Private sector participation in the Shanghai water sector

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Abstract

This paper explores the extent to which private sector participation has had an impact on Shanghai’s water policy since the late 1990s. This study focuses on the private sphere where private companies in the Shanghai water sector have adapted to new changes in political and economic circumstances. Recent findings based on fieldwork and data from 2000 to 2004 disclose that the Shanghai government has been committed to implementing reforms for private sector participation in the water sector. In response, private companies have actively participated in the process of privatisation. Such private sector participation, however, is unlikely to continue on a smooth path unless the Shanghai government establishes adequate legal and regulatory frameworks for private companies. The study concludes that privatisation in the Shanghai water sector will be an unavoidable process for the rationalisation of water services stimulated by the programme of economic reforms initiated in the late 1970s. But this process has been and will continue to be, balanced first by the government’s role in regulating privatised water services, second by the contribution of private companies in service provision and third by the continuous interaction between the government and private companies to achieve provision of high quality water in Shanghai.

Keywords: Economic reforms; Legal and regulatory frameworks; Private sector participation; Shanghai; Water policy

1. Introduction

The main purpose of this paper is to analyse the extent to which private sector participation has exerted an influence on Shanghai’s water policy since the late 1990s. This study focuses on the private sphere where private companies in the Shanghai water sector have adapted to new changes resulting from political and economic circumstances. Recent observation and findings based on fieldwork and data from 2000–04 disclose that the Shanghai government has been committed to implementing reforms...
for water privatisation in the water sector, including the introduction of private investment. In response, private companies have taken an active part in the process of privatisation.

In examining the trend of private sector involvement in the Shanghai water sector, it was found that Trans National Corporations (TNCs), were spearheading private sector participation, although some Chinese companies had won a few water contracts. Such private sector participation, however, is unlikely to continue on a smooth path unless the Shanghai government establishes legal and regulatory frameworks for private sector involvement. This study concludes that privatisation in the Shanghai water sector will be an unavoidable process for the rationalisation of water services stimulated by the programme of economic reforms initiated in the late 1970s. However, this process has been and will continue to be balanced and bolstered first by the government’s role in regulating privatised water services, second by the contribution of private companies in service provision and third by the continuous interaction between the government and private companies to achieve provision of high quality water.

A general review of the private sector participation in the China water sector will be introduced in the first section of this paper. The second section discusses the overview of private sector participation focusing on foreign and Chinese companies’ activities in China. In the third section, private companies’ activities in Shanghai between the mid-1990s and 2004 will be discussed, paying particular attention to water projects already contracted. The fourth section analyses the implications of private sector participation in the Shanghai water sector, including the water sector reform in Shanghai and challenges to water privatisation. Understanding the current stage of private sector participation in Shanghai leads to the discussion of a possible development path based on previous lessons and challenges.

2. Overview of private sector participation

2.1. Water market at the national level

The urgent need for private sector participation in the China water sector has been discussed in numerous news articles and research reports inside and outside China. The Chinese Academy of Science predicts that freshwater consumption for domestic and industrial uses in China will be expected to rise by 60% for 50 years, up to 800 billion m$^3$/y (cubic metres per year) and the current water supply capacity should be increased by 25% by 2010 (Business China, 2002). In addition to such huge potential for investment in the water supply sector, the sewage treatment sector has been recognised by companies as a business field with great potential. The Chinese government has poured large investments into sewage treatment, culminating in the investment of approximately US$ 25 billion in the sewage treatment sector during the Ninth Five Year Plan (1996–2000) (Horton, 2000). China’s winning of the 2008 Olympic Games has also driven the central government to push forward its sewage treatment schemes and therefore, the Ministry of Construction has drawn up a blueprint for all cities in China to establish sewage treatment facilities that can deal with 45% of sewage by 2005 and 60% by 2010 (Xinhua Net, 2002c).

2.1.1. Major water TNCs. Aware of these business opportunities, water TNCs, such as Suez, Veolia, Bouygues (SAUR), Thames Water and Anglian Water have scrambled to join the Chinese water market since the 1980s; however, their active participation began to take place in the 1990s. Equipped with
international experience and advanced know how and technologies, these water TNCs have surpassed their Chinese counterparts which do not have competitive cutting-edge technologies and advanced management skills. Through a series of international conferences and workshops, the water TNCs in China have researched the water sector and have decided to concentrate on the water supply and sewage treatment sector (China Water Conservancy News, 2002b).

Among these water TNCs in China, the Suez Group is the leading water TNC in terms of the number of water contracts won and the population the group serves. In China, Ondeo Degremont, an engineering subsidiary of the Suez Group entered the market in 1975 and has so far commissioned more than 100 water and sewage treatment construction contracts. This business record implies that the Suez Group takes responsibility for about 10% of China’s water and sewage treatment facilities. The unique stance of the Suez Group in the China water sector can be found in its cautious strategy to do business in China in collaboration with the New World Development Co. Ltd based in Hong Kong (Owen, 2002, 2003). With the strategy of entering the Chinese market with a guide (New World Development), the Suez Group has set up 18 joint ventures in many parts of China and providing water services to around 13 million customers in China (Owen, 2002; Ondeo Press Release, 2002; Water Market China, 2004). In the joint ventures, Suez’s partners have always been local municipal water authorities. This strategy has been regarded as “the best insurance to avoid legal, regulatory and political risks” (Business China, 1997). The Suez Group’s territorial influence now reaches Shanghai and it built two joint ventures in the Pudong New Development Zone in 2001 and 2002 (China Daily, 2002a).

