

The Capital Market's Role in Infrastructure Development

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Pil-Kyu Kim
Head, Project Coordination Office
KCMI



Korea Capital
Market Institute

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1. Infrastructure Expansion and its Legal Framework

Infrastructure Expansion

❖ **Need for continuous infrastructure expansion**

- Expansion should continue for economic growth and better quality of life.
- Infrastructure investments can be used as a policy tool to generate demand and stimulate the economy.
- Infrastructure investment projects require a large amount of finance but pay off over the long run.

❖ **Need to leverage private-sector capital to ensure infrastructure investments are within budget.**

- The government plays a major role in infrastructure investment, but has difficulty meeting all infrastructure demands with its limited budget.
- Infrastructure projects require large, long-term investment. Thus, it is hard to meet funding requirements only with the private sector's investment.
- Thus, new finance is necessary to boost infrastructure investment.
 - Increase private-sector investment in infrastructure by developing diverse financial instruments.
 - Widen the scope of eligible private investors to bring the private sector's creativity and efficiency into government-managed projects.

Background: Public-Private Partnership in Infrastructure

- ❖ **Background: Public-Private Partnership in Infrastructure (PPPI) program**
 - This program mobilizes private capital for investment in infrastructure facilities that are built and operated using the government budget. The purpose of the program is to reduce the government's financial burden and increase investment efficiency in the public sector.
 - The legal backing for the program is the "Act on Public-Private Partnerships in Infrastructure" of 2005.
- ❖ **The PPPI program was introduced to ease the government's burden and enhance investment efficiency in the public sector by infusing private capital into infrastructure built and operated by the government.**
- ❖ **Historical developments in laws on private participation in infrastructure projects**
 - The PPPI program was first adopted when the Act on Attracting Private Capital for Infrastructure Projects was enacted in 1994. Because of little progress in the program during the Asian financial crisis, this Act was amended and the revised Act was titled as the "Act on Public-Private Partnerships in Social Overhead Capital." The revision paved the way for engaging private capital in public infrastructure.
 - This was replaced by the Act on Public-Private Partnerships in Infrastructure in 2005. This Act added a new type of financing arrangements, build-transfer-lease (BTL), and expanded the number of infrastructure sectors where private participation was allowed to 44 sectors.
 - The Act on PPPs in Infrastructure was revised in 2011.

❖ **Act on Public-Private Partnerships in Infrastructure (August 2011)**

- Off-street parking areas, recreational facilities, accommodations, and other facilities in natural forest, cultural facilities and outdoor advertisements were added to the existing ancillary businesses available for PPPs.
- The Act aims to facilitate infrastructure financing for PPP projects.
 - Widened the scope of eligible SOC bond issuers: “Securitization Specialty Companies” (ABS SPC) were included in eligible SOC bond issuers and became qualified for guarantees provided by the “Korea Infrastructure Credit Guarantee Fund.”
 - Introduced a trust-type infrastructure fund: the Act allows an infrastructure fund to be set up as a trust and added related words and terms.
 - Relaxed infrastructure fund regulations over borrowing and fund management:
 - Addition of a new provision that allows to skip shareholders’ approval for borrowing operating funds.
 - Debt investments (e.g., loans) are permitted for an infrastructure fund. Previously, only equity investment had been allowed.
 - Infrastructure funds are allowed to purchase bonds or commercial paper with the same credit rating as that of government and public bonds as a way to invest the fund’s idle assets.

❖ **At present, 48 different types of PPP projects in 15 sectors such as transportation, environment, and education are underway.**

- The PPPI Act applies to infrastructure facilities specified by law (limited enumeration).
- Project concessionaires are given financial support, tax benefits, the right to appropriate land.

Public-Private Partnerships

❖ Investment schemes

- BTO (Build-Transfer-Operate): after the completion of construction, a private-sector entity, which is a project sponsor, is given the right to operate and maintain infrastructure facilities for a certain period. The ownership of infrastructure is transferred to a central or local government.
- BTL (Build-Transfer-Lease): a private organization finances and builds infrastructure. The government retains the ownership of that infrastructure, and delegates the project sponsor to operate and maintain these facilities, which are leased back to the national/local government.
- BOT (Build-Operate-Transfer): the project sponsor (concessionaire) has the ownership of infrastructure for a certain period after the construction is completed. When the period ends, ownership is transferred to the national/local government.
- Apart from these, there are various investment schemes with different structures.

