Broadening the PFI options

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The concepts of PFI (Private Finance Initiative) and PPP (Public Private Partnership) in South Korea were first legislated for in August 1994 with the enactment of the "Promotion of Private Capital into Infrastructure Investment Act". However, even before this Act, several projects – the Namsan 1st Tunnel (1969), Dongjak Bridge and Wonhyo Bridge (1978) – had been planned as a primitive form of PFI/PPP, but failed to attract private capital due to lack of feasibility and insufficient government support.

Though several projects – the Incheon International Airport Expressway, Ehwaryung Tunnel and Gwangju 2nd Ring project for example – were financed successfully by KDB (albeit not without hurdles), the initial system was a limited success mainly due to systematic rigidity such as limited rate of return, rare incentive for private participation, insufficient government support and non-compliance with global standards, and most of all, the lack of experience of all parties involved (government, construction companies, financial companies). To make matters worse, the Asian financial crisis hit hard in 1997, the project finance market froze when several banks went bankrupt and risk management policies were reinforced.

Thus, in 1998, the Korean government altered the PFI/PPP system and regulations in order to attract more private sector creativity, project suggestions and investments. "The Act on Private Participation in Infrastructure" came into force in December 1998 to provide a variety of governmental supports such as the minimum revenue guarantee (MRG) and simplified the implementation procedures to meet the global standards.
In addition to the expansion of governmental support mentioned above, the amendment in 1998 included a variety of changes and improvements such as:

• Introduction of PFI/PPP projects suggested by private participants
• Foundation of Public and Private Infrastructure Investment Management Center (PIMAC)
• Introduction of infrastructure funds
• Activating the issuance of infrastructure bonds

Mainly due to this reformation, the Daegu-Busan Expressway – which brought foreign capital into Korea PFI/PPP for the first time – was successfully financed by KDB in 2000. The successful financing of the KRW2.5 trillion project was the beginning of restoring vitality into the Korean PFI/PPP market.

The accumulated PFI/PPP financing amount to 2004 was approximately KRW17 trillion, mainly due to the biggest and the first railroad PFI/PPP project in Korea – the 61km, KRW4,400 billion Incheon International Airport Railroad. The Busan-Geoje fixed link project also reached financial close in December 2003 with KDB arranging. In addition, seven or more projects including Incheon North Port (phase 2-1), Busan Shinsundae Container Terminal 5th berth and Busan New Port were financed – all on a limited or non-recourse basis.

Second reformation of PFI law

After the period of expansion in the early 2000s, the reformation of "The Act on Private Participation in Infrastructure" in 2005 included tremendous changes such as the reduction or removal of the MRG (Minimum Revenue Guarantee) by government and the introduction of new types of PFI/PPP, primarily BTL (Build-Transfer-Lease).

The reduction or removal of MRG requires sponsors and financiers to be much more prudent and even cautious in PFI/PPP projects. Project sponsors are willing to request financial companies to participate in equity and to arrange equity financing from financial investors such as pension funds, insurance companies, and investment banks. The introduction of financial (or pure) investors makes financing structures more complicated and mezzanine debt issued by financial investors becomes common.

The candidates for the first green field projects without MRG – such as Incheon-Gimpo Expressway and Siheung-Pyeongtaek Expressway – are in financing negotiation and it is expected that due to the increased exposure to demand risk and cash shortfall risk, lenders will want tight warrants from sponsors.

The second primary change in the amended Act opened a new area of PFI/PPP with the introduction of BTL (Build-Transfer-Lease). In contrast to BTO (Build-Transfer-Operate), in which the project sponsors and lenders are exposed to demand risk, a BTL project provides fixed but relatively low rates of return to project sponsors with the government thereby saving on budgets for socially indispensable facilities such as schools, sewer pipes, and military accommodation.

