Implementation of Private Infrastructure Development Methods in China

中国における民間主導型インフラ整備方式の導入についての基礎的研究

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ABSTRACT

For this introductory paper on the implementation of private infrastructure development methods in the People's Republic of China, the author defines three time periods: "The Beginning" - from 1987 to 1995; "The Present" – from 1995 to 1998; and "The Future" – from July 1998 onwards.

"The Beginning" is characterized by a relatively small number of projects centered in the economically advanced province of Guangdong. The the field of participants is led by a small number of pioneering Hong Kong property developers.

"The Present" period, from 1995 to July 1998, features a rapidly growing number of participants in the industry, with international utilities, engineering firms, and investment funds adding to the Hong Kong developers. The geographical scope of private infrastructure development in China also expands to include all of the coastal provinces. Finally, the style of project structure as well as the legal and regulatory framework for private participation in infrastructure begins to expand during this period, with government bodies as well as private developers experimenting with new project structures and legislation.

Finally, "The Future" looks at the direction of private participation in the development of infrastructure in China, and is based on current trends, including: increasing sophistication, growing competition and rising costs in the coastal regions; shift of central government emphasis to inland investment; establishment of new laws governing private infrastructure participation; and rapidly changing conditions in both international and domestic financial markets.

[Key words]: foreign investment, Sino-foreign joint venture, Build-Operate-Transfer, international capital markets, regional and central governments.

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1. "THE BEGINNING": HONG KONG-DRIVEN JVs IN GUANGDONG PROVINCE

The participation of foreign investors in infrastructure development in the People's Republic of China (PRC) began in the late 1980s, when a small number of Hong Kong property developers saw the opportunities for funding power and road investments in the neighbouring Special Economic Zone (SEZ) of Shenzhen and the province of Guangdong.

(1) The Places:

Projects in this period were concentrated in the southern province of Guangdong, located next to the dynamic center of Asian capitalism, Hong Kong. Guangdong province and the Shenzhen SEZ accounted for a significant proportion of China's international trade and economic growth. The period also featured extremely high inflows of foreign direct investment (FDI), particularly after 1992, as can be seen in Figure 1 below. The figure shows how FDI early on in "The Beginning" years was weighted heavily toward Guangdong; only later, after 1992, do we see the proportion of FDI going to other areas along China's Eastern coast increase, encompassing the three growth poles of Chinese economics and trade (the three economic "growth poles" of China's modern development include: the Pearl River Delta – Guangdong and Fujian provinces as well as Hainan; the Yangtze River Delta – Municipality of Shanghai, provinces of Zhejiang, Jiangsu and Anhui; and the Shandong Penninsula – Municipalities of Beijing and Tianjin, Shandong, Hebei and Liaoning provinces.

In the forerunner province of Guangdong, there were immense infrastructure development needs to facilitate and maintain continued growth. In the late 1980s, businesses in the province's booming cities were plagued by power outages and traffic jams. However, despite economic growth, the local government lacked the resources to finance construction of all the needed capital projects. Furthermore, the local government was prevented by Chinese law from issuing municipal bonds, and local state-owned corporations had not yet developed the international credibility to enable them to access international capital markets themselves.

Recognizing the opportunity to fill the gap between the southern province's infrastructure needs and the government's ability to finance them, Hong Kong property developers began to pioneer the move of foreign investment into Guangdong's infrastructure development.

(2) The Players:

Among the first firms to take advantage of the opportunities to invest in Guangdong's infrastructure were developers from Hong Kong, led by Hopewell Holdings and later by New World Development / Infrastructure (NWI) and Cheung Kong Infrastructure (CKI). Each of these firms was characterized by local Hong Kong Chinese management, and a financial base in Hong Kong's property and real estate market.

Hopewell led the pack, investing in a US$560 million, 700MW power plant at Shajiao, Guangdong[5]. The project became operational in 1987, and sparked interest in the potential for investing in infrastructure. Hopewell followed its early Shajiao success by closing more ground-breaking deals, including the GSZ (Guangzhou-Shenzhen-Zhuhai) Superhighway and the Shajiao C power plant.

Following Hopewell into mainland infrastructure investment was NWI, the infrastructure investment wing of the New World Development group, a real estate and port operating company. NWI began its China investments with toll road projects in cooperation with Guangzhou's municipal government. It continued to expand its investments during the years 1989-1992, when other sources of foreign investment in China held back over concerns surrounding the Tiananmen incident. NWI continued to invest successfully in cooperation with local governments in Guangdong province through 1995.[4]

Cheung Kong Infrastructure (CKI), a member of Hong Kong's Hutchison Whampoa group which holds property, shipping, power, and building material companies in Hong Kong, was one of the latest Hong Kong developers to join the action in southern China. As will be described later, it is now among the most powerful players.

(3) The Deals:

During this period, the most widely used project structure was the Sino-Foreign Cooperative Joint-Venture. In this arrangement – further divided into "Cooperative" and "Equity-Only" Joint Venture structures – the foreign (Hong Kong) developer set up a joint venture with a local government bureau or government-affiliated corporation, and established terms by which the JV would invest in a given infrastructure facility. In the deals, operational control over facilities was generally maintained by the local government partner. The Hong Kong developer could act as investor and advisor, but was limited by Chinese law as to the amount of direct control it could have over operation of facilities. The Hong Kong developers were flexible enough to work with government partners and deals that were agreeable and profitable to parties. An exception to this rule was Hopewell, which experienced severe conflicts with local governments in its later project.[5]

In "The Beginning", the infrastructure facilities involved in foreign invested projects were usually either toll roads or power projects. Other subsectors of the infrastructure market were not attempted until later.