Another globally competent water TNC is the Veolia Group. Although Veolia entered the Chinese water market in the early 1980s through OTV (subsidiary) (Calmels, 2002), Veolia began to establish its strong position through its China office in Beijing in the late 1990s (Beijing Review, 1998), winning the contract for the Chengdu BOT (build-operate-transfer) Water Supply Project in 1998. The Chengdu Project has drawn much attention because it was the first BOT based water supply project in China with a total investment of US$ 106.5 million. Veolia participated in the Chengdu Project by setting up a joint venture with Japan’s Marubeni (Wei, 2001). Considering its late entry to the Chinese water market, the current record of Veolia is impressive. By 2003, Veolia was providing water services for around 8 million customers in China and implementing water projects in Shanghai, Beijing, Baoji, Zhuhai, Chengdu and Tianjin (Owen, 2002, 2003). Veolia’s success in winning the contract for a joint venture with the Shanghai Pudong Water Supply Corporation will be discussed in detail later in this paper.

In addition to these powerful water TNCs in China, there are a few foreign players from France, Germany and the UK (Owen, 2002, 2003). Their influence, however, is not as significant as that of the Suez Group and Veolia. Bouygues (SAUR) is another leading French water TNC active in the Chinese water market. The company first entered the market by signing a contract with the Harbin municipality to construct a sewage treatment plant. The Harbin project is now serving a total population of 2.8 million (Owen, 2002). Thames Water, which is now part of the German RWE Group, penetrated the Chinese water market in 1989. One of the most successful cases was the BOT contract with the Shanghai government in Da Chang to provide water treatment services in 1995 (Owen, 2002). The RWE Group acquired 48.8% of the China Water Company through Thames Water (Utility Week, 2002) and is aggressively expanding its business territories throughout China, covering Shenyang, Shaoxing, Taixing and Changchun and serving about 4 million customers (Owen, 2002). With the UK’s water privatisation experience, Anglian Water Group (AWG) has also sought to take a slice of the large pie of the Chinese water market. The AWG has been active in managing around 30 water service projects in China. The most recent AWG projects were a water treatment joint venture contract (operation) in
Hexian, Anhui Province in 2000, the Beijing No.10 water treatment BOT project in 2001 (Interview 040702) and the water provision contract (operation and management) in Tiazhou, Jingsu Province in 2002 (Owen, 2002).

2.1.2 Chinese companies. Although it is difficult to define Chinese companies as privately owned companies free from any relationship with governmental bureaux and agencies, they are gradually becoming major competitors of water TNCs in China. In order to meet local water service needs, numerous local municipalities have established subsidiary water companies and some of them have begun to be partially privatised. The Beijing Sound Environmental Industry Group, Shanghai Liangqiao Tap Water Corporation, Shanghai Municipal Raw Water Corporation, Shenyang Public Utilities and Wuhan Shanzheng Industry Holding are exemplary companies to name a few (Owen, 2002, 2003).

Among them, Beijing Sound Environmental Industry Group (Sound Group)’s recent performance deserves attention. In 2001, the Sound Group signed agreements in Beijing with 11 local representatives to build sewage treatment plants, including in Shanghai, Qinghai Province and Hubei Province. These large scale projects will require about US$ 240 million in total and the company will have a responsibility to implement project financing and constructing plants via the form of BOT (China Daily, 2002c). Another notable achievement of the Chinese private companies is the Shanghai Zhuyuan No.1 Sewage Treatment Project contract by Youlian Enterprise Development Company with two other Chinese investment companies (Xinhua Net, 2002b).

Discussion of achievements by TNCs and Chinese companies in the China water sector indicates strong evidence of the contribution of the private sector. The reform drive since the late 1970s has started to change the landscape of the political economy in China and the water sector in China has needed cutting-edge technology as well as investment from abroad. These factors attracted the water TNCs’ to the China water market with a proliferation of water TNCs in many parts of China. The processes of reform have also allowed Chinese companies to grow and their competitiveness has been improved over the past decades. These international and national entrepreneurs have been beneficiaries of the reform policy and at the same time, have influenced national water policies, for instance, by advocating rational water pricing and tariffs.

2.2. Water market at the local level – Shanghai

The previous section has discussed various water projects undertaken by water TNCs and Chinese companies at the national level. This section examines water service projects in Shanghai by water TNCs and Chinese companies. The provision of water supply and sewage treatment services in Shanghai was regarded as the responsibility of the government until the late 1990s. The idea that water is an economic good has still not been widely recognised and accepted in Chinese society. In addition, the firm grip of the government over social services in the communist regime consolidated the state–society duality whereas the growth and involvement of the private sector was discouraged. In such circumstances, private sector involvement in the Shanghai water sector had not been noticeable until the early 1990s, although the rapidly changing political economy has prevailed over many aspects of society and economy in Shanghai since 1978. The slow but gradual shift of the government’s policy towards water privatisation in Shanghai had developed during the 1990s. The shift in approach began because of
chronic problems in water supply and sewage treatment services. Management was inefficient and skills and facilities were out of date. There was a lack of finance and raw water sources were polluted.

At the national level, one of the priorities for the reform of water services from the early 1980s was to attract foreign investment and the statistics show that the total foreign investment in water resources projects in the period between 1982 and 1997 reached over US$ 4 billion (Donoghue et al., 1999). Foreign investment in the China water sector had increasingly been needed since the mid 1990s. The scale of investment in water services in the Ninth Five Year Plan period (1996–2000) was estimated at US$ 20–25 billion (Horton, 2000). In Shanghai, the total investment plan for water projects in the year 2002 was RMB 7.3 billion (US$ 900 million) (RMB is Renminbi, the Chinese Currency (RMB 1 equals about US$ 8 in March 2006)) (China Environment News, 2002a) and the necessary investment for water services during the Tenth Five Year Plan period (2001–2005) is estimated at more than RMB 38 billion (US$ 5 billion) (China Environment News, 2002b). Furthermore, it is projected that the Shanghai water industry market will expand on the scale of US$ 500–600 million in a few years time (China Water Conservancy News, 2002b).