BTO vs. BTL

Item	*BTO*	*BTL*
Investment Recover	Concessionaire collects user fee to recover project costs and an agreed IRR (Internal Rate of Return)	Concessionaire receives government payment covering the construction costs inclusive of profits and operating cost
Facility Type	Roads, seaports, railways, and environmental facilities, etc	Schools, military accommodations, welfare facilities and cultural facilities, etc
Project Risk	High risk and high return High demand risk	Low risk and low return Low or no demand risk

Source: Ministry of Planning and Budget, South Korea

The BTL project financing market has grown steadily, driven by demand from local governments with insufficient social infrastructure budgets and the improved efficiency of construction and operation offered by the private sector. In addition to these benefits for local governments, investors – including mid-small size financial companies such as local banks, security companies and mutual saving banks – which had rarely participated in BTO financing due to its relatively big size and risk, have opportunities to invest in attractive and safer PFI/PPP assets.

Prospects for PFI/PPP

The number of Korean PFI projects has been steadily increasing as well as the financing amounts – in 2007, KDB was ranked No1 provider and arranger of PFI/PPP project finance loans by Dealogic with 19 deals and a volume of $3.231 billion. But there are still hurdles to overcome to ensure a successful PFI/PPP market for the future.

First, some NGOs and the financial press argue that government expenditure for construction subsidy and MRG in accordance with the PFI/PPP concession agreement to private concessionaires (ultimately to construction companies and private investors) is immoderate and verging on excessive. Whether this opinion is proper and/or justifiable or not, it may prevent the government from taking new PFI/PPP projects proposed, and ultimately shrink the Korean PPP financing market significantly.

Second, in December 2007 the Korean government and PIMAC announced a policy change saying that half of the increased rate on equity raised from refinancing should be taken from the PPP project sponsors back to government ("Profit sharing from Refinancing"). This policy may disorder and hamper the development of a PFI refinancing market including debt and secondary equity.

Despite these problems, the Korean PFI/PPP market is still expected to grow because:
• As more fiscal expenditure is allocated for sectors other than SOC, such as social welfare, government's need for inducing private capital to infrastructure development will increase.
• Demand for refinancing of the projects financed during the early 2000s is being steadily increased due to the lower interest rate and desire to exit invested capital, especially by the project sponsors and pure investors involved in the early stages who now need to raise funds for new projects.

PFI BTO case study: Busan-Goeje Fixed Link

The project will link Gadukdo in Busan city with Goejedo in Kyungsangnam province and will consist of a 3.3km immersed tunnel and two large suspension bridges – in total 8.2km of roads which will then be transferred to the competent authority. This is a 40 year BTO type of concession.

The concession was signed in February 2003 by the GK Link consortium and the authorities of Kyungsangnam province and Busan City. Construction started in December 2004 and is expected to be completed in December 2010.

The immersed tunnel and 'Fast Track' method of construction is being operated for the first time in Korea and the project will stretch tunneling technology to its limit, since it includes an unprecedented 40m deep immersed tunnel on soft soils. This method of construction is the same as Hong Kong's Western Harbour Tunnel and Denmark's Oresund Tunnel. 'Fast Track' method is a technique that enables design and construction to be carried out simultaneously for efficiency and it may reduce a term of works as well as construction cost.

Sponsors on the project – which is 37% built – are DaeWoo Construction (43.5%), Daelim Engineering & Construction, Doosan Construction & Engineering, SK Engineering & Construction, Korea Development Corporation and Hanil Construction & Engineering.

Restructuring background

The project was first financed in 2003 with KRW1,185 billion arranged by Korean Development Bank. However, with plentiful liquidity in Korea's project finance market, a refinancing – designed to mitigate financial investors' contributions as well as alleviating construction shareholder's recourse – was arranged in 2007.

The new deal incorporated lenders that participated in the original 2003 deal and one new finance institution. The refinancing was signed on 15 March 2007 and the first withdrawal was on 29 March. Although there were no changes in concession agreement conditions, the government's support did change. Not only will the government provide a construction subsidy of KRW574 billion out of the total investment of KRW2,055 billion, but also offer a 90% MRG during 20 years of operation.