Figure 1: China GDP and GDP Growth, 1987-1995 [1, 9]

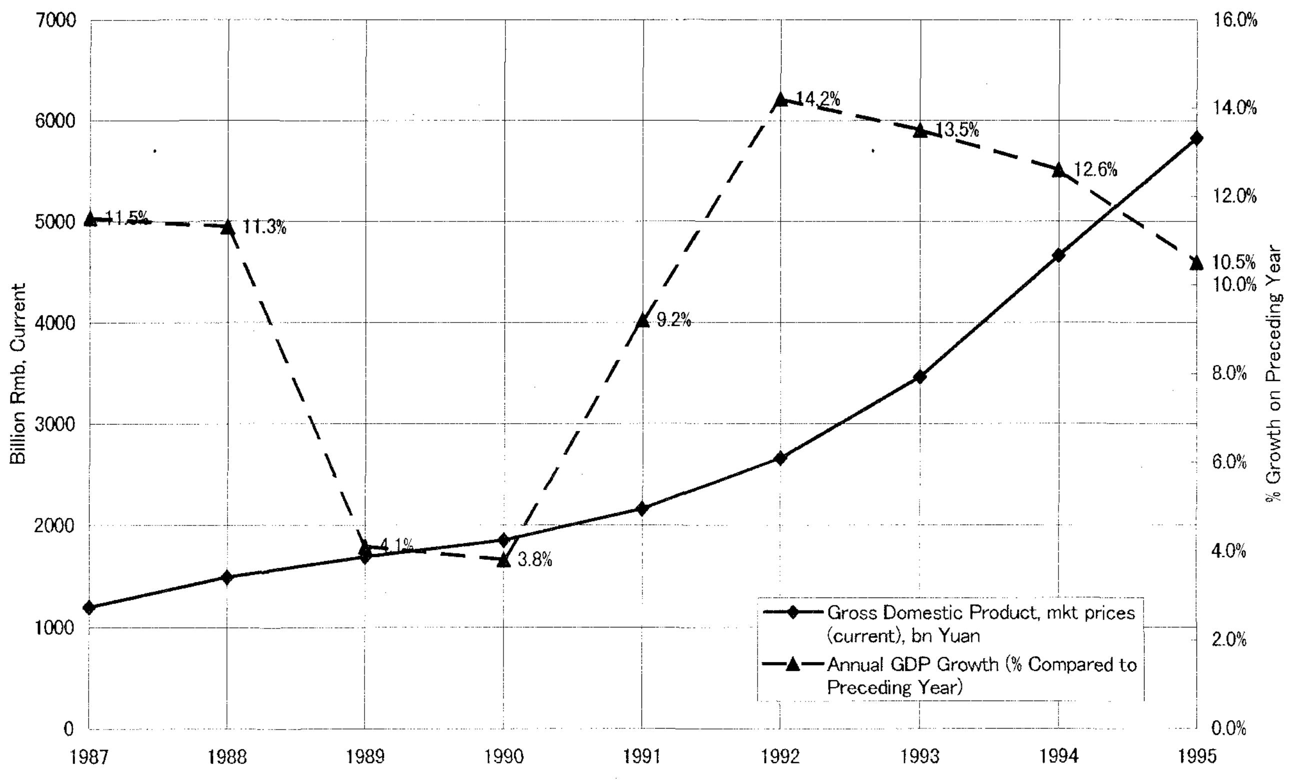

Figure 2: GDP by Province, 1993 [1]

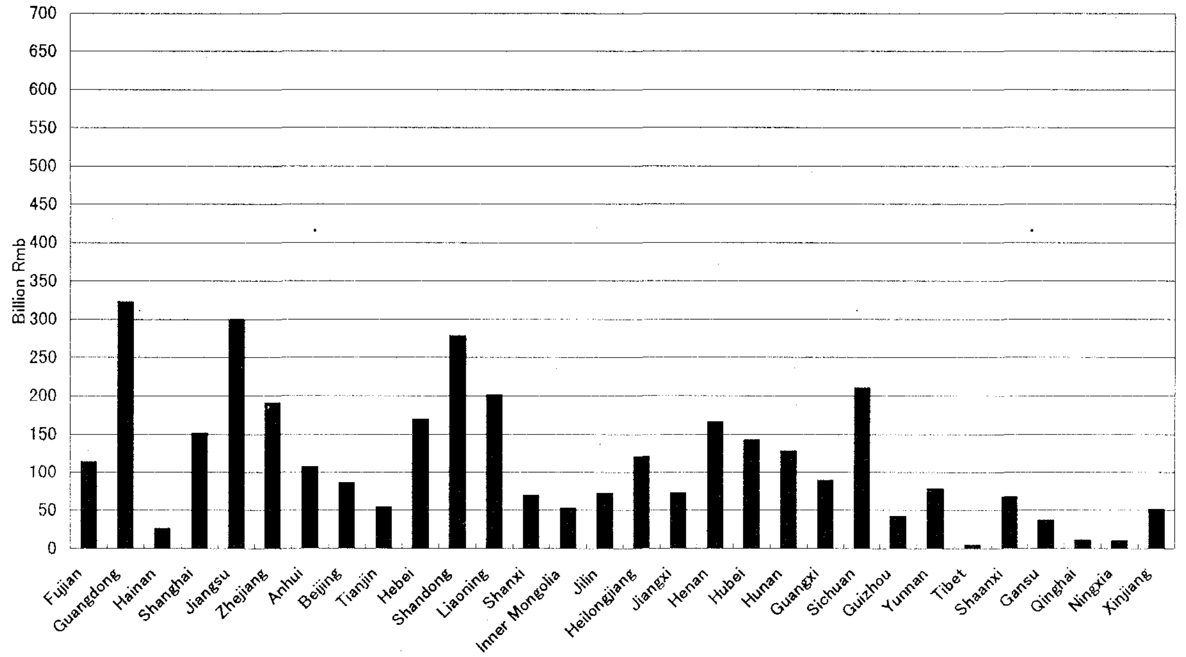

Figure 3: Foreign Direct Investment in China by Region, 1987-1995 [11]