The seeds of private sector participation in Shanghai were planted in the 1990s when Mott MacDonald, a British engineering company, began to take part in the World Bank’s Shanghai Sewerage Project Phase II and Shanghai Environment Project in collaboration with some European consulting firms. Since then, two leading French water TNCs, Veolia and Suez, have endeavoured to take advantage of the trend towards the privatisation in water supply and sewage treatment services in Shanghai. There are some Chinese companies that managed to win large scale sewage treatment plants in the Shanghai municipality in 2001 and 2002.

2.2.1. Mott MacDonald. As discussed before, the World Bank has initiated and advocated the privatisation of infrastructure development in developing countries over the past decades and China was one of the biggest recipients of World Bank loans for the water sector development. Shanghai’s first large scale water service project in cooperation with the World Bank was the Shanghai Sewerage Treatment Phase II Project (1995–1999)\(^1\). One of the major contractors, Mott MacDonald, took part in the project together with some European consulting companies. Mott MacDonald also became a major contractor in the Shanghai Environment Project (1995–2001), whose main purpose was to move the water supply intake points upstream of the Huangpu River, Da Qiao area. Even though Mott MacDonald contributed to these projects as a consultant with the Shanghai government under the World Bank’s loans, it can be argued that the company had established a sound platform for foreign companies to undertake other water projects in Shanghai. For the Shanghai government, the experience of more advanced technology and management skills gained from these projects has driven governmental officials to consider extending invitations to more water TNCs.

2.2.2. Thames Water. The earliest private sector participation project in Shanghai was the Da Chang BOT water project by the Thames Water and Bovis consortium that commenced in 1995. The goal of the project was to build and manage a water treatment plant in Da Chang, Shanghai, with an operation period of 20 years. The capacity of the water treatment plant is 400,000 m\(^3\)/d (cubic metres per day)

\(^1\) The primary purpose of the project was to enhance its capacity for abating wastewater pollution by extending the wastewater pollution measures combined with the Shanghai Sewerage Project Phase I.
(peak: 520,000 m$^3$/d) and the total investment is US$ 78 million. The water supply service began for 2 million customers in late 1997 and Degrement (the Suez Group) was upgrading a second water treatment plant in 2003 (Wang, 2001). The Da Chang water project is regarded as a successful case in terms of limiting financial risks at the municipal level without any of the central government’s symbolic support letters or guarantees. This was possible because Thames Water was confident of the political and economic stability and strength of the Shanghai government coupled with the favourable economic conditions for China’s infrastructure projects in 1996 (Donoghue et al., 1999).

The Da Chang Project, however, has become an example illustrating how difficult it is for foreign companies to cope with the uncertain and risky China water market. The Da Chang Plant was handed over by Thames Water to the Shanghai Shibei (Northern City) Water Treatment Corporation in June 2004. The major reason for this sudden event stemmed from the State Council’s decision in 2002 that guaranteed rates of return for infrastructure projects are illegal and risks and returns in BOT projects should be shared by Chinese as well as foreign partners. The contract guaranteed a fixed return of 15% per annum in 1996 but the terms became illegal. Although Thames Water tried to negotiate terms of conditions with the Shanghai Waterworks Company (owned by the Shanghai government), the companies did not come to any agreement (Global Water Intelligence, 2004).

2.2.3. Suez. Compared with impressive achievements in other cities and provinces in China, the Suez Group’s activities in Shanghai had been negligible until 2000. Since 2000, the Suez Group has entered the Shanghai water market more aggressively. In July 2001, Ondeo in the Suez Group won a contract for the management of water services in the Shanghai Pudong Spark Industrial Zone over a 30-year period (Suez Press Release, 2002). Suez undertook more extensive activities in the Shanghai water market in 2002. In March 2002, Sino French Water Development, a subsidiary of Ondeo and the Hong Kong based New World Group, set up a joint venture with the Shanghai Chemical Industrial Park on the same site to provide an industrial sewage treatment service. The duration of the contract is 50 years and the total investment will be more than US$ 54 million for the treatment of sewage volume of 50,000 m$^3$/d. Ondeo is in charge of designing, financing and managing water treatment installations and services (China Daily, 2002a).

Another successful contribution by Suez in Shanghai was the reconstruction project of the Nanshi and Yangshupu drinking water treatment plants signed in May 2002. The project cost is estimated at US$ 31.2 million and the total capacity of two plants is 860,000 m$^3$/d. On the technical side, the plants will be equipped with more advanced technology in order to provide better drinking water in Shanghai (Ondeo Press Release, May 2002).

2.2.4. Veolia. The Veolia’s contract with the Shanghai Pudong Water Supply Corporation was a striking development during fieldwork in Shanghai in 2002. It had been commonplace to see various types of joint ventures in Shanghai as well as other areas in China, such as the Suez Group’s joint ventures to provide water services in the Shanghai Spark Development Zone. However, Veolia’s acquisition of a 50% share of the Shanghai Pudong Water Supply Corporation was unprecedented and regarded as a genuine breakthrough for foreign companies to take part in the entire waterworks process, from water processing to water distribution, in Shanghai as well as in China. Veolia was selected as the winner of the international bidding for the contract. The contract period is 50 years and Veolia agreed to invest around US$ 311 million (China Environment News, 2002c; Veolia Water Press Release, 2002). The Sino–French company is scheduled to make, distribute and sell running water for domestic use.
The service area by the new company covers 319 km² and about 550,000 customers, whose average daily drinking water consumption is estimated at 1.2 million m³/d (Shanghai Water Authority News, 2002b). The increase in water sales is expected to be up to 3% per annum and Veolia plans to enhance water quality with its advanced technology and know how.

In addition to the first foreign company’s involvement in the entire water service process and acquisition of state-owned water supply corporation’s shares, the importance of this project lies in the fact that Veolia will be able to contact Chinese customers directly for the first time as a foreign water company. For customer service, the company will establish customer call centres as well as make and distribute water customer handbooks (Shanghai Water Authority News, 2002e). The direct contact with Chinese water consumers by foreign companies has in the past been banned in accordance with the Catalogue for Guiding Foreign Investment in Industry in 1997 (Koo & Partners, 2002). The flexibility of the interpretation of laws and regulations by local authorities may allow Veolia to provide customer services through its direct contact with Shanghai customers. As a profit-seeking private company, Veolia seems to be happy about this new breakthrough, because water prices and distribution systems will be more transparent. This may enable Veolia to realise more profit through price negotiation. However, it is expected that Veolia will be involved in painstaking and long-term negotiations with the Shanghai government about water prices. Because there has been some concern about higher water prices caused by privatisation, the Shanghai authorities have reiterated their policy of maintaining the unitary water price system throughout the Shanghai municipality areas (Xinwen Evening News, 2002; Water Market China, 2004).

2.2.5. Chinese companies: Youlian Consortium and Sound Group. One of the most frequently quoted projects in the media during the summer of 2002 was the Zhuyuan No. 1 Sewage Treatment Project. The contract winner was a consortium (Youlian Consortium) consisting of three Chinese companies, namely, Youlian Enterprise Development Company, Huajin Information Industry Investment Company and the Shanghai Construction and Engineering Group (Shanghai Water Authority News, 2002c). The Youlian Consortium agreed to invest RMB 870 million (US$ 110 million) for the next 20 years and the contract is based on the BOT scheme. The sewage treatment capacity is expected to reach 1.7 million m³/d (Xinhua Net, 2002a). The capacity of the Zhuyuan sewage treatment plant is the biggest of all the sewage treatment plants in China except for that of a plant in Hong Kong. The Zhuyuan plant is one of the subprojects in the Shanghai Sewerage Project Phase III, which has been underway since 2001 (Lu, 2001). It is reported that the Youlian consortium’s bidding costs for sewage treatment were much lower than the current market cost, which illustrates the potential of the lucrative sewage treatment market in Shanghai. Jin Zhigang, chief engineer of Youlian Enterprise Development Company, presented his optimistic view that the Youlian Consortium would be able to start payback in the 13th year of the project during the 20-year contract period (Xinwen Morning News, 2002).

The Beijing Sound Environment Industry Group (Sound Group) is another Chinese company that is expected to expand its influence in the Shanghai water market. The Sound Group is an engineering company specialising in water and sewage treatment facilities. The group’s entry to Shanghai was in June 2001 when the Sound Group agreed to build sewage treatment plants in 11 Chinese cities, including Jinshan District in Shanghai (China Daily, 2002c). Each of the 11 sewage treatment plants will have the capacity of more than 1.7 million m³/d, which will be equal to that in the Zhuyuan No. 1 Sewage Treatment Plant. The contracts were made on the basis of a BOT scheme and the total investment for all the plants will be around RMB 2 billion (US$ 240 million) during the 25-year concession period.
Considering its financial and engineering capacity, confirmed from the case of its simultaneous 11 contracts, it will be interesting to observe if the Sound Group can grow to be one of the major competitors with water TNCs. Table 1 summarises water projects undertaken by water TNCs and Chinese companies in Shanghai since the 1990s and Figure 1 shows how water projects in the process of private sector participation are located geographically in Shanghai.

The next section introduces a discussion of the implications of private sector participation in Shanghai water policy. The reform of public water services is addressed and then socio-political and economic challenges and multi-faced aspects of privatisation confronting the numerous stakeholders are also discussed. With the advent of rapid privatisation, since 2001, the Shanghai government was determined to spearhead water sector reform. At the same time, private companies vigorously pressured the government to rearrange organisations and regulations in favour of privatisation. The intense conflicts between different actors have accelerated the creation of a new institutional context. An insight into the socio-political and economic risks which private companies have faced reveals that the risks function as bargaining instruments which the Shanghai government have been able to utilise. Such a government stronghold has, however, been weakened by the constant attempts by companies to change the institutional context in favour of themselves.

3. Institutional change and challenges in private sector participation

3.1. Institutional change

The public utility sector in Shanghai had remained “a sacred cow” even under the rapid and wide range of economic reforms that have taken place since the late 1970s (Business China, 1997). The monopolisation of the Shanghai government in the water industry continued until the late 1990s, which caused losses of more than RMB 800 million (US$ 97 million) in 1999 (China Daily, 2002b). Then, in the late 1990s, a radical reform in the Shanghai water supply sector was introduced and this resulted in integrating 10 waterworks companies into four limited ones, covering Minhang area, Pudong area, southern city and northern city, respectively. The Shanghai Water Authority was also established to operate water and sewage services in an integrated way after converting various water-related bureaus into one in May 2000 (China Environment News, 2001).

Even though it was reported that the Shanghai water industry began to make profits in 2001, the Shanghai authorities came to realise the need to enhance operational efficiency and management owing to the accumulated deficit of water sector services over the last two decades. Chi Jianguo of the Shanghai Water Assets Operation and Development Corporation commented, “To break the monopoly is the first step in reform. We have to import foreign technology and management to create more value to increase our competitiveness in the local market” (China Daily, 2002b). It is argued that these problems and circumstances have generated favourable conditions for private sector participation and have driven the Shanghai government to allow Veolia’s acquisition of the Shanghai Pudong Water Supply Corporation’s equity and the Youlian Consortium’s investment in the Zhuyuan No.1 Sewage Treatment Project in mid-2002. This development illustrates the beginning of governmental recognition of the need to bring in new elements (private companies with investment and technology) that can rejuvenate the existing system.
Table 1. Water projects by private companies in Shanghai since the 1990s.