The debt restructuring is composed of five tranches. The limited recourse refinancing involves a KRW65 billion convertible bond with a seven-year tenor, three tranches and a standby facility. The Term Loan 1 tranche is KRW130 billion with a 16-year tenor and six-year grace period. Term Loan II is KRW460 billion for 16 years and a six-year grace period. Term Loan III is W400 billion, also for 16 years with the same grace period. The KRW100 billion standby facility is for four years from each drawdown. The bond facility replaces the KRW400 billion bridging facility in the original financing of the project.

In the past, bonds have been issued from domestic private investment projects such as the New Daegoo-Busan Highway and Hwengryung Mt. Tunnel projects. From a debtor's perspective, it is harder to please bond holders than lenders, so there has been little issuance of bonds. However, this project has found a suitable method for a loan with an equity characteristic. KDB lead arranged the refinancing and the lenders are major banks in Korea such as Shinhan Bank, Kookmin Bank and life insurance companies.

Financial Structure

Classification	*Type*	*Pre-Amendment*	*Post-Amendment*
Capital	CI Investment	4,300	4,300
	FI Investment	650	–
	(Subtotal)	(4,950)	(4,300)
Debt	CB	–	650
	Long Term I	1,300	1,300
	Long Term II	5,100	4,600
	SOC Bond – Long Term III	4,000	4,000
	Credit Line	800	1,000
	(Subtotal)	(11,200)	(11,550)
TOTAL		16,150	15,850

PFI BTL case study: Gyeongju City Sewage System

The project involves building and operating 170km of sewage system in Gyeongju City via BTL (Build-Tranfer-Lease). In accordance with the concession agreement signed in July 2006 between Gyeongju City, Environmental Management Corporation (EMC) and Gyeongju SMC Corporation (SPC), SPC constructs the sewage system and the ownership of the infrastructure is transferred to the City. SPC as the concessionaire is granted the right to operate the facility for which the City pays lease payment to the SPC during the concession period of 20 years. The lease payment is calculated according to the concession agreement at a level that allows the project to pay its debt service and a return for shareholders.

Gyeongju City issued a request for proposals in June 2005 with the intent to improve the sewage system with private capital instead of the city's insufficient budget. A consortium led by Taeyoung E&C was made preferred bidder in October 2005, and the concession agreement was signed in July 2006.

In addition to Taeyoung holding 25% of the project, several more construction companies hold a further 25% and KDB and four more financial investors hold 10% each. After finishing construction, the share of 20% held by Taeyoung E&C is supposed to bought out by financial investors (4% per each) according to the shareholders' agreement.

Financing

The KRW96 billion term loan for construction has a tenor of up to 22.8 years and grace period of 4.3 years. There is also a stand-by facility of KRW 4 billion in case of cost. Both facilities were arranged by KDB and signed in September 2006. The initial drawdown of the term loan was in February 2008, with all the equity injected in advance. The City pays at an earning rate of 5yr Korea Treasury Bond Yield+110bp for its lease to the SPC during the operation period.

Sources/Uses of fund

Total Investment Cost		*Sources of Fund*	
Item	***Won (m)***	***Item***	***Won (m)***
Total Project Cost	89,543	Conceding Authority	–

(TPC)		Subsidies	
Reserved for TPC	4,930	Total Private Investment Cost	106,256
Interest During Construction	11,783	Equity	10,626
		Debt (Tranche A)	95,630
Total	106,256	Total	106,256

There is Tranche B (KRW4 bilion) apart for Standby Facility Loan.

Operation

The City pays SPC fixed operation costs during the operation period according to the concession agreement. The City evaluates the service provided by SPC on a quarterly basis and if it doesn't meet the standard of the concession agreement, the government will reduce the operation cost by a predetermined rate.

Envirotec Co.Ltd (Envirotec), a subsidiary of Taeyoung E&C will operate and manage the facilities. Construction investors including Taeyoung E&C and Envirotec are fully responsible for the operation and required to provide the financial support.