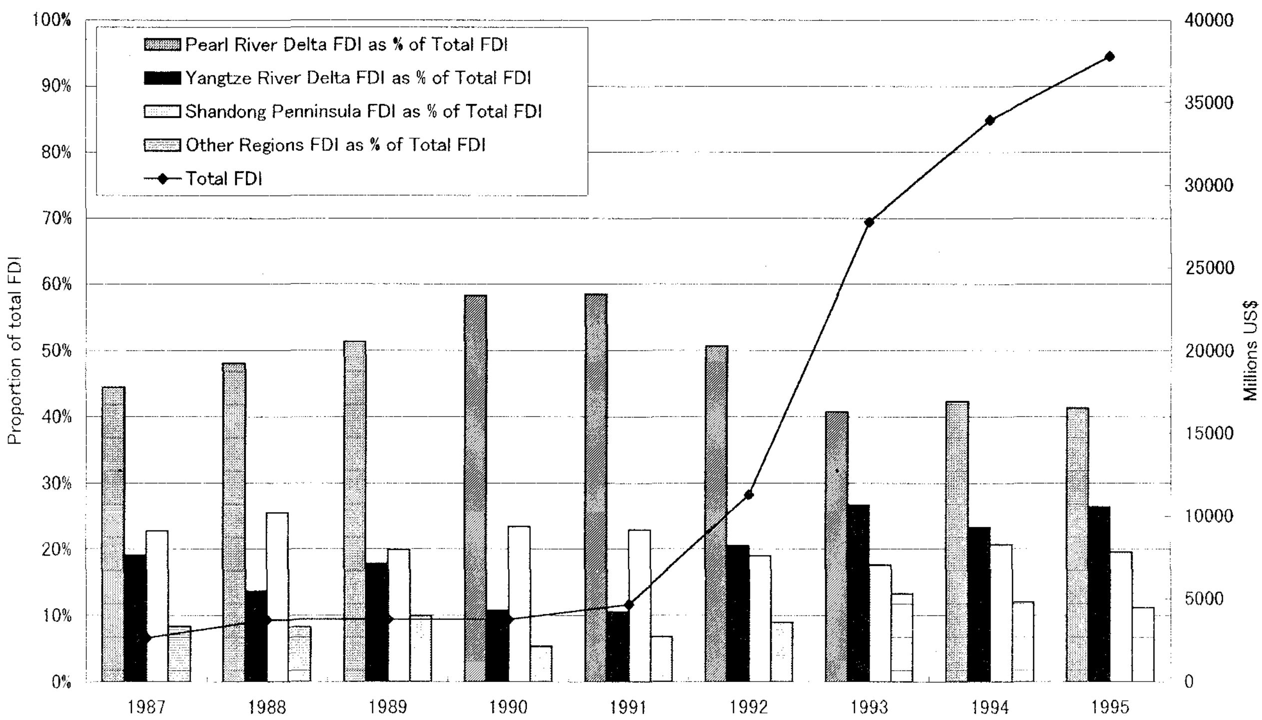

Table 1: List of Examples of Foreign Invested Road and Power Projects in the PRC, 1987-'95 [4,5]

Project	Province	Sponsor	Year Begun
TOLL ROADS			
Guangzhou-Shenzhen-Zhuhai Superhighway	Guangdong	Hopewell	1992
Shenzhen-Huizhou Expressway	Guangdong	NWI	1993
Guangzhou City Northern Ring Road	Guangdong	NWI	1994
Gaoyao Roadway	Guangdong	NWI	1994
POWER GENERATION			
Shajiao B	Guangdong	CEPA (Hopewell, now Southern En.), Local govt	1987
Shajiao C (Guangdong Guanghope)	Guangdong	CEPA (Hopewell, now Southern En.), Local govt	1993

2. "THE PRESENT": SINO-FOREIGN JVS ALONG THE COAST & SIGNS OF CHANGE...

The "Present" began in November 1995 with the successful public listing of NWI on the Hong Kong Stock Exchange, and brings us to July 1998 and the implementation of China's Infrastructure Investment program as the country attempts to ward off the effects of the Asian economic crisis. In between these two events, there have been numerous developments in the area of foreign private investment in Chinese infrastructure.

(1) The Places:

The geographical focus of all foreign investment and economic development has continued to shift during the 1995-1998 years.

In step with increasing overall economic development in the coastal growth pole regions, even a partial list of infrastructure deals which have been undertaken in these areas emphasizes the widened scope of foreign investment in infrastructure (see Table 2).