Reference: PPP Programs in Major Advanced Countries

- ❖ **Most countries have adopted public-private partnerships (PPP) to expand infrastructure facilities.**
 - The structure of PPP investment schemes adopted by those countries varies depending on each country's regulations and market conditions.
 - Recently, the direction of private investment has shifted considerably worldwide.
 - Partnerships occur more in the financial sector rather than industrial sectors.
 - Many countries have introduced various structured products in capital markets for infrastructure financing.
 - Banks were the main major investors but funds, pension funds, and insurance companies have emerged as major investors in infrastructure projects.

Reference: PPP Programs in Major Advanced Countries

❖ The United Kingdom (UK)

- The UK's PPP scheme is known as the Private Finance Initiative (PFI).
- The UK embarked on the PFI to use private capital and management techniques for the delivery of almost all public services and infrastructure facilities.
 - Agreed on the Maastricht Treaty in 1992, and thus, had to keep budget deficits below 3% of GDP and government debt below 60% of GDP to become a member of the European Monetary Union (EMU).
 - Introduced the private sector's capital, management, and creativity to boost efficient allocation of resources and enhance the quality of public services.
 - There was a growing need to overhaul and improve social capital, but the UK government had difficulty doing so by relying on conventional approaches because of fiscal constraints.
 - Sought to encourage private-sector investment in infrastructure and revitalize the economy through the public-private partnership.
- Primary market: construction firms play a major role in the PFI primary market where the private sector engages in PFI projects in the form of equity investment. However, more banks and infrastructure funds entered the primary market.
- Secondary market: recent growth in the UK PFI market has been driven by development in the secondary market for equity stakes in PFI projects.
 - The vibrant secondary market allows private parties who make equity investment in infrastructure projects to easily sell their equity stakes and reinvest the proceeds after infrastructure facilities are built.

Types of PFI Projects

Fare Collection	Public Support (Y/N)	Project Type
Users pay fares	N	Financially free standing
	Y	Public-Private joint venture
The public sector pays fares instead of users	Y/N	Services sold to the public sector

Reference: PPP Programs in Major Advanced Countries

❖ The United States' PPP Scheme

- In the US, infrastructure investment is made in a way that a project company set up by a local government raises capital from the private sector, undertakes infrastructure development projects, and distributes profits generated by the projects to the private sector.
- The public sector is involved in the entire process of an infrastructure project and takes the initiative to achieve the public purposes of the project while giving incentives, such as the right to operate facilities and relaxed regulations, to encourage private sector participation.

❖ Characteristics of private infrastructure finance in the US

- When a state or municipal government pushes for a privately-financed project, it issues revenue bonds that are credit-enhanced by revenues generated by the appropriate project or the local government's support. This suggests that the US has an advanced private infrastructure finance scheme that uses the capital markets.
- For privately-financed projects at the state level, the widely used method is funding via issuance of securities whose credit quality is enhanced by a guarantee from a mono-line insurance provider.
- Projects take the form of a public-private partnership, which effectively employs private-sector capital and management capabilities while using the public sector's properties and applying land use regulations.

Reference: PPP Programs in Major Advanced Countries

- ❖ **Japan passed a special law to overhaul “special facilities” using private-sector capabilities in 1986 to use surplus funds in the private sector and induce private parties to engage in infrastructure construction.**
 - Japan aggressively engaged private-sector entities to build public facilities in order to respond to technological innovation, spread of information, globalization, changing economic environment, and build better infrastructure for society and economy.
 - The law defines 17 facilities such as R&D, IT, and logistics facilities as “special facilities.”
 - Large-scale infrastructure such as roads, railways, and ports are not included in the special law.

- ❖ **Japan’s Fiscal Investment and Loan Programme (FILP)**
 - The Japanese government launched the FILP in 2001 to facilitate financing for government-supported projects.
 - The government issued 4.4 trillion yen FILP bonds in FY2006, including 2.2 trillion yen securities secured by loan receivables (ABS).
 - FILP bonds have no direct government guarantee, but rely on individual projects’ business potential and government financial support.

2. Mobilizing Private Capital for Infrastructure Investment



Infrastructure Finance from Private Sector

▪ **Syndicated loan**

Most PPP projects are funded by syndicated loans from banks or insurance companies.

▪ **SOC bonds**

SOC bonds are issued by an operator of an infrastructure facility to finance and build facilities. Bonds are credit-enhanced by the right to operate the facilities or concession agreement.

▪ **ABS**

Debt securities are backed by loans to a project or future cash flows from that project.

▪ **SOC fund**

Capital for equity stakes, syndicated loans, and investment in BTL projects is raised in the form of a SOC fund.

Risks in Infrastructure Projects

❖ Limited feasibility assessment

- Diverse stakeholders and other factors affecting a project make feasibility assessment difficult.
- Volatility in future cash flows may increase according to the relation between project feasibility and finance.

❖ Construction risk

- Uncertainties exist over the timeliness of construction, a construction firm's capacity, and construction cost increases.

❖ Operational risk

- Project's business potential and cash flow uncertainty are important factors.
- Infrastructure projects are long-term in nature. Hence, it is difficult to identify beforehand what factors should be controlled.
 - The best example is a rise in fuel costs that greatly worsened the business feasibility of Incheon Airport Energy Co., Ltd. The company failed to preemptively control the fuel cost hike.

❖ Financial risk

- Large financing and financing structure.
- Fluctuations in interest expense.
- Volatility also exists in relation to the timely infusion of funds from investors.

Risks Associated with Infrastructure

❖ Legal risks

- Changes in legislation
- Legal risks in contracts including concession agreements
- Legal risks in contract documents

❖ Risks associated with securitization for infrastructure financing

- Structuring risk
- Legal risk
- Cash flow risk
- Liquidity risk

Promoting Private Participation

❖ Concession

- The government enacted the PPPI Act to encourage private participation in infrastructure projects amid increasingly rising infrastructure demands. It enters into concession agreements with individual private parties under the PPPI Act.
- The concession agreement is the most critical contract in regard to infrastructure investment under the PPPI Act. This agreement specifies a concession period, total project costs, ROI, government subsidies, guaranteed revenues, loss compensation, contract termination, and effects of termination.

❖ Financial advisor (FA)

- A financial advisor (bank) negotiates details on concession agreements with the government for private parties. Also, it enters into a loan agreement with the private project sponsor on behalf of financial institutions.
- A loan agreement is important with regard to bond repayment because this puts restrictions on the project sponsor's activities until borrowed capital is paid off in full. The agreement contains general provisions for the project sponsor (interest rates, capital, upfront equity investment, principal and interest, restrictions on dividend distribution, and escrow accounts).

Promoting Private Participation

❖ Investors

- Investor rights and obligations are specified by shareholder agreement.
- Investors play a significant role in relation to construction risks.
 - If construction costs increase during the construction, such cost overrun risk is ultimately assumed by investors.
 - Therefore, the strong credit quality of investors can reduce construction risks significantly.

❖ Construction firms

- Construction firms build infrastructure under a design-build-contract with the project sponsor.
- The core of construction agreements are lump-sum turn-key, performance bond (guarantee), and insurance policy purchase. Construction contracts are mostly standardized.
- Selecting a good construction firm is critical because of completion risk.

Case Examples: Infrastructure Financing Using SOC Bonds

- ❖ **Incheon Airport Energy is the first independent power producer (IPP) established under the PPPI Act to supply heat and electricity for Incheon Airport.**
 - Total investment stood at about KRW 207 billion, including equity capital of KRW 53 billion, and borrowed capital of KRW 154 billion (KRW 100 billion worth of 10-year AA infrastructure bonds).
 - Incheon Airport Energy is the only genco subject to the PPPI Act.
- ❖ **Bond issuance**
 - KRW 100 billion SOC bonds were issued in 1999.
- ❖ **Structure**
 - Credit support of KRW 80 billion from KDB.
 - Power purchase agreement with KEPCO.
 - Guarantee provided by Incheon Airport.

Case Examples: Infrastructure Financing Using SOC Bonds

❖ LG Power

- As part of its plan to privatize the power industry, the Korean government sold combined heat and power (CHP) plants in Anyang and Bucheon to LG Power (IPP).
- Total investment amounted to roughly KRW 883.8 billion, including KRW 125 billion loans from financial institutions, KRW 404 billion 13-year AA infrastructure bonds, and KRW 354.8 billion equity capital.
- LG Power had no construction risk, the biggest risk in project financing, because it acquired the existing power plants.

❖ LG Energy

- LG Energy (IPP) sought to stabilize the capital structure by replacing short-term borrowings with long-term borrowings. The short-term debt was previously raised during the construction of its combined-cycle thermal power plant, which is now in commercial operation.
- Total investment costs were about KRW 400 billion, including KRW 118.5 billion equity capital and KRW 281.5 billion debt capital (KRW 172 billion 12-year AA infrastructure bonds).

Securitization Deals for Infrastructure Financing

❖ Asset-backed securities(ABS) associated with infrastructure projects

Year	SPC	Originator	Assets	Issuance Amount
2001	CNE Securitization Specialty Co.	KDB	Loan receivables related to Cheonan-Nonsan Highway	KRW 730 bil.
2003	KHC 1 st Securitization Specialty Co.	Korea Express Corporation (KEC)	Seoul Outer Ring Expressway	KRW 500.5 bil.
2004	CGH Securitization Specialty Co.	Asiana Airlines	Facilities for maintenance and operation of the Incheon International Airport	KRW 94 bil.
2004	KHC 2 nd Securitization Specialty Co.	KEC	Seohae Expressway toll	KRW 500.5 bil.
2005	KHC 3 rd Securitization Specialty Co.	KEC	Right to operate toll roads on Yongdong Expressway	KRW 500.3 bil.
2006	KHC 4 th Securitization Specialty Co.	KEC	Jungbu Expressway (Tongyoung-Jeonseon)	KRW 500.3 bil.
2006	Hankumi-5 Securitization Specialty Co.	IBK	System for operation and maintenance of Daejeon subway	KRW 60 bil.
2007	KHC 5 th Securitization Specialty Co.	KEC	Central Expressway	KRW 500.3 bil.
2008	BYT Securitization Specialty Co.	Macquarie Korea Infrastructure Fund	Loan receivables related to Baekyang Tunnel	KRW 172 bil.

Case Example: Securitization Deal for Infrastructure Financing

❖ Basic securitization structure

- This infrastructure project was undertaken under the PPPI Act revised in September 1999. This project was to construct a four-lane 80.96 km-long expressway linking Cheonan Junction of Jungbu Expressway with Nonsan Junction of Honam Expressway. This expressway aimed to provide a direct route between the metropolitan areas and the Honam region, reduce traffic congestion in Kyungbu Expressway, and develop the central Chungnam region and other Baekje regions.
- The project sponsor, Cheonan Nonsan Express Co., was formed in July 1997 and decided to build the expressway under a BTO (Build-Transfer-Operate) agreement with the government. Under the agreement, it transferred the ownership of the expressway to the government after the completion of construction, and had the right to operate and maintain the expressway for thirty years. During this concession period, it plans to recover its investment costs and generate profits.

❖ Risks

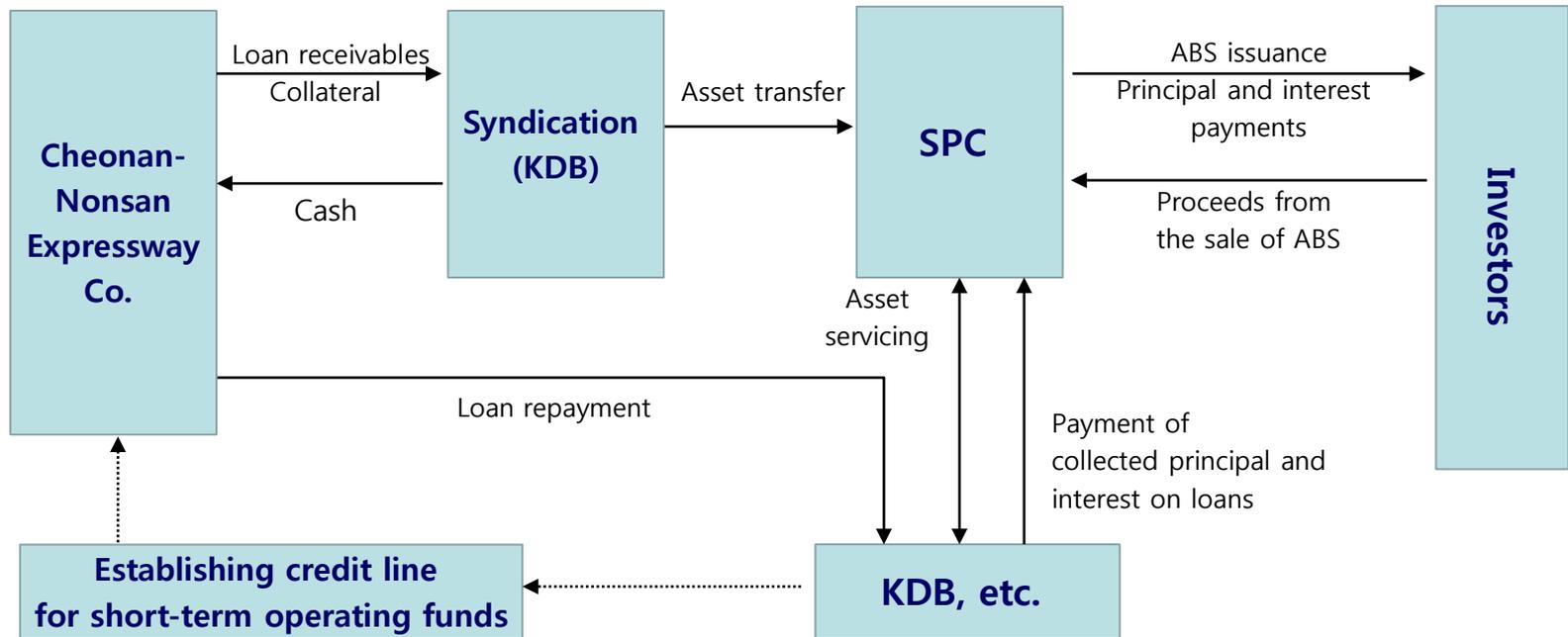
- Construction risk
- Operational risk
- Investor risk
- Legal risk

Case Example: Securitization Deal for Infrastructure Financing

❖ Deal Overview

- ABS were backed by toll revenues generated from the Cheonan-Nonsan Expressway.

❖ Deal Structure



Case Example: Securitization Deal for Infrastructure Financing

ABS Tranches

(Million KRW)

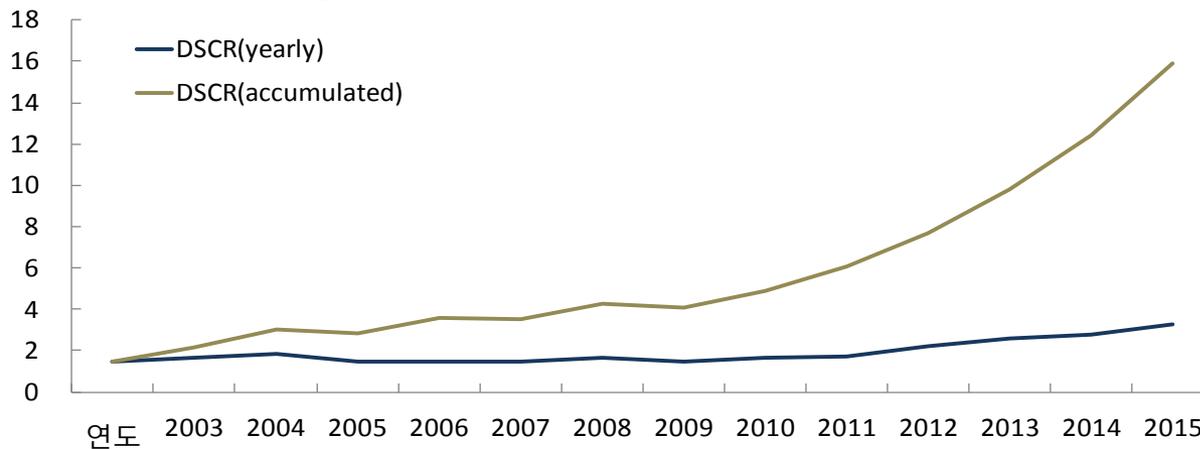
	Issue Amount	Final Maturity	Description
5-year	37,000	Feb. 2006	
6-year	23,000	Jun. 2007	
7-year	50,000	Feb. 2008	
8-year	50,000	Feb. 2009	
10-year	170,000	Feb. 2011	Interest only over 8 yrs, and level payments over 2 yrs
12-year	400,000	Feb. 2016	Interest only over 10 yrs, and level payments over 5 yrs
Total	730,000		

Case Example: Securitization Deal for Infrastructure Financing

❖ Cash flow analysis

- DSCR (debt service coverage ratio) remained low for the first five years of the expressway operation because of high interest expense in the early years. The average yearly DSCR was 1.91 during the projection period, but 1.59 for the first five years, much lower than the average ratio.
- There are several reasons for the weak cash flows during the early years of the operation. First, 15-year bonds or longer-term bonds are not easily absorbed by the Korean bond market. The biggest reason is that fixed interest payments didn't match cash flows over the early years. Accordingly, liquidity risk is concentrated in the early period of the expressway operation. To address this issue, KDB committed to providing a credit line of KRW 150 billion for 10 years from the ABS issuance.

Projected DSCR (2003-2016)



Case Example: Securitization Deal for Infrastructure Deal

❖ Stress test

- Since the issued ABS were fixed-rate and Korean won-denominated, this instrument can avoid interest rate risk and exchange rate risk that may arise when the repayment period is long-term. Thus, cash flows can be maintained in a stable manner.
- The stress test results indicate that even if toll revenues decline about 30%, the certainty of timely payment is the highest for the securities with maturities of 5, 6, 7, 8, and 10 years (1-1~1-5). And even though toll revenues fall by about 20%, principal and interest on the 15-year securities (1-6) can be paid.

Infrastructure Fund Structure

- ❖ **The purpose of infrastructure funds is to raise funds from investors, invest them in companies that undertake infrastructure projects (PPP projects) and distribute the investment returns to its investors.**
 - Infrastructure funds provide investors with opportunities to invest in privately financed infrastructure projects that the government guarantees to make profitable for private investors. Meanwhile, infrastructure funds help the government to reduce the enormous financial burden of building infrastructure facilities. Also, these funds provide the infrastructure market with diverse, long-term financial resources for investment (stocks, bonds, and loans).
 - This vehicle takes the form of an investment fund that mobilizes large sums of long-term funds from individual and professional investors.

- ❖ **Infrastructure fund's investment structure**
 - Infrastructure funds acquire stocks and bonds issued by private sector entities involved in infrastructure projects or offer loans for those entities.
 - The private parties build infrastructure facilities and generate revenues under a BTO or BTL contract, and pay dividends or interest to infrastructure funds.
 - The government guarantees revenues for private-sector entities during the concession period. Revenues in excess of the guaranteed level go to the government.

Infrastructure Fund Structure

❖ BTO fund

- Form: infrastructure fund
- Period: typically 15 years. Listed funds can be traded on the exchange.
- Target annual rate of return: typically 10% or higher.

❖ BTL fund

- Form : sSpecial asset fund under the Financial Investment Services and Capital Market Act
- Period : typically 25 years (quarterly principal and interest payment/ similar to lease cash flows).
- Target rate of return: 5-year KTB + 150~200 bp.

❖ Merits of infrastructure investment through infrastructure funds

- Better risk diversification is available compared to direct investment because investment in different projects is possible by investing in an infrastructure fund.
- Limitations of smaller equity investment can be overcome.
- Easy investment exit: it is almost impossible to sell a small quantity of unlisted shares in an infrastructure company. The volume of shares enabling buyers to obtain managerial right/control over that firm can be sold easily.
 - With an infrastructure fund, investors have various means to exit their investment, e.g., bulk sale of equity stake, listing the fund, sale to publicly placed funds, and securitization.

Infrastructure Fund Structure

Overview of major BTO funds

Fund Name	Date of creation	Amount (Bil. KRW)	Arranger	Main participants
Macquarie Korea Infrastructure Fund	Dec. 2002	1,260.4	Shinhan Macquarie Financial Advisory (Macquarie Infrastructure Management)	Shinhan Bank (KRW 100 bil.), NFFC (KRW 20 bil.), Macquarie Bank (KRW 63.6 bil.), Mizuho (KRW 10 bil.), Kyobo Life (KRW 90 bil.), Korea Life (KRW 100 bil.), Kumho (KRW 90 bil.), Shinhan Life (KRW 60 bil.), Dongbu Life (KRW 40 bil.), Prudential (KRW 20 bil.), Korea Teachers Pension (KRW 121.2 bil.), Military Mutual Aid Association (KRW 200 bil.)
Korea Infrastructure Fund 2	Jun. 2005	1,500	KDB (KDB KIAMCO)	KDB (KRW 400 bil.), Woori Bank (KRW 200 bil.), IBK (KRW 100 bil.), NACF (KRW 200 bil.), Kwangju Bank (KRW 20 bil.), Daegu Bank (KRW 30 bil.), Busan Bank (KRW 20 bil.), Kyongnam Bank (KRW 10 bil.), Jeonbuk Bank (KRW 10 bil.), Kyobo Life (KRW 100 bil.), Korea Life (KRW 100 bil.), Samsung Life (KRW 100 bil.), Tongyang Life (KRW 50 bil.), KDB Life (KRW 30 bil.), SK Life (KRW 1 bil.)
Balhae Infrastructure Fund	Feb. 2006	1,190	Kookmin Bank (KB Asset Management)	Kookmin Bank (KRW 150 bil.), NACF (KRW 50 bil.), Busan Bank (KRW 20 bil.), Kyongnam Bank (KRW 20 bil.), Kyobo Life (KRW 50 bil.), Korea Life (KRW 100 bil.), Samsung Life (KRW 100 bil.), Dongbu Life (KRW 40 bil.), Allianz (KRW 100 bil.), Green Cross (KRW 30 bil.)
Emerging Infrastructure Fund	Sept. 2006	580	Hana Bank (Darby Hana Infrastructure Fund Management)	Hana Bank (KRW 60 bil.), NACF (KRW 50 bil.), Korea Life (KRW 50 bil.), KDB Life (KRW 50 bil.) Dongbu Life (KRW 30 bil.) Allianz Life (KRW 20 bil.), Dongbu Insurance (KRW 50 bil.), Hana Life (KRW 15 bil.), MetLife (KRW 10 bil.), Shindongah Fire (KRW 15 bil.), Government Employees Pension Service (KRW 50 bil.), National Pension Service (KRW 75 bil.), POBA (KRW 30 bil.)
Korea Education Infrastructure Fund	Dec. 2006	200	KDB [KDB KIAMCO]	KDB, Korea Post (BTO/BTL)
Korea Railway Infrastructure Fund 1	Dec. 2006	500	KDB [KDB KIAMCO]	KDB, Korea Post
Hanwha TRI Circle Infrastructure Fund 2	July 2009	350	Hanwha Investment Trust Management	Korea Life (KRW 280 bil.), Hanwha General Insurance (KRW 35 bil.) First Fire & Marine (KRW 35 bil.)
Consus Gyerae Infrastructure Fund 1	Jan. 2010	200	Consus Asset Management	NACF (KRW 100 bil.), IBK (KRW 100 bil.)

Infrastructure Fund Structure

Overview of major BTO funds

Fund Name	Date of creation	Amount (Bil. KRW)	Arranger	Main participants
Korean Peninsular BTL Private Special Asset Fund	May 2006	755	Kookmin Bank (KB Asset Management)	Kookmin Bank (KRW 300 bil.), Kwangju Bank (KRW 30 bil.), Daegu Bank (KRW 100 bil.), Busan Bank (KRW 100 bil.), Kyongnam Bank (KRW 50 bil.)
Shihan Infrastructure Portfolio Fund	Oct. 2006	288	Shinhan Bank (Shinhan BNP Paribas Asset Management)	Shinhan Bank (KRW 31 bil.), Daegu Bank (KRW 40 bil.), Busan Bank (KRW 31 bil.), Shinhan Life (KRW 16 bil.), Meritz Life (KRW 30 bil.), Dongbu Insurance (KRW 40 bil.), POBA (KRW 60 bil.)
Northeast Asia Infrastructure Fund 1-3	Aug. 2006	750	IBK, NACF, Korea Life (Woori CS Asset Management)	IBK (KRW 250 bil.), NACF (KRW 250 bil.), Korea Life (KRW 250 bil.)
Korea BTL1 Fund	Sept. 2006	720	KDB (KDB KIAMCO)	KDB (KRW 300 bil.), Kwangju Bank (KRW 20 bil.), Daegu Bank (KRW 50 bil.), Busan Bank (KRW 100 bil.), Kyongnam Bank (KRW 50 bil.), Allianz Life (KRW 20 bil.), Meritz Life (KRW 20 bil.), Dongbu Insurance (KRW 20 bil.)
Country Land Love BTL Fund	Sept. 2006	400	Kyobo Life, Samsung Life (KB Asset Management)	Kyobo Life (KRW 200 bil.), Samsung Life (KRW 200 bil.)
Korea BTL Infrastructure Fund	May 2006	300	Woori Bