer to the main consumption centers than the faraway oil fields in the western regions.

Total Chinese oil production during these years was further boosted by the discovery of two additional oil fields that, just like Daqing, were favorably located from a logistical point of view: Shengli (“Victory”) near the mouth of the Yellow River, which started production in 1962, and Dagang, southeast of Tianjin, which went onstream in 1967 (OGJ, April 23, 1979). All in all, with the help of its new oil riches, China was not only able to compensate for the suspension of Soviet crude oil supplies, but also, starting in 1962, to export minor amounts to North Korea, Vietnam, Australia, and Italy (Woodard, 1980: 504).

3. Forging cooperation with Japan

In 1971 Chinese Premier Zhou Enlai declared that China’s oil industry would “move along the road of maintaining independence and keeping the initiative in our own hands and relying on our own efforts, as indicated by Chairman Mao” (OGJ, December 13, 1971). Yet the industry faced technological difficulties in several areas – the most pressing of which were in pipeline construction and petrochemical operations – and not everyone agreed that the country would be able to solve the relevant problems on its own. Cooperation with foreign countries was increasingly seen as direly needed. More precisely, the Chinese petroleum industry looked to Japan, East Asia’s most advanced country by far, for assistance. Large-scale industrial cooperation between China and Japan seemed to become feasible in earnest after the reestablishment of diplomatic relations between the two former enemies in 1972. The cooperation built on the principle of countertrade, which meant that if China was to import Japanese technology and expertise, it also needed to export something in return. Oil was identified as the only Chinese commodity that could balance the emerging Sino-Japanese trade in a proper way. Although at the time it was still uncertain whether China, in the face of growing domestic demand, would actually have any exportable surplus of petroleum, a vision formed around petroleum as a major Chinese export commodity.

The idea was intimately linked to more general military and foreign policy considerations. Beijing strongly disliked the close industrial cooperation with the Soviet Union that Japan had been building up since the mid-1960s. An essential part of this cooperation took the form of Soviet oil exports to Japan, whose government was eager to reduce the country’s dependence on Middle Eastern oil. The Chinese government feared the geopolitical consequences of such Soviet-Japanese ties. In particular, it feared the military implications of a proposed trans-Siberian oil pipeline, through which Japan would be able to import 500,000–800,000 b/d of West Siberian oil. The pipeline, which was planned to terminate at Nakhodka on the Soviet Union’s Pacific coast, would have paralleled the sensitive Sino-Soviet border and, as such, it was viewed in China as an object of military significance. In early 1973 Japanese Premier Kakuei Tanaka and Soviet leader Leonid Brezhnev exchanged letters sanctioning this project (Woodard, 1980: 59). The Chinese government protested vehemently through diplomatic channels. However, it also came up with the idea of challenging the project through economic means. More precisely, China offered Japan favorable access to Daqing crude as an alternative to the anticipated Soviet oil supplies. In September 1973 Beijing told a Japanese delegation that by 1980 the People’s Republic planned to produce 8 million b/d of crude oil, and that 10 percent of this volume might be reserved for exports to Japan.

Actual Chinese oil exports to Japan started on a modest scale in 1973, with some 60,000 b/d being sold on short three-month contracts to private Japanese interests such as Kokusai Oil and a consortium known as the Japan-China Oil Import Council (OGJ, February 10, 1975). In 1974 exports to Japan were scaled up to around 100,000 b/d. At about the same time, the Ministry of Petroleum and Chemical Industries started receiving large-diameter steel pipes from Japanese manufacturers. Anticipating rapid growth in foreign oil sales, the Ministry eagerly set out to make use of these pipes to construct an export infrastructure. Pipelines were built to two ports on the Bohai Gulf: Qinhuaodao and Dalian. The line to Qinhuaodao, which measured 1050 km, was opened in late 1974 (OGJ, January 6, 1975). At the port, Daqing crude was loaded directly onto oil tankers for shipment to Japan. An advantage of this system was that it could also be used for domestic distribution purposes. Thus large volumes of Daqing crude were brought by the “Japanese” pipeline-tanker route to domestic refineries in Shanghai, Nanjing, and elsewhere in oil-poor southern China. The Manchurian pipelines were later extended by 355 km to Beijing’s large petrochemical works for refining, and to the nearby Xilou railway depot, from where the company was shipped in railway cars to refineries in other parts of China (Woodard, 1980: 293). China also used Japanese pipes to build a 200-km pipeline from the large Shengli oil field in Shandong Province to the port of Huangdao. Like the lines to Qinhuaodao and Dalian, this pipeline was considered “critical to the development of the Sino-Japanese oil trade” (Woodard, 1980: 139). Another domestic pipeline of importance, stretching from Linyi in Shandong to the old Chinese capital city of Nanjing, was completed in 1978. Linking the oil fields of Shengli and Huabei to ports and refineries of the lower Yangtze region, it measured nearly 1000 km (OGJ, April 23, 1979). None of these pipelines would have come about without massive access to Japanese steel pipe.

Another crucial area where China forged cooperation with Japan was in the construction of refineries and petrochemical complexes. In this case, a range of Western countries emerged as additional technology suppliers, competing with the Japanese for Chinese contracts. Starting in the mid-1970s China attracted worldwide attention for the extent to and enthusiasm with which its oil industry searched the world market for various types of petrochemical machinery and equipment. Synthetic fiber plants formed one point of emphasis in this context, since “synthetic textiles could relieve the pressure on the cotton industry and boost China’s textile export capacity.” Large-scale ammonia and urea plants, of crucial importance for boosting agricultural productivity, were also high on the shopping list (Woodard, 1980: 126).

The first major item of economic and technological cooperation agreed upon between China and Japan after normalization of their political relations was a section of Beijing’s emerging petrochemical complex. Agreed upon early in 1973, the facility was built by the three French firms, Technip and Speichim, which would provide “all engineering services, equipment supply, and technical assistance” for a new petrochemical complex at Liaoyang. A large number of French engineers and technicians were sent to work in China and 300 Chinese to Europe for training (OGJ, November 5, 1972). As of 1980, 40,000 Chinese and 130 French were reportedly working at the construction site. The Oil & Gas Journal reported that “ex-carts work side by side with modern equipment” (OGJ, January 2, 1980). An even larger complex started to be built 43 miles to the southwest of Shanghai, the first major component being a big...
ethylenic plant built by Mitsubishi (OGJ, May 30, 1977). By June 1979 the Shanghai facilities had gone into full operation, thereby overtaking Beijing as China’s largest petrochemical site (OGJ, September 3, 1979). In the field of agricultural petrochemicals, the 1970s saw the rise of about a dozen world scale ammonia/urea complexes in China, most of which were built by US, French, and Japanese contractors. As of 1980, Western observers found China’s petrochemical production to be expanding “impressively.” A major petrochemical role was predicted for China, possibly even generating an “exportable surplus of petrochemical products by the late 1980s” (OGJ, January 2, 1980).

4. China as an oil superpower

A strike of luck for China was that it entered the global oil market as an exporter in immediate conjunction with the Arab oil embargo and the first oil price shock. Since China received nearly all its oil from domestic sources, it was not at all as vulnerable to global industry turmoil as many other countries. As a matter of fact, the oil crises of the 1970s were largely perceived as favorable events. The radical price increases meant that the country was able to negotiate better conditions with Japan and other foreign customers than would have been possible just a few years earlier. While in 1973 Japan still paid $4.59/bbl to China, a year later the price had tripled to $14.80/bbl (OGJ, January 6, 1975). Oil exports thus became much more profitable than initially envisioned, and the revenues could be used to purchase a much larger volume of steel pipe and equipment. This in turn enabled the Ministry of Petroleum Industry to accelerate domestic investments in the oil industry. Some Chinese actors started to believe that such investments would make it possible to further scale up production and offer ever larger volumes to foreign customers. But oil earnings would benefit not only the oil industry itself. Increasingly, they were seen to be of immense importance in countering China’s foreign trade deficit more generally (e.g. OGJ, October 2, 1978).

With a brand new export infrastructure taking shape, China found it but natural to try out further export possibilities. Contracts were soon signed with Thailand and the Philippines, and deliveries to China’s communist neighbors, North Korea and Vietnam, with which China had already traded some oil in the 1960s, were revived. The North Korean exports even included construction of a pipeline that branched off from the existing Daqing system and continued across the border. Apart from crude oil, some volumes of refined products started to be exported, especially to Vietnam and Hong Kong. A further agreement was concluded with Romania, in which case Chinese crude was exchanged for agricultural fertilizers (OGJ, July 5, 1976). A number of other countries also initiated talks with the Chinese government (Fig. 1).