<table>
<thead>
<tr>
<th>TNC/Chinese</th>
<th>Name</th>
<th>PJT name</th>
<th>Contract type</th>
<th>Cost (US$ million)</th>
<th>Concession period</th>
<th>Capacity (m³/d)</th>
<th>Partner/client</th>
</tr>
</thead>
<tbody>
<tr>
<td>TNC</td>
<td>Mott MacDonald</td>
<td>Shanghai Sewerage Project II</td>
<td>World Bank Loan</td>
<td>1995–1999</td>
<td>Shanghai Government</td>
<td>Shanghai Government</td>
<td></td>
</tr>
<tr>
<td>RWE Thames Water*</td>
<td>Da Chang Water Treatment</td>
<td></td>
<td>BOT</td>
<td>78</td>
<td>20 years from 1996</td>
<td>400,000 (peak 520,000)</td>
<td>Shanghai Waterworks Company</td>
</tr>
<tr>
<td>Suez (Ondeo)</td>
<td>Pudong Spark Industrial Zone Water Supply Services</td>
<td>Joint venture</td>
<td>Joint venture</td>
<td>54</td>
<td>50 years from 2002</td>
<td>50,000</td>
<td>Shanghai Chemical Industrial Park</td>
</tr>
<tr>
<td></td>
<td>Pudong Spark Industrial Zone Industrial Sewage Treatment</td>
<td>Joint venture</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Shanghai Shinan and Shibei Water Supply Company</td>
</tr>
<tr>
<td></td>
<td>Reconstruction of the Nanhai and the Yangshupu Water Treatment Plants</td>
<td>Reconstruct</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Shanghai Government</td>
</tr>
<tr>
<td>Veolia</td>
<td>Shanghai Pudong Veolia Water Supply Corporation</td>
<td>Equity Sale (Purchase of a 50% share of the Chinese counterpart)</td>
<td>311</td>
<td>50 years from 2002</td>
<td></td>
<td></td>
<td>Shanghai Pudong Water Supply Corporation</td>
</tr>
<tr>
<td>Chinese</td>
<td>Youlian Consortium</td>
<td>Zhuyuan No.1 Sewage Treatment Plant</td>
<td>BOT</td>
<td>110</td>
<td>20 years from 2002</td>
<td>1.7 million</td>
<td>Shanghai Government</td>
</tr>
<tr>
<td></td>
<td>Beijing Sound Group</td>
<td>Shanghai Jinshan Sewage Treatment Plant</td>
<td>BOT</td>
<td>25 years from 2002</td>
<td>1.7 million</td>
<td>Shanghai Government</td>
<td></td>
</tr>
</tbody>
</table>

* Thames Water decided to hand over to the Shanghai Shihai (Northern City) Water Treatment Corporation in June 2004, which is owned by the Shanghai government.

Source: author’s compilation of information from fieldwork.
Increasing loans from international development agencies such as the World Bank and private banking consortiums have continued to pressure the Shanghai government to repay its debts. The loans channelled from the World Bank, the Asian Development Bank (ADB) and other commercial banking consortiums became a budgetary problem for the Shanghai government ([China Daily], 2002d). Therefore financing through other channels, such as the BOT scheme and joint ventures in Shanghai was considered. Based on these new strategies, a myriad of water projects successfully attracted private investment through water TNCs and Chinese private companies in the early 2000s.

Fig. 1. Water projects by private companies in Shanghai from the 1990s to 2004; WTP: water treatment plant, STP: sewage treatment plant. Source: author’s compilation of information from fieldwork.
It is argued that China’s entry to the World Trade Organisation (WTO) in 2001 has, to some extent, contributed to an increase of foreign water private companies’ entry to the Shanghai water sector as well as the expansion of water TNCs business activities in Shanghai. In addition to the tariff reduction and liberalisation of a wide range of services sectors, transparent laws and rule by law will be necessary for the WTO system in Shanghai and China (She, 2002). Such new environments for the water industry caused by the entry of China to the WTO were expected to generate rapid growth in the China water market, requiring an investment of around RMB 1,000 billion (US$ 120 billion) by 2005. This investment includes RMB 200–300 billion (US$24–36 billion) from central and local government. The remaining portion, equivalent to more than 70%, would be channelled through foreign investment, which will pave the way for water TNCs to extend their market shares in the Shanghai and China water market (She, 2002). Shanghai’s blueprint to attract an investment of around RMB 38 billion (US$ 5 billion) for water services by 2005 would be viable only if there were enough foreign investment, particularly through water TNCs under the WTO system in China (China Environment News, 2002b).

3.2. Challenges

The recent emergence of private companies in the Shanghai water sector indicates that Shanghai is in a new era in which the demarcation between the private and the public sector has become clearer, although very complex. This process has accelerated since the economic reforms embarked on in the late 1970s. In other words, the willingness of modernising Communist China during the reform era has facilitated the resurgence of the private sector so that private companies have become a constituent of the process. The Shanghai water sector has become more multi-dimensional in the process. The private sector has started to exercise influence on the reformed but government-controlled water sector in Shanghai. Faced with this situation, water TNCs and Chinese companies are not satisfied with the current business environment. Although Shanghai boasts about its strategic location, a highly skilled labour force, foreign investment favouring policies and political stability, private companies perceive a high degree of uncertainty as well as various risks in putting their investment into the Shanghai water sector. Such uncertainty and risks facing private sector participation in the Shanghai water sector can be analysed according to three categories: socio-political challenges; regulatory uncertainty; and revenue risk.

3.2.1. Socio-political challenges. With regard to socio-political challenges, attention is first paid to challenging the traditional perception of water as a public and social good in China, rather than as an economic good as it is seen in most developed countries. This situation has caused water prices to be much lower than would be reasonable if they were to reflect the actual costs of construction, distribution and maintenance for water supply and sewage treatment services in Shanghai. A Chinese source points out that the water prices of Shanghai are much lower than those of cities in Europe (Shanghai Water Authority News, 2002a). The current water price for domestic use in Shanghai is RMB 1.03/m³ (US$ 0.13) and there is no price adjustment to reflect the volume used (Owen, 2002, 2003)². Although the water authorities in Shanghai seem to be well aware of inappropriate water prices, it is difficult for them to plan and launch a radical change of water pricing that would recover the costs of

² The water bill for each month during the summer of 2002 (May, June, and July) was always RMB 16 (less than US$ 2), a fixed price no matter how much was consumed.
water supply and sewage treatment services. Such sensitivity of water prices for the public has prevented
the Shanghai government from allowing private companies to adjust water prices in order to bring about
commercial gains. Rather, as observed from the cases of negotiations between the Shanghai government
and Veolia and Suez, the Shanghai government has shown its explicit will to keep the unitary water price
system which applies to all areas in the municipality, including the economic development zones in
Pudong covered by Veolia and Suez’s joint ventures. This implies that the government would not be
inclined to provoke public anger or unrest through a sudden increase of water prices but will keep the
water prices low in order to maintain the government’s legitimacy. The government’s position
contradicts its privatisation policies vis-à-vis water services and indicates a fuzzy relationship between
the public and the private spheres in Shanghai and China. Although privatisation has been stressed and
pursued since the late 1990s in the Shanghai water sector, the socialist political economy system and
state-led society have prevented the government from operating private modes of management
optimally. The Shanghai government has been reluctant to adapt to the new external environment, which
is the wave of privatisation across China, even if the national government is promoting it.

Political uncertainty for private investors in China has continued to make water TNCs seek some form
of guarantee from politically influential government bureaux related to water projects, such as the State
Planning and Development Commission and the Ministry of Water Resources. This guarantee, which is
not legally binding is called a “Government Support Letter/Comfort Letter” (Turner III & Seem, 1999).
Given political uncertainty and local government’s low creditworthiness, water TNCs have had no
option but to appeal to hierarchically superior central ministries and bureaux for these letters. Since the
concept of these letters is based on a Chinese tradition of “gentlemen’s honour and agreement”, it would
be difficult for project-concerned local governments to give water TNCs who possess these letters
unfavourable deals, worrying that they would “lose face” (Turner III & Seem, 1999). The use of these
letters has been commonplace in a number of joint venture water projects.

As the decentralisation process has gone further, the central government has become reluctant to
provide these letters to local water projects. As for water TNCs involved in water projects in Shanghai, it
may not be necessary to obtain these letters in order to avoid political and credit risks, because the
relative risks of political unrest and creditworthiness in Shanghai are lower than in other areas in China.
However, it can be contended that these letters will remain as important as other essential documents for
water projects in Shanghai and China. Nothing can be sure and guaranteed in the future for water TNCs
in China, particularly for a water project concession period of about 20–30 years, based on previous
experience of Chinese politics (Business China, 1997). This case illustrates a useful example of the
public and private interface in a situation where there is no politically stable environment for private
companies. It shows that private companies are adapting to the totally different socio-political and
economic settings obtain in relation to other countries and areas in which they have worked. Under the
hard to fathom and unpredictable political systems encountered, private companies have realised the
need to adapt to the new political economy in Shanghai and China. A political guarantee like
Government Support Letters/Comfort Letters has been a medium with which private companies can
minimise their risks in complex negotiations and contracts with local and central government agencies,
local companies and other stakeholders.

3.2.2. Legal and regulatory uncertainty. Another challenge in the course of private sector participation
in Shanghai is how to improve the legal and regulatory frameworks. As discussed before, there have
been a series of laws and regulations enacted regarding private sector participation in the China water
sector, such as the PRC Water Law (1988 and amended in 2002) and the PRC Water Pollution Prevention Law (1984 and amended in 1996). In addition, there are numerous laws and regulations associated with private sector involvement in the water industry in China (See Table 2). The PRC Water Law and the PRC Water Pollution Prevention Law, for instance, indirectly encourage private sector involvement by promoting the protection of water resources. Although these laws and regulations relate to private sector involvement in Shanghai, none of them specifies any guidelines for foreign investment in the water industry.

This legal vacuum is also linked to the lack of “a uniform supervisory legal system” (Blackman, 2001) able to provide a coherent legal system in China. For example, if a private water contractor in Shanghai appealed to the Beijing People’s Court regarding the inconsistency of certain Shanghai regulations with national laws, the Court would not be authorised to examine the regulations owing to the lack of “a uniform supervisory legal system”. Such a discrepancy between legal interpretation and regulatory mandate comes from the fact that national laws can be differently interpreted depending upon local socio-political circumstances (Blackman, 2001). This situation has driven water TNCs to feel uncertain and insecure about the Chinese legal system and has often discouraged them from expanding their activities, but keeping instead to the status quo. It would be different if water TNCs were operating in European or American markets. Compared with the Chinese market, these markets provide more predictable and stable circumstances in which legal systems are implemented and enforced in a systematic manner. The external surroundings (legal institutions and law enforcement) in China have had an influence on the organisational behaviour of water TNCs, which has generated more prudent market approach and tactics.

As for water projects in Shanghai and China, the process of managing joint ventures by water TNCs together with Chinese counterparts shows the validity of the notion “everything is negotiable”. Since each joint venture has different administrative and management structures in China, it is usual for water TNCs to face numerous negotiations with their Chinese counterparts, as Suez has experienced for more than two decades. Although BOT water contracts with standardised process and documents may become commonplace in Shanghai and China, it is still difficult to remove legal and regulatory risks that come from the Chinese customary practice based on negotiation rather than laws and regulations. Suez’s successful localisation over the past decades exemplifies the extent to which water TNCs can adjust themselves to local customs and norms and at the same time achieve their primary goals, economic gain. It is noted that such dual successes have been possible because of a constant adaptive process through protracted negotiations and compromises between water TNCs and government agencies.

Table 2. Laws and regulations related to private sector participation in the Chinese water sector.