More recently, investors have begun to look to the inland regions for infrastructure opportunities. As the coastal regions develop, competition and the costs of doing business on the coast are rising enough to make some investors look inland for new opportunities. This geographical shift is further encouraged by the central government in Beijing, which hopes to promote inland development to compensate for the huge gap in economic development between the inland and coastal regions. Specific steps taken by Beijing to promote investor interest inland include the equalizing of investment regulations between the inland and coastal regions (eg. raising project approval limit levels in inland provinces to similar levels as the coastal regions) and the conducting of China's first three central government-sponsored Build-Operate-Transfer (BOT) pilot projects in the western regions (i.e. Laibin power plant in Guangxi, Changsha power plant in Hubei, and the Chengdu water plant in Sichuan).

(2) The Players:

The number of participants in China's infrastructure market have increased greatly over the last three years, expanding beyond the initial Hong Kong property developers to include a variety of investors, utilities, construction and engineering firms, and infrastructure funds of various nationalities.

Hong Kong developers have remained very strong in China in "The Present". While Hopewell has relinquished its pioneering role due to poor government relations and troubled investments in China and other parts of Asia, firms such as NWI, CKI and others have continued to play leading roles in expanding foreign investment in PRC infrastructure. These companies now have infrastructure investment portfolios that include not only roads and power plants, but also water treatment facilities, container ports and shipping facilities, and even airports. Their geographic focus has also expanded to include all of China instead of just Guangdong: for example, CKI recently began two water treatment plants in northern Liaoning province, while NWI is investing in roads in Sichuan province in the west.

There are several relative newcomers to the field, who have become increasingly active in the Chinese infrastructure market in 1995-1998. These include firms hoping to leverage know-how in the construction and operation of infrastructure facilities, such as foreign utilities and engineering-procurement-construction (EPC) firms; market players which are more interested in Chinese infrastructure as a long-term strategic investment without demanding direct operational responsibility, such as specialized infrastructure funds and a few pioneering investment banks; and pure portfolio investors looking for ways to tap into Chinese infrastructure growth through public securities markets.

In addition to the growth in foreign private investment in Chinese infrastructure, the "Present" period has also witnessed growth in the participation of domestic private / semi-private investors. This could significantly impact the playing field for Chinese infrastructure investment in the future. As the credibility and sophistication of some regional government agencies and provincial state-owned or government-affiliated enterprises has increased, pursue "private" infrastructure projects on their own. For example, in the provinces of Guangdong, Zhejiang, Jiangsu, Anhui, and even inland Sichuan, expressway corporations – formerly the road development bureaus of the provincial communications ministries – have begun to raise financing through Hong Kong listings and international bond issues, and pursue toll road projects within their respective provinces. There are domestic players in subsectors other than roads, as well. In the power industry, regional Chinese power grid operators such as Huaneng (Shandong area) and Huadong (Shanghai area) have also either begun to raise finance on international bond markets.

In some cases, such as NWI's partnership with Sichuan Expressway to develop a major toll road in that province, domestic companies have acted as local partners. In other cases, they can act as competitors to foreign firms wishing to secure profitable projects in their jurisdictions. Some domestic firms can use strong connections to local governments, access to local financing, and motives that are geared more to promoting local economic development than actually generating profits to reduce relative costs of capital and secure a steady stream of quality local projects... to the disadvantage of foreign competitors.

(3) The Deals:

The distinguishing feature of "The Present" in terms of infrastructure deals in China is the use of foreign capital markets (overseas stock exchange listings and bond issues) to raise financing. Starting with the successful Hong Kong listing of NWI in fall 1995, an increasing number of projects and holding companies have raised capital for China investments through both public and private placements of bond debt and equity. Table 3 shows a list of China infrastructure-related debt and equity, either issued publicly on the Hong Kong Stock Exchange or placed privately with international institutional investors. there has been a growing initiative among domestic players to access international capital markets, secure finance, and

In terms of project structure within China, the Sino-foreign joint venture structure remained prevalent, although with variations. Use of holding companies grew rapidly, helping to expand project options. Companies with a number of operating projects (often built or acquired during "The Beginning") now often establish holding companies to pool projects and specialize in the pursuit of further investment opportunities. With portfolios of operational projects – and their secured cash flows – such holding companies can then access debt on international markets more easily.

Innovative deals have combined packages of facilities to improve the credibility of a specific venture. The key to such projects has been the transfer of operating rights for existing facilities from a government to the private entity. These deals have come with the stipulation that the company improve operating efficiency of the existing roads and also construct specific new facilities or complete sections already under construction. The existence of a package of facilities, some of which are already producing revenues, has enabled some firms to access international capital markets through bond placements or public equity offerings.

Despite these innovations, projects in "The Present" have been conducted in the absence of a clear legal framework; they have generally continued under the Sino-foreign JV system, with the foreign partner prevented by Chinese law from taking control over the operations of a facility. There are also concerns regarding the legal enforceability of contracts between foreign private investors and local Chinese government-affiliated companies.

A movement began in 1995 to remedy this situation. In August 1995, the central government published a set of draft Build-Operate-Transfer (BOT) guidelines, which were scheduled to be promulgated as a "BOT Law" in spring 1996. Unfortunately, due to political infighting, the BOT Law has yet to be passed (as of July 1998). Promulgation into law is now expected in spring 1999.

Although the China's BOT movement remains in the form a "BOT Guideline" without yet becoming law, the central government has proceeded with three pilot projects to test the model and further prepare for legislation. The pilot projects, if successful, should provide the models upon which a comprehensive BOT Law can be built and passed in the future.

The pilot projects include two power plants and one water treatment facility. The success of the Laibin B power project, completing negotiations in November 1996 and achieving financial closure in August 1997, is one positive result. Two further projects, namely the Changsha power plant and Chengdu water treatment plant, were awarded to foreign consortia in mid-1998. One more project, the Puqi power plant, has been awarded based on the BOT guidelines without being formally categorized as one of Beijing's pilot projects.