But the industry also faced problems. One had to do with disagreements between China and its foreign customers about export prices in the turbulent post-1973 oil era. Another was related to political turmoil in China following the deaths of Mao Zedong and Zhou Enlai in 1976. In the internal power struggle that followed, China’s oil exports were a controversial item. For reasons which were not all that clear to the customer countries, overall exports declined markedly. In 1977, however, following the purging of the “Gang of Four” and subsequent political stabilization in the country, total Chinese crude oil exports recovered, climbing to 225,500 b/d and then to 285,400 b/d in 1978 and 325,000 b/d in 1979 (OGJ, October 2, 1978; OGJ, October 6, 1980).

In what followed, petroleum took center stage in China’s revised modernization strategy. In spring 1977 Communist Party Chairman Hua Guofeng announced that a “crash program” would be undertaken to develop “ten more oilfields as big as Daqing.” The ambitious aim was to fuel an economic revival that would make China “a major industrial power by 2000” (OGJ, July 18, 1977). Hua repeated the message a year later, now adding that foreign technology would be badly needed to modernize the country and that oil would be an important source to pay for it (OGJ, September 4, 1978). Intimately linked to the broader framework of a Sino-Japanese peace and friendship agreement – which, at last, formally put an end to war between the two countries – a five year Chinese-Japanese agreement was signed for the period 1978–1982, foreseeing exports of 348 million bbl of oil, along with some coal (OGJ, October 2, 1978). At the same time China successfully diversified its exports, and by 1979 the share of exports that went to Japan fell below 50 percent (OGJ, October 6, 1980).

In the West, these new trends sparked a debate in which analysts pointed to the possibility that China might be on a path to becoming a major world oil power, especially after Beijing expressed a willingness to expand crude exports to Japan to 1 million or perhaps even 2 million b/d – an enormous volume if seen in relation to the fact that China’s total oil production in 1974 was still only 1.3 million b/d. Western analysts started intensely debating the issue as to whether or not China really had the oil production potential to become a major force on the world market. Some observers were highly optimistic. In January 1975, for example, the China Quarterly predicted that Chinese oil production would grow at a rate of no less than 30 percent per year through 1982. An even more optimistic – and extensively quoted – study, published in 1977, concluded that China had “a better than 50–50 chance” of reaching a production level of 8 million b/d by 1980 (OGJ, October 6, 1980). Arthur A. Meyerhoff, a leading American petroleum geologist, was not quite as optimistic, but still believed that by 1985 China would produce a respectable 6.6 million b/d. China’s own goal for the same year was 7 million b/d (OGJ, September 4, 1978). Beijing also claimed, in mid-1976, that China had “oil reserves equal to Saudi Arabia’s,” or about 150 billion bbl. If these reserves could actually be mobilized and the production goals materialized, China would clearly have the potential to become a global player. Western observers also speculated that to the extent that scarcity was an issue, China might choose to save as much oil as possible for exports, while reserving coal and gas for local use (OGJ, August 11, 1975).

Others were much more skeptical. The US Central Intelligence Agency (CIA), for example, did not believe that China could possibly become “a new Saudi Arabia.” In a research report issued in January 1976, the agency estimated that China’s total oil production would grow at a rate of 15 percent – rather than 30 percent – per year during the second half of the 1970s, reaching 2.6 million b/d by 1980. Thereafter production was expected to grow at up to 10 percent per year, reaching up to 4.2 million b/d by
1985. However, even these figures were seen as very optimistic, and it was believed that they might end up far lower. Moreover, the exportable surplus was expected to be reduced in any case as a result of growing domestic demand as the country sought to accelerate industrialization. The CIA concluded that 1 million b/d of exports would be possible only if the most optimistic expectations came true. But even in that unlikely case, China would not become a major power on the world market, since its total exports in 1985 would amount to only one-tenth of OPEC's 1974 exports (which, for their part, were likely grown by 1985). The CIA believed that China was deliberately exaggerating its oil export potential in an attempt "to counter Soviet attempts to involve Japan in the development of Siberian energy resources" (OGJ, January 19, 1976).

In another study, published a year later, the CIA noted that for some time Chinese oil production had grown at the rate of 20 percent or more annually. This, however, had been possible only because oil from Daqing and elsewhere had been exceptionally easy to extract and Beijing had "force fed the country's oil industry with funds and technical manpower." The agency believed that the reserves in the north and northeast of China would be exhausted in ten years if production continued to increase by 20 percent per annum (OGJ, July 18, 1977).

To maintain a rapid rate of growth in production and exports, the Chinese Ministry of Petroleum and Chemical Industries understood that it could not let just a few large fields – notably Daqing and Shengli – do the whole job. Increasingly, it focused its attention on two other seemingly promising petroleum regions: the remote Western regions – including the large basins in Qinghai and Xinjiang – and, in particular, the country's potential offshore petroleum riches.

The enthusiasm for offshore oil was directly linked to the ease with which oil from offshore fields could be exported. Chinese oil explorers had already taken an interest in the possibility of offshore oil back in the early 1950s, at which time the waters off Hainan Island had been their focus. Oil seepages led the first prospecting teams to study this area in 1963. A few shallow wells were drilled, which did produce oil (OGJ, November 3, 1980). Yet it proved difficult to move ahead without Soviet help and following the country's growing international isolation after 1966. Only with the new possibilities for foreign cooperation that unfolded in the 1970s did offshore activities gain momentum. In the South China Sea, China concluded geophysical agreements with 46 foreign companies from the US, UK, France, Italy, Japan, Australia, and elsewhere. Between 1976 and 1979, test drilling found oil in several deep wells. Euphoria spread quickly. Zeng Dingqian, chief geological engineer at China Petroleum Corp.'s (CPC) South China Sea branch, in November 1980 expressed his confidence that "the South China Sea holds one of the world's four largest hydrocarbon concentrations" (OGJ, November 3, 1980). After "excellent test results" were reported from the Bohai Gulf as well, the Oil & Gas Journal's Executive Editor Robert J. Enright thought that the intense activities in Chinese waters "may generate the biggest offshore flurry since the North Sea" (OGJ, December 13, 1982). Such bold speculations brought new fuel to the discussion about China's future export prospects, and they challenged the more pessimistic estimates of observers like the CIA concerning China's long-term oil production potential. Still, the development was at a very early stage and no large offshore fields had yet been found.

5. China's petroleum crisis

China's attempts to sustain and further expand its role as a major oil exporter met with difficulties on two domestic fronts: the supply side and the demand side. From 1979, the two fronts combined to generate a serious Chinese oil crisis in which not only exports, but also domestic needs were at stake. The crisis was partly related to disappointing exploration results and field depletion fears, and partly to rapidly growing domestic consumption. It was not related in any obvious way to the worldwide "second oil crisis," although it started at almost precisely the same time.

Taking place in parallel with Deng Xiaoping's "Beijing Spring" initiative, which encouraged diverse and critical voices in Chinese society and media, the internal Chinese debate about the challenges and problems ahead with regard to oil became an unusually open one. In late March 1979, the official weekly Beijing Review pointed to energy as one of the weakest links in Chinese industrial development (OGJ, April 23, 1979). Vice Chairman Kang Shien self-critically stated that "we are consuming too much petroleum and not conserving our natural resources in a rational way" (OGJ, December 31, 1979). Xu Jie, a leading adviser to the Ministry of Geology, admitted that China's present oil exploration methods were "backward" (OGJ, March 30, 1981). Daqing, Shengli, Dagang, and other large oilfields were now seen to have been overexploited, in a way that might cause premature depletion. After a "shakeup" of the Ministry of Petroleum and Chemical Industries, the new leadership's first response was to deliberately reduce output, so as to "readjust the ratio between extraction and reserves," as official sources put it (OGJ, October 6, 1980). From 1980 to 1983, total Chinese oil production was kept at a level below that of 1979 – a radical change if seen in relation to the enormous production gains of the 1970s (OGJ, March 23, 1981).

Already in 1979 this "adjustment" was seen to result in tight supplies of fuel. This, in turn, sharply restricted China's industrial growth (OGJ, September 3, 1979). The problems worsened during 1980. Growing oil shortages forced the government to impose strict quotas. Big industrial projects had to be canceled or delayed. Vice Premier Yu Quli, commenting on the situation, openly spoke about "poor management and backward technology," also noticing that "there is considerable waste. To change this, technical renovation and restructuring of the economy, centering around conservation of energy resources, should be carried out" (OGJ, October 6, 1980). There were also attempts to free more oil resources by substituting coal for oil in industry. The government announced that "power generating facilities using oil must be converted, step by step, to burning coal" (OGJ, September 3, 1979; OGJ, January 12, 1981). One reason was that China needed to make sure it had sufficient oil available to meet its export obligations in accordance with contracts already signed. As the State Council put it, China should save "petroleum for processing domestically or for export, and use the revenues thus derived to build our energy industry and transportation" (OGJ, January 18, 1982). Oil exports thus played an influential role in restructuring the Chinese energy system as a whole.

China's offshore oil faced its own crisis. On November 25, 1979, the Bohai Gulf was shaken by a dramatic rig accident when the "Bohai 2" jackup sank. In the new, more open political climate, the disaster led to a storm of recriminations against officials involved in the "scandal." The People's Daily, China's most influential daily, wrote that the rig's sinking was not an isolated event. In fact, no fewer than 1043 larger and smaller offshore accidents had occurred in the period 1975–79, in which 105 persons had died and 114 had been seriously injured (OGJ, October 6, 1980). The accusations also widened to include massive criticism of Daqing, the jewel among China's onshore oilfields. A few years earlier, The "adjustment" meant that pipelines and port facilities had to operate at less than capacity for some time, and Japan was asked to stop work on construction of petrochemical plants in Beijing, Nanjing, and Shengli. About $1.5 billion of contracts with Japanese firms were canceled in early 1981. Other Western companies, such as Germany's Lurgi, faced similar cancelations.
Daqing had been described in official Chinese sources as “a showpiece of Chinese industrial development,” because it “serves as a model for Chinese self-reliance and a source of petroleum know-how for the rest of the country.” Now the responsible managers, engineers, and scientists at Daqing were accused of being politically deviationist, unscientific, and inefficient (OGJ, October 6, 1980).

Some analysts believed that China’s offshore resources were even larger than its onshore oil riches. Yet the actual progress of exploration during the 1980s was not at all as rapid as actors had hoped or anticipated. In 1984 drilling started in the strategic Pearl River basin south of Hong Kong, but of the 11 “wildcats” drilled during the first half of the year, most were dry holes. The disappointment raised fears that China’s offshore campaign would fail (OGJ, August 27, 1984). By early 1987 China had drilled more than 120 offshore wells, but had still failed to find any giant oil field (OGJ, March 16, 1987). The production from offshore oilfields increased, but from a very low level and much more slowly than anticipated. As of 1987 offshore oil still accounted for only 1 percent of total Chinese crude production (OGJ, March 2, 1987).4

From around 1980 foreign analysts increasingly began to discuss the possibility that China, in the face of growing domestic demand and failure to find new large oil fields, in a near future would have to cancel its oil exports altogether. The Oil and Gas Journal, in an October 1980 article, expressed its belief that “if present conditions continue, China is likely to be only a token seller of crude and products on the world market by 1982–83. Possible revival of significant oil exports during the late 1980s appears to depend on how fast Beijing – with large-scale foreign assistance – can develop offshore resources.” The recent stagnation of oil production was seen to have “squelched the fanciful but widely publicized speculation in the mid-1970s that China was on the threshold of a petroleum boom that would make her the Saudi Arabia of the Far East by 1980” (OGJ, October 6, 1980). Petro-Canada’s John Foster argued that there was now “a consensus that most production in the 1980s will be absorbed by the burgeoning domestic market, leaving a relatively small share for export.” Morgan Guaranty Trust similarly concluded that “hopes for rapid increases in foreign exchange earnings from petroleum exports are no longer considered realistic.” It was believed that “China won’t be able to fulfill its commitment to sell Japan 172,000 b/d of oil in 1980 and 191,000 b/d in 1981,” and that “Chinese oil commitments to Japan probably won’t be met during later years as well. But Beijing may continue some oil deliveries to Japan and to a few smaller customers for political and face-saving reasons” (OGJ, October 6, 1980).5

Soon afterward, the Chinese indeed told Japan that it could deliver only 166,000 b/d in 1981 and 1982, instead of the 190,000 and 300,000 b/d originally promised (OGJ, January 12, 1981). A study by a Japanese researcher published in the Organization of Arab Petroleum Exporting Countries Bulletin at about the same time even indicated that China would become a net oil importer from 1984 (OGJ, October 6, 1980). A year later the World Bank arrived at a similar conclusion, saying that China might have to import crude “by 1985” (OGJ, November 9, 1981). Such predictions would have been virtually unbelievable just a few years earlier. Most commentators, including the World Bank and CIA, believed that China would not reach its 1990 oil production target of 3 million b/d. Yet State Council Premier Zhao Ziyang, in a 1982 report to the Fifth National Chinese People’s Congress, dismissed these Western speculations, declaring that China, recent production declines notwithstanding, would “definitely” not become a net oil importer. Zhao admitted that “the energy industry and transportation are the weak links in the chain of our economic development” and that “China’s waste of energy is shocking.” He added, however, that “this indicates a remarkable potential for energy saving” (OGJ, January 18, 1982). Xu Jie at the Ministry of Geology explained that “lack of technical knowledge and funds made it necessary to revise the target, announced in 1978, to develop 10 Daqings by the end of the century.” But he added that the goal could ultimately still be achieved, because China had hundreds of large and small sedimentary basins, only one-fifth of which had been explored so far (OGJ, March 30, 1981).

6. From exports to imports

As illustrated by the above quotes, Chinese political leaders and oil experts were well aware of the oil industry’s looming problems. In 1980, intense efforts were launched to solve these. By late 1981, the government reported that it had “decided to take necessary measures” to come to grips with the problematic situation. A main strategy in this context was to expand foreign cooperation. Premier Zhao argued that “we must abandon once and for all the idea of relying solely on ourselves, which is characteristic of our national economy” (OGJ, January 18, 1982). In the following period technology imports increased markedly. Earlier the main emphasis, as far as cooperation with foreign companies was concerned, had been on pipeline construction, petrochemical complexes, and the offshore sector. This cooperation now widened to include the very core of the Chinese oil industry: onshore exploration and production. Foreign companies were invited to “provide services such as surveying, reservoir engineering, directional drilling, well logging, worker training, and laboratory consulting” (OGJ, October 7, 1985). From 1982 Daqing started using foreign submersible pumps, which because of their higher volume were reported to be much more effective than Chinese pumps, while also helping overcome the slack in the supply of water to Daqing (OGJ, December 30, 1985; OGJ, February 15, 1988).6 Between 1981 and 1985 Daqing imported $1 billion of foreign equipment (OGJ, December 30, 1985). Moreover, under a program approved in late 1984, new techniques were introduced for tapping “thin zones.” Such zones had previously not been included when calculating proved reserves, because China had not had the technology to develop them (OGJ, February 15, 1988). Shengli underwent a similar modernization. Among other things, imported drilling rigs from the United States were substituted for older, domestically manufactured ones based on Soviet technology (OGJ, December 30, 1985). In the early 1980s some experts had thought Shengli might be heading toward early depletion, but access to new technology changed the picture. By 1987, 22 new reservoirs in the Shengli area “once considered barren of petroleum resources” had been discovered, Xinhua reported. As a result, the field’s managers were able to sustain a gradual increase in annual production (OGJ, January 12, 1987).

The new drive to improve exploration and production thus appears to have yielded success. Oil production from the fields in the east and the northeast began growing again. In parallel, and contrary to Western predictions, Chinese oil exports resumed their previous growth. By 1983 China’s total exports of crude and products reached 405,000 b/d, and they continued to grow to 565,000 b/d in 1984 and 733,000 b/d in 1985 (OGJ, August 22,
The growth in 1984 was particularly noteworthy: out of a total crude production increase of 170,000 b/d, no less than 130,000 b/d went to foreign customers (OGJ, October 7, 1985). Total 1985 crude exports amounted to a sizeable share – 24 percent – of China’s total oil production, having more than doubled in absolute terms to 600,000 b/d, up from 265,000 b/d in 1980 (OGJ, April 3, 1989). That same year, China surpassed Indonesia as Asia’s largest oil exporter (OGJ, January 4, 1988). Crude oil aside, China exported refined petroleum products (such as gasoline) and petrochemicals to no fewer than 60 countries (OGJ, July 18, 1988). Even the United States started importing Chinese gasoline, starting at a modest rate of 2900 b/d in 1980 but growing to 21,300 b/d in 1983. At the time, gasoline constituted “China’s largest single export to the US” (OGJ, July 2, 1984) (Fig. 2).

Then came the 1986 oil price collapse. Essentially resulting from the OPEC’s decision to flood the world market with cheap oil – precisely to counter the rise of new oil exporters like China on the world oil scene, it was a disaster for Chinese export earnings. The price collapse more than halved the country’s oil export revenues from $6.7 billion in 1985 to $3.1 billion in 1986 (OGJ, January 4, 1988). In 1985 oil had accounted for no less than 25 percent of China’s total export earnings. By 1988, this figure had dropped to 7.5 percent (OGJ, November 27, 1989). Another problem was that the depressed market made foreign investors lose their interest in China (OGJ, March 16, 1987). Foreign investment in offshore China exploration, for example, fell from $500 million/year in 1984/85 to $250 million in 1986. A second round of offshore bidding yielded contracts worth only 20 percent of the corresponding first round exploration commitments (OGJ, March 16, 1987). As for onshore foreign participation, the price collapse was seen to hurt investment in China’s geologically promising northwestern regions, where the costs of seismic operations were particularly high (OGJ, March 16, 1987).

As for exports, the future prospects for China looked dim in any case. Domestic demand continued to grow at a fast pace, rapidly narrowing the gap between total domestic production and consumption. By 1987, rapid economic growth was seen to have “strained the country’s energy system to the maximum” (OGJ, October 26, 1987). Even though China made good progress in expanding oil production, achieving growth rates of around 3 percent per annum throughout the years around 1990, there seemed to be no way for the country to sustain its industrial expansion without increasing its thirst for oil at a much higher pace than that. Realistic growth estimates were seen to be 6–8 percent per year for the consumption of refined products, and 8–12 percent per year for light and middle distillates. Yet as late as in 1988, leading Western analysts like Kim Woodard did “not expect China to become a net oil importer within the next 10 years” (OGJ, January 4, 1988). Other “informed foreign observers” believed exports would “steadily decline to 250,000 b/d or less by 2000,” whereas exports of products would be quickly phased out due to domestic demand (OGJ, August 22, 1988). China was expected to increase its domestic oil production to 4 million b/d by 2000, but by then demand would also have grown to about the same level. Hence there would be “no surplus for exports unless a change in Beijing’s demand growth rate to maintain a significant export market,” as John H. Lichtblau, a prominent American analyst, put it (OGJ, August 22, 1988).

For some time still, China continued to be – and behave as – a net oil exporter. Among other things, as long as the country remained a net exporter it continued to share with the OPEC an interest in assuring that oil prices remained at a reasonably high level. While not a formal member of OPEC, China in 1986 “twice announced oil export cuts in coordination with OPEC.” Zheng Dunxun, president of China National Chemical Import and Export Corporation (Sinochem), in a late 1988 statement expressed his company’s support to OPEC’s recent agreement regarding pricing and production, which aimed to reduce global oil output to 18.5 million b/d and return prices to $18/bbl (OGJ, December 19, 1988).

As of 1989 China still exported 436,000 b/d or about 15 percent of its total crude oil production. The government’s determination to keep on exporting, however, became increasingly controversial in the domestic scene. This was because the export earnings, due to the depressed oil price, were so low and also because domestic industry faced fuel shortages. China International Consulting Engineering Corporation (Cicec) recommended that China refrain from exporting oil as long as prices remained so low. “Then, when prices recover, China will have a strategic volume of reserves for export,” the agency argued (OGJ, September 18, 1989). Meanwhile, complaints started arriving from industrial actors who could not understand why the country kept on exporting oil in spite of looming domestic shortages. Zhejiang Province officials, for example, stated that they needed another 20,000 b/d of crude for “normal economic development,” while neighboring Fujian complained that it had been allocated only half of the oil it required in 1989. Jiangsu, for its part, faced “a shortage of 60 percent of the oil it needed during first half of 1989,” China Daily reported (OGJ, September 18, 1989).

In the end, the country’s official production target of 3 million b/d for 1990 could not be met. Not only was there a lack of new discoveries, but already existing oil fields were – once again – criticized for being mismanaged. In 1989 Premier Li Peng told the National People’s Congress that the country would have to do its utmost to improve the situation, stressing the need to “tackle old oil fields the way we storm highly fortified positions to ensure a steady increase in crude oil output” (OGJ, June 12, 1989). Increasingly, however, most actors had no choice but to accept that the struggle for continued oil independence and oil exports was a war that could not be won.

The saga of China as a net oil exporter eventually came to an end in the early 1990s. This happened despite the fact that the country did manage to modernize its petroleum industry and boost production. It also found more oil on its continental shelf, starting with the discovery of the giant Suizhong 36–1 oilfield in Bohai Gulf in late 1987. This find, which analysts thought might be “one of the world’s ten largest offshore deposits,” was seen to “change the view of China’s offshore as largely disappointing to date” (OGJ, October 5, 1987). By 1989, however, analysts like Wu Kang of the
Hawaii-based East-West Center had concluded that “the old dream of striking it rich off China is over, and the rush of foreign investment may never come again” (OGJ, March 20, 1989). By 1988, reduced export volumes and lower prices had already “caused oil to lose its status as China’s top foreign exchange earner to textiles” (OGJ, December 19, 1988).

It would take a few more years before China statistically became a net oil importer. Yet as early as 1986 long trains loaded with Western Siberian crude oil started rolling in from the Soviet Union, just as they had in the 1950s (OGJ, April 3, 1989). China also started importing oil from the Middle East (OGJ, November 27, 1989). Exports of crude oil and refined products to Japan and a few other countries continued through the 1990s, but from 1993 China was no longer a net oil exporter. Its oil imports had grown larger than its oil exports, and a new phase in the country’s oil history began.

7. Conclusion

With hindsight, it may seem to us that those who believed in the 1970s that China might become a major power on the global oil scene – a Saudi Arabia of the Far East – were overly naive. Today it is obvious to all that the country’s domestic petroleum reserves are not large enough to satisfy the People’s Republic’s oil needs. Since 1993, when China statistically became a net oil importer, China’s import dependence has skyrocketed and it is likely to continue growing for the foreseeable future.

Yet as of the 1970s it was by no means obvious that this was how the future was going to look like. On the one hand, China’s petroleum geology was much less well known than it is today. Only a small part of the country’s territory – onshore and offshore – had been subjected to serious prospecting and exploration. Western petroleum experts visiting the country in the 1970s and 1980s were often reminded by their Chinese hosts of how an American expedition in the 1920s – self-confidently but erroneously – had concluded that China’s oil resources were virtually non-existent. In the new era the Westerners made the opposite mistake by seriously overestimating the country’s resources, especially offshore. It is not improbable that such overestimates partly had to do with China’s own interest in exaggerating its petroleum potential, since estimates of this kind were directly related to the willingness of Western actors to invest in the Chinese oil industry. An exaggerated export potential probably also served the Chinese well as a political tool in their attempts to disturb Japan’s cooperation with the Soviet Union. Yet the actors involved – Chinese and Western – also faced genuine uncertainty about recoverable resources.

Apart from geological uncertainty, there was uncertainty about the extent to which rapid technological change might turn unrecoverable resources into recoverable ones. Clearly, the dream of China as a new Saudi Arabia would have been crushed much earlier had the Chinese oil industry not started deploying modern Western technology with the enthusiasm it did. It was failure to predict China’s ability to adopt Western technology that led some analysts to predict that the People’s Republic would become a net importer of oil as soon as the early 1980s. New technology and new scientific methods allowed China to increase its oil production in an impressive way, and the country today remains one of the world’s largest oil producers in absolute terms – and one of the few whose production has not yet peaked. As a matter of fact, as of 2013 China ranked higher – as number four after Saudi Arabia, the United States, and Russia – in the list of the world’s largest oil producers than it did in the 1970s and 1980s. From this perspective, even though China no longer exports crude oil to any significant extent, the Chinese oil industry can be regarded as a remarkable success story.

On the other hand, as of the 1970s it was not possible to know that Beijing’s dream of turning China into a global economic powerhouse by 2000 would come true. Since 1949, the country’s economic development had met with major obstacles, and when Chairman Mao died in 1976 the future looked extremely uncertain. A decade earlier many Western observers had prophesized that the Cultural Revolution would stimulate rapid economic growth, but in the end this did not happen. Only in the 1980s did China embark in earnest on a path to long-term industrial growth and modernization. Annual GDP growth rates of up to 10 percent or even more made it impossible for the oil industry to keep pace. Some Western analysts underestimated China’s industrial development, which led them to predict that the country would remain a net exporter of oil well beyond 1993. But actual economic change was so rapid that even if oil production had grown twice as fast as it actually did, the exportable surplus would quickly have dwindled, forcing the country to start importing oil. From this perspective, the vision of China as “a new Saudi Arabia” fell victim to the country’s own economic miracle, in which every drop of oil, while no longer equivalent to a drop of blood, was needed to fuel China’s modernization.

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