<table>
<thead>
<tr>
<th>Year</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
<td>The Certain Matters Relating to Project Financing by Domestic Institutions Notice</td>
</tr>
<tr>
<td>1995</td>
<td>The Several Issues Concerning the Examination, Approval &amp; Administration of Experimental Foreign Invested Concession Projects Circular (the BOT Circular)</td>
</tr>
<tr>
<td>1995</td>
<td>The PRC Security Law</td>
</tr>
<tr>
<td>1997</td>
<td>The Catalogue for Guiding Foreign Investment in Industry</td>
</tr>
<tr>
<td>1997</td>
<td>The Administration of Project Financing Conducted Outside China’s Tentative Procedures (The Interim Procedures)</td>
</tr>
<tr>
<td>1998</td>
<td>The Administration of Borrowing International Commercial Loans by Domestic Organisations Procedures</td>
</tr>
<tr>
<td>1999</td>
<td>The PRC Contract Law</td>
</tr>
</tbody>
</table>

The Shanghai government’s private sector administrative structure looks simple but in reality encompasses a complex system dominated by internal politics. The continuous administrative reforms in the Shanghai government influenced the water sector and led to the setting up of the Shanghai Water Authority (SWA) in May 2000. With the integration of different governmental bureaux associated with water services, the SWA oversees the operation of the city’s water and sewerage services to which private water companies pay special attention. The SWA’s efforts towards private sector participation, however, can be interrupted by the fragmented structure of the central administration in Beijing. Although the SWA’s administrative position falls under the Ministry of Water Resources, the State Planning and Development Commission (SPDC) takes responsibility for assessing projects involving an investment of over US$ 30 million as well as setting guidelines for water prices. The Ministry of Construction deals with water projects in urban areas and in this part of the bureaucratic hierarchy, the Shanghai Construction Bureau is responsible for the construction of water projects and water distribution. The State Environmental Protection Administration (SEPA) is involved in the amelioration of water pollution. The Shanghai Environmental Protection Bureau (SEPB), administered under SEPA, implements various water pollution control policies together with the SWA. Such complicated mechanisms in water resource management often discourage private companies from participating more aggressively in water projects in Shanghai as well as in China.

3.2.3. Revenue risk. Whereas the Shanghai government has endeavoured to channel foreign investment, water TNCs do not seem to be fully sure of the creditworthiness of the government regarding various water projects. Because of the 1997 Catalogue for Guiding Foreign Investment in Industry, any water joint venture project company has not been allowed to own and manage the right of water distribution, which makes the project company unable to secure a certain level of profits. This also means that the continuous ownership by the government of the water distribution system prevents the project company from charging users through proper utilisation of metering according to the volume of water they use.

As pointed out before, the public perception of water embedded in Chinese culture makes it difficult for the government to implement the rationalisation of water prices. As a result, the government has to subsidise water services in order to make up the difference caused by unrealistic water pricing. There is little research on how much the current unitary water price system in Shanghai can cover the cost of water supply and sewage treatment services. The expectation of an increase in water prices in Shanghai is high. The projected increase in water prices in Shanghai is one of the main reasons many water TNCs have been knocking on the door of the Shanghai water market (China Daily, 2002d). However, it is reasonable to assume that a series of water joint venture projects including the Shanghai Pudong Veolia Water Supply Corporation should need long and tough negotiations with the government to make water prices realistic.

It is necessary for water TNCs in Shanghai and China to convert their revenue to hard currency and transfer the revenue to overseas accounts. This necessary process for water TNCs, however, is often delayed, which drives foreign private water companies to doubt the availability of foreign exchange and RMB convertibility in China. Although the central government has stressed that there will be no substantial revaluation of the Chinese currency (RMB), foreign water companies in China cannot avoid the possibility of RMB revaluation on a larger scale. This is also linked to the issue that revenues of Sino–foreign joint ventures and wholly foreign-owned companies in China will be in RMB (Nakagawa et al., 1999). Water TNCs in Shanghai, such as Suez, Veolia and Thames Water are likely to have experienced
these risks and may try to hedge the financial risks. It is assumed that these companies will have their own strategies to tackle this issue through extensive negotiations with the Shanghai authorities.

In spite of the risks and uncertainties discussed above, private sector participation in the Shanghai water sector has seemed to be going well so far. However, the event of Thames Water’s retreat from the Shanghai water market provides a warning signal to foreign water companies. Thames Water’s pull-out implies a couple of challenges that foreign companies should deal with. First, there is still a long way to go in the establishment of transparent policy making in China. It is hard to predict the direction of political decision on policy making in the central government and as shown clearly in the case of Thames Water, foreign companies, including water TNCs, are uncertain about what would have a negative impact on the market. Second, this reflects the prevailing Chinese mode of operation based on negotiation. Although Thames Water seemed to resort to the previous contract terms and conditions against the State Council’s decision, the Chinese partner did not agree to refer to the previous contract but stuck to the new edict from the central government. Such behaviour appears to concern the deference of local government to hierarchy; however, it also implies that the Chinese partner in the project found the edict favourable to itself against Thames Water. These two elements suggest that the Shanghai water market is still risky and uncertain. The Shanghai government faces a big challenge of how to persuade foreign water companies to continue business as usual in spite of constant unpredictable socio-political, legal and economic risks.

3.3. Ties between the Shanghai Government and companies

Since the 1990s, Shanghai has experienced an influx of water TNCs into the water market and during recent years, water TNCs and Chinese private companies have rejuvenated the activities and capacity of the private sector in implementing water joint ventures and participating in BOT water projects. Such private sector participation in the Shanghai water sector seems likely to develop further and even speed up thanks to China’s entry into the World Trade Organisations (WTO). This point of view reflects the fast changing picture of the Shanghai water market as well as water policy.

At the national level, the central government has recognised the importance of private sector participation in the Chinese water industry since the early 1980s. One of the more recent governmental blueprints to attract foreign financing for the improvement of water infrastructure was the 21st Century Urban Water Management Pilot Scheme in 1997. In the scheme, the liberalisation of water tariffs for projects funded with foreign capital was scheduled and foreign financiers were allowed to gain favourable rates of return for water projects in China (Rozner, 1998).

Following the scheme, the Urban Water Price Regulation of 1998 has allowed foreign investors to gain a net return rate of 12% and local governments to decide water price on the condition that water companies should provide detailed information about their costs. These governmental plans and regulations have resulted in an increase in private sector involvement in the water sector since 1998 (Wang & Chen, 2001). The central government was willing to reform the water sector in order to remove irrational management and unrealistic water tariffs that were some of main causes of the large-scale deficit from the 1980s. Such necessity induced an influx of foreign investment as well as of water TNCs in the 1980s and the 1990s. The external influences have reshaped the landscape of the political economy in the water sector. There has been a new era with adjusted coalitions between the government and private companies. New demands and requirements in relation to loans from international
development agencies, such as the World Bank and the Asian Development Bank, have at the same time conditioned institutional rearrangements in favour of privatisation. Water TNCs have taken advantage of this trend and influenced Chinese governmental policies in water services hand in hand with international development agencies.

In response to the central government’s new policy, the Shanghai government has also tried to attract many water TNCs, as well as Chinese companies in water supply and sewage treatment services. The recent governmental report in Shanghai announced various water project schemes during the Tenth Five Year Plan (2001–2005), which attracted private water companies’ attention. These included: the Shanghai Sewerage Project Phase III, the construction of ten additional sewage treatment plants in the city centre; the construction of a sewage collection network; the renovation of dilapidated sewage treatment plants; and the control of runoff sewage (Shanghai Water Authority News, 2002d). Most of these scheduled projects expect to attract private sector participation. In addition to many water projects, the Shanghai government has developed a marketing strategy to provide for the huge scale of water infrastructure investment required in the future.

These optimistic plans for private investment and project opportunities, however, would not be viable if there had not been much redefinition of governmental roles and responsibilities for the privatisation of the water sector in Shanghai. Most importantly, the Shanghai authorities have to be aware that they are no longer the direct providers of water supply and sewage treatment services but only the regulator. The separation of administrative and commercial functions in the government needs to be implemented (Johnstone & Wood, 2001; Wang & Chen, 2001). The Shanghai Water Authority is the most likely candidate to become a relatively independent regulatory institution managing complicated issues related to water services. But it is still questionable if the SWA can manage to harmonise different governmental bureaux’ interests and conduct the regulatory roles effectively. For example, the construction of water supply and sewage treatment plants are handled by the Shanghai Construction Bureau and water pollution discharge fines and fees levied on companies are collected and managed by the Shanghai Environmental Protection Bureau. It seems that the Shanghai government still needs more time to redefine its new governmental role with regard to private sector participation.

The shift of the governmental role in water services to that of regulator and the establishment of the SWA highlights how the approach of the Shanghai government has changed faced with privatisation. The new environment has brought a situation where privatisation does not require the government to sustain a monopolistic power over operation. It requires the government to adopt the new role as guide and regulator in response to private sector participation.

4. Conclusion

This paper has evaluated the dynamics of private sector participation in the Shanghai water sector since the late 1990s. The need for investment, advanced technology and rational management skills has pushed the government to adopt private sector participation in the water sector and private companies have responded by contributing to privatisation in Shanghai. These main social actors, however, have faced unprecedented challenges in order to secure their interest and conflicts of interest have culminated in a very different political economy landscape. Private companies, mainly water TNCs, have experienced unpredictable and challenging socio-political circumstances, uncertainty of laws and regulations and revenue risk. The case of Thames Water’s exit from the China water market is a good
example of how risky it is for foreign water companies to run their business in China. The continuous demands from the private sector to reform water tariffs and establish sound legal instruments have driven the government to bring about change in its internal organisations.

The analyses of the diverse socio-political, legal and regulatory and revenue risks demonstrate that the Shanghai authorities are required to implement a number of institutional rearrangements and reforms in order to take on the new role as the regulator, not the service provider, for water services. The success of privatisation in the Shanghai water sector hinges partially on the extent to which the Shanghai government will be able to accomplish its work as a regulator based on laws. Otherwise, the early privatisation projects will become the price the government could pay for such lessons.

Thorough insight into the interaction between the public and the private spheres in the Shanghai water sector has three important components that reflect the nature of the Chinese mode of privatisation. The first component is negotiation. The Chinese preferred mode of negotiation is an important variable on which to focus. Negotiation normally slows the process of privatisation but if fully implemented, will make outcomes more secure. The second feature of the public and private sector interaction in China is the tendency to deference. Hierarchy is assumed to be good and deference is rational social behaviour. Even though privatisation is appropriately “negotiated” at the central government level, it is likely that it will be different at the lower regional level of government. A mix of deference and negotiation is likely to lead to a measured expansion of privatisation. Financial capacity is the third component. The pace of the expansion will be further affected by the lack of finance available in the course of privatisation. The low degree of financial capacity has caused the Shanghai government to invite in water TNCs and Chinese private companies and to adopt new forms of financing methods such as BOT schemes, joint ventures and equity sales evident in the deal with Veolia in Pudong. The effort of the Shanghai government to strengthen its financial capacity has become an engine to speed up the pace of privatisation in the Shanghai water sector.

It is argued that private sector participation in Shanghai water policy has just begun and seems likely to develop rapidly in the foreseeable future. It is expected that China’s entry to the WTO may become a catalyst further to push the Shanghai government rigorously to implement policies favouring the private sector for water services. Requirements in accordance with the WTO standards will help implement the legal, economic and institutional rearrangements in Shanghai. This will bring in an influx of foreign investment, advanced technology and management skills to the Shanghai water market, thereby influencing the landscape of Shanghai’s political economy and business environment. More transparent and internationally standardised laws, regulations and implementation of policies in Shanghai will provide favourable conditions for foreign investment and privatisation in the water sector.

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