The structure outlined in the BOT guidelines differs from that of Sino-foreign JV infrastructure projects in a few important aspects. If passed into law, the BOT model could provide the kind of clear legal and regulatory framework that has been lacking so far in the China's private / foreign-invested infrastructure projects. In particular, the BOT guidelines stipulate: (1) award of concessions by open international competitive bid; (2) project companies that are foreign-invested enterprises or joint ventures majority-owned by the foreign partner; and (3) the foreign party of a project company can have control of facility operation.

More recently, the central government has begun to study the possibility of formalizing a "Transfer-Operate-Transfer" (TOT) framework which would legally define the process of transferring existing infrastructure facilities to private investors, providing stipulations on post-transfer investment requirements.

Figure 4: China GDP and GDP Growth, 1995-1998 [1, 9]

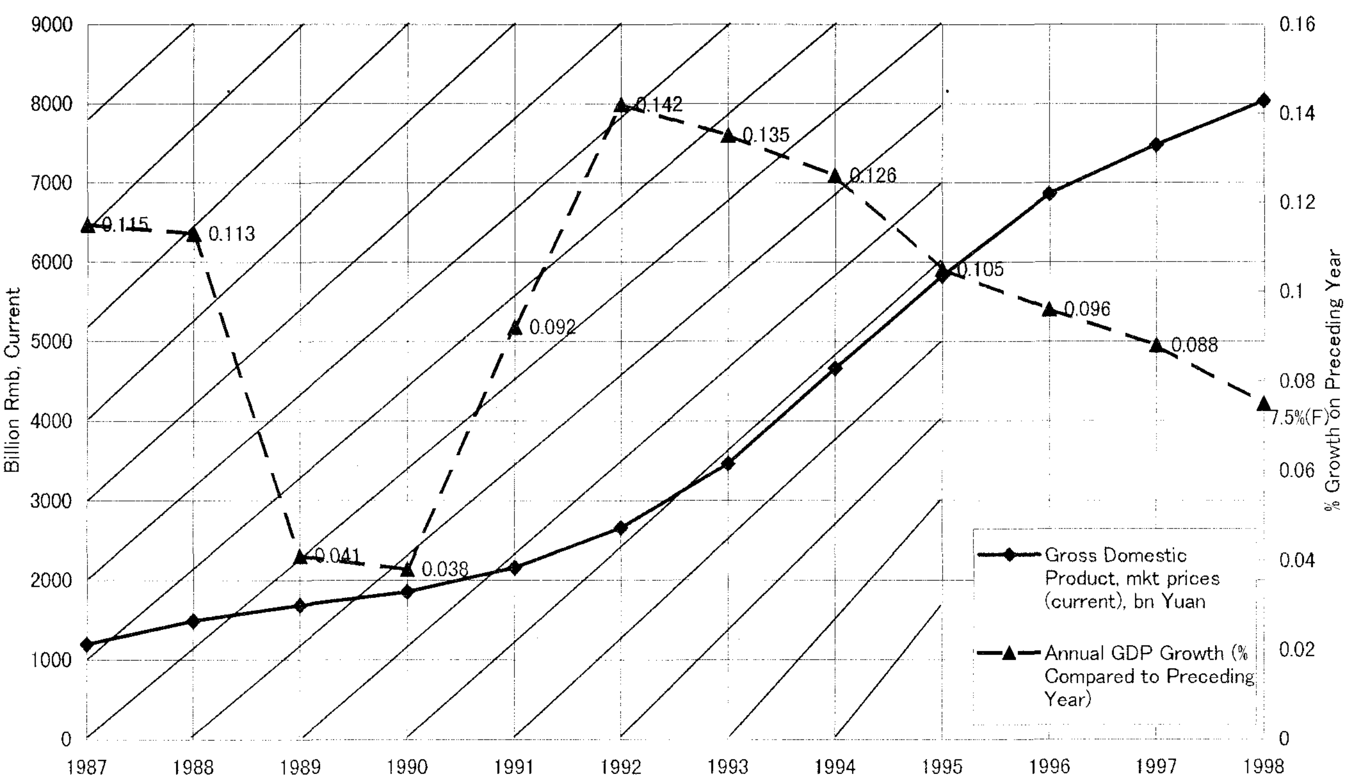

Figure 5: GDP by Province, 1996 [1]

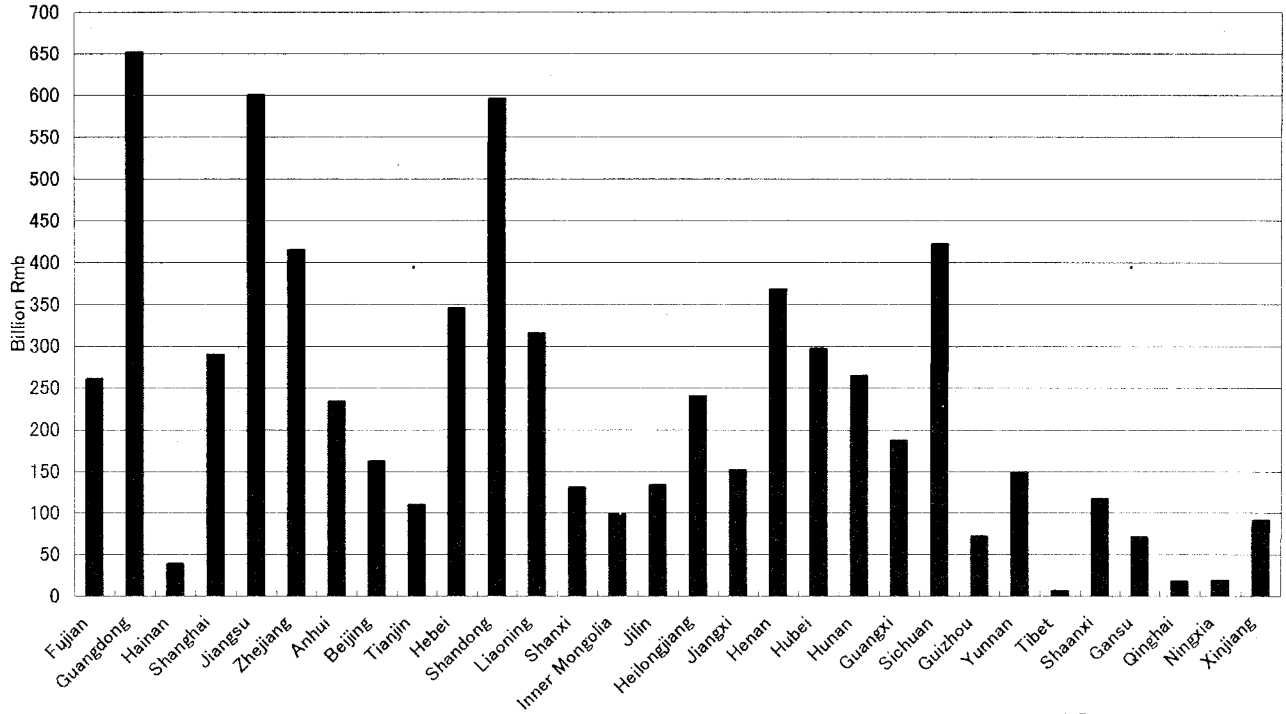

Table 2: List of Examples of Foreign-Invested Road / Power Projects, 1995-'98 [4, 5]

Project	Province	Sponsor	Yr.
TOLL ROADS			
Wuhan Airport Expressway	Hubei	NWI	1995
Hui-Ao Roadway (Hui-Ao Section)	Guangdong	NWI	1996
Greater Beijing Region Expressway	Hebei	Bechtel, Provincial Highway Corp.	1996
Sichuan Ring Road	Sichuan	NWI, CKI	1996
Chengdu-Nanchong expressway	Sichuan	NWI	1996
Meiguan Expressway	Guangdong	Road King, Shenzhen Expressway	1996
Qijiang Highway	Guangdong	Road King	1996
Xunan Highway	Henan	Road King	1996
Jihe Expressway	Guangdong	Road King, Shenzhen Expressway	1996
Shen-Shan Highway	Guangdong	CKI	1996
Shenyang DaBa Road	Liaoning	CKI	1996
Guangzhou-Zhuhai East-Line Expressway	Guangdong	NWI	1997
National Highway #107 (Shenzhen)	Guangdong	Shenzhen Expressway	1997
Tanshan-Jintang Road	Hebei	CKI	1997
National Highway #107 (Zhumadian)	Henan	CKI	1997
BRIDGES			
Shantou Bay Bridge	Guangdong	CKI	1996
Yichang Yiling-Yangtze Bridge	Hubei	CKI	1998
POWER GENERATION			
Shantou Chenghai	Guangdong	CKI	1996
Tangshan	Hebei	Sithe Energies, AIG Fund, GIC Singapore, local govt.	1996
Xiangci-AES Hydro Power	Hunan	AES Chigen, China Hunan Cili EPC	1996
Weihai	Shandong	AES Chigen	1996
Henan	Henan	Combined Energy (Denver), Henan Power Bureau	1996
Fushun Power Plant	Liaoning	CKI	1997
Anhui		United Engineering-Singapore	1997
Jingyuan	Gansu	Meiya Power Corp (CEA / AIF Fund), Local Govt	1997
Zhuhai	Guangdong	CKI, Guangdong Elec. Dev., Guangdong Elec. Power Hldg	1997
Shandong Zhonghua Power	Shandong	China Light and Power, EDF	1997
Weihai City	Shandong	Shandong Huaneng Power Dev., Weihai Mun. Intl Trust &	1997
Jiangmen West River Power	Guangdong	CEA Asia, City of Jiangmen	1997
Hefei Lake	Anhui	AES Chigen, Anhui Liyuan Electric, Hefei Mun. govt	1997
Sichuan Fuling Aixi Power Co.	Sichuan	AES Chigen, Sichuan Fuling Banxi Colliery	1997
Fujian-1	Fujian	New World Power, China Chang Jiang Energy	1997
Nanjing City	Jiangsu	Coastal Power Prod'n, local govt	1997
Wuxi	Jiangsu	AES Chigen, China Natl Aero-Engine, Wuxi Power	1997
Laibin B	Guangxi	EDF, GEC Alsthom	1998
Donguan	Guangdong	Sithe China (Sithe, AIG Fund, GIC Singapore), local govt.	1998
Rizhou	Shandong	China Power Investment, Shandong Huaneng, Siemens	1998
WATER			
Dachang Water Treatment Plant	Shanghai	Bovis Asia Pacific, Thames Water, Local govt	1996
Donguan Qiaotou Water Plant	Guangdong	CKI, Local govt	1998
Shenyang (Shifosi) Water Plant	Liaoning	CKI, Local govt	1998
Chengdu #6	Sichuan	Generale des Eaux	1998

Table 3: China Infrastructure Related Issues on International Capital Markets[6,10]

Public Stock / Bond Issues

Company	IPO Date
China Merchants	1-Jul-93
New World Infrastructure	17-Oct-95
Road King Infrastructure	24-Jun-96
CKI Holdings	4-Jul-96
Anhui Expressway	31-Oct-96
GZI Transport	24-Jan-97
Shenzhen Expressway	4-Mar-97
Zhejiang Expressway	6-May-97
Beijing Enterprises	29-May-97
Jiangsu Expressway	17-Jun-97
Sichuan Expressway	7-Oct-97

Private Bond Placements

Bond Issue	Issue Date
Zhuhai Highway Tranch 1	7-Aug-96
Zhuhai Highway Tranch 2	7-Aug-96
Road King 1	Jan-97
Greater Beijing Expressway Tranch 1	17-Jun-97
Greater Beijing Expressway Tranch 2	17-Jun-97
Road King 2	Jul-97
Guangzhou -Shenzhen Superhighwa	11-Aug-97
Guangzhou -Shenzhen Superhighwa	11-Aug-97
Suzhou Development Trust	1-Sep-97
Cathay International	2-Apr-98
Traffic Stream	15-Apr-98

3. "THE FUTURE": JVs, BOTs, IPOs & INLAND REGION DEVELOPMENT

As for "The Future", it is possible to cite current trends that will have implications for the future of private participation in infrastructure in China.

(1) The Places:

There should be increased movement by private foreign investors toward the inland regions. This will not simply be the result of promotion of such movement by the central government: it should be the natural result of China's economic development.

As mentioned in "The Present" section, Beijing has already created a roughly level regulatory playing field between the coast and the inland regions by equalizing approval limits, and is further focusing on inland provinces for its BOT pilot projects.

This trend should continue in "The Future", as the central government attempts to reduce the gap in economic development between the coastal and inland regions.

Apart from the government's efforts, increased foreign investor interest inland should be the natural outcome of China's overall economic development. In the coastal regions, increased competition, rising land acquisition and labour costs, as well as reducted demand for new infrastructure will follow economic development; this should naturally create incentives for infrastructure investors and developers to look inland for new opportunities.

On the other hand, this does not mean that infrastructure investment opportunities on the coast will disappear; even though they are relatively "developed" compared to other parts of China, specific infrastructure needs will remain high in the coastal provinces for years to come. Further, since the coastal regions are far more economically sophisticated than the inland provinces, they may provide better, more efficient investment environments and lower risks for foreign investors. This should help to maintain interest in privately invested infrastructure projects on the coast in the years ahead.

(2) The Players:

It seems likely that many of the companies currently involved in investment and development of infrastructure in China will continue their participation in "The Future". Continuation of the leading role of Hong Kong developers, consolidation of other foreign participants, and a growing presence of domestic players and financing seem to be the trends for players in Chinese infrastructure.

There does not seem to be any sign of weakening in the positions of the major Hong Kong developers. As these companies continue to grow and expand their portfolios, they have built strong connections with regional governments throughout the country, and have also built an extensive research and business development network. This assures them of early access to information in the field, and secures their pioneering role in Chinese infrastructure investment. On the other hand, firms such as NWI and CKI could be weakened if their base assets in the Hong Kong property and shipping markets lose too much value due to economic downturn.

The presence of holding companies set up as vehicles for development, management and foreign private investment in packages of projects will likely continue to expand as more projects are developed.

Some foreign firms have been exiting the market recently, due to frustration with low returns and difficult business environment. There should be a continued weeding out of foreign investors, with some companies backing out and others committing long term to participation in the PRC market.

There should also be a significant increase in competition from domestic market participants. Provincial power utilities as well as the road-investing corporate arms of several provincial communication bureaus have begun to not only list shares and access foreign capital markets, but also to use domestic financing. In the past, China's securities exchanges, in Shanghai and Shenzhen, and capital markets have played a minor role in financing infrastructure. Further, China's domestic banking institutions have not contributed much in terms of loans for private infrastructure. However, both of these areas may be changing. Recently, some Chinese infrastructure firms have decided to list shares publicly on domestic stock exchanges rather than in Hong Kong or other overseas markets, as past companies have done. This is attributable to the negative market sentiment in Asia's markets in 1998, as well as to the growing capitalization and lenient listing requirements of the domestic stock markets.

In mid-1998, the Chinese government announced an extensive infrastructure investment program. Part of the program will focus on encouraging domestic banks to provide loan financing for the development of infrastructure, as the government tries to make infrastructure development act as an economic stimulant and buffer against recent economic downturn. While the banks have been instructed to supply financing to both foreign-invested enterprises and Chinese corporations, it is possible that the increased role of China's banks could enhance the competitiveness of domestic infrastructure developers.

Further domestic competition may result from domestic firms which are currently tied to provincial governments and their jurisdictions are starting to commercialize and expand operations across provincial borders.

(3) The Deals:

The structure of infrastructure deals in the future will also change in stride with changes in China's administrative and legal systems. For example, a recently passed Highway Bill could have a significant impact on the development of toll roads, while the new Electric Power, Project Financing, and Foreign Securitization laws as well as other decrees will help to shape various aspects of the regulatory and competitive environment. However, there are doubts about whether new Chinese infrastructure laws will be effectively enforced, as vested interests and conflict between different levels of government create resistance to thorough implementation. Effective enforcement of new infrastructure and investment-related laws will depend on the administrative capacity in China and its regions, which in turn depends on the success or failure of government organizational reforms which are currently underway.

The Sino-foreign JV structure will likely remain popular in the provinces. The fact remains that they have been a breakthrough in enabling local governments to attract foreign private capital into investments in infrastructure. The Sino-foreign JV structure continues to allow for maximum flexibility at the local government levels, given an imperfect legal and regulatory environment regarding foreign investment in Chinese infrastructure. Depending on the degree of risk taken on by the foreign partner, Sino-Foreign JV models can be considered as equivalent to a partial "BOT" concession, where the local government maintains ownership interest and operational control.

There may, on the other hand, be problems arising from the (il)legality of guarantees offered by local governments in joint venture deals. With the recent economic downturn in China, some foreign investors have attempted to collect the minimum returns guaranteed by local government partners; however, there are a growing number of cases where local authorities are not living up to their guarantees.

A clear legal framework for Build-Operate-Transfer projects will hopefully be introduced by the middle of next year. This could provide an interesting alternative to the current JV structure, especially since a comprehensive BOT Law could bring much needed clarity to the process of approvals, guarantees, and other issues that are now poorly defined. However, there are numerous factors both for and against the implementation of the BOT model in more infrastructure projects in China. Assuming the law is passed, it may not be welcomed by local governments, since the current Sino-Foreign JV models provide more immediate returns to local governments while not requiring them to relinquish control over infrastructure facilities. Certain types of foreign investors which have built strong relationships with regional governments to secure CJV/EJV deals in the past may also resist the BOT model, which requires award by international competitive bid. Despite the potential negative reception, it is hoped that the BOT model is legislated to facilitate creation of a transparent, reliable framework for infrastructure project development in "The Future".

4. CONCLUSIONS

In conclusion, it is possible to glimpse the following patterns among China's shifting market for private and foreign investment in infrastructure since the country's first foreign-invested power project began operation more than a decade ago.

(1) Places: Over the three periods, the trend for concentration of primarily foreign private investment in infrastructure has grown and expanded along with China's regional economies. Guangdong province, in many ways the economically most advanced province and most open to foreign influence, benefited from foreign investment in its power and transportation infrastructure in "The Beginning" years. Foreign private investment in infrastructure then expanded up the Chinese coast in "The Present", as China's three coastal economic growth poles led development. Finally, in "The Future" there will be a natural tendency for private infrastructure investors to look further inland, reflecting central government policy to promote inland development, as well as higher land premiums and competition on the coast. At the same time, the head start in economic development and relative administrative sophistication will likely maintain the coastal regions' appeal to infrastructure investors as good places to do business in "The Future".

(2) Players: The participants in China's expanding market for infrastructure investment also continues to change over time. Despite dramatic changes in the regulatory and business environment in China over the past decade, Hong Kong developers have maintained their leading role in the financing and development of Chinese infrastructure. From the first player in "The Beginning" (Hopewell) to the strongest player in "The Present" (CKI), the leading participants in private infrastructure in the PRC continue to come from Hong Kong. On the other hand, the rest of the field continues to undergo significant changes. International power utilities piled into Chinese power projects in 1996-'97, but are now facing a period of consolidation as some firms are frustrated and others restructure for "The Future" in the PRC. Firms in other sectors are choosing ways to specialize, either in specific sectors, regions, or roles. Perhaps the most important development is the evolution of Chinese domestic private firms and government-affiliated companies with the capacity to raise infrastructure financing on international and domestic capital markets themselves. With direct access to international capital markets, these companies – and partnerships between them – could become a formidable group of competitors and change the playing field in PRC infrastructure in the years ahead.

(3) ***Deals:*** The structure of privately invested infrastructure projects continues to evolve in China's continuously changing regulatory and business environment. Sino-Foreign Joint Ventures were a breakthrough in "The Beginning", enabling local Chinese governments to attract foreign private capital into investments in infrastructure. They allowed for maximum flexibility at the local government levels, given an imperfect legal and regulatory environment regarding foreign investment in Chinese infrastructure.

Likewise, use of holding companies to package portfolios of projects provides flexibility for firms attempting to raise financing in "The Present". This has further facilitated access by infrastructure development firms to international stock and bond markets for financing endeavors in China.

Most recently, the Chinese central government's efforts to create "Build-Operate-Transfer" (BOT) and "Transfer-Operate-Transfer" (TOT) models indicate a movement to provide the administrative framework that has been lacking so far in PRC infrastructure. However, the successful introduction of BOT is far from assured. Passage of the "BOT Law" itself has been delayed for three years at this point, apparently as a result of political resistance. Assuming the law is passed, it may not be welcomed by local governments, since the current Sino-Foreign JV models and the growing role of domestic government-affiliated companies provide more immediate returns to local governments while not requiring them to relinquish control over infrastructure facilities. Despite the potential negative reception, it is hoped that the BOT model is legislated to facilitate creation of a transparent, reliable framework for infrastructure project development in "The Future".

Since the first project in 1987, private and foreign investment in China's infrastructure has already built a rich and varied history. From "The Beginning" and through "The Present", legal, regulatory and economic conditions as well as the field of competitors and structure of projects and financing continue to shift and adapt... towards "The Future".

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This paper is based on existing literature, interviews with private firms and government agencies in Beijing and Shanghai (Aug. '97, Feb.-Mar. '98), as well as an internship in a private infrastructure investment fund in Hong Kong (July-Oct. '98). The author wishes to express his deepest appreciation to everyone who cooperated with interviews and tolerated his many questions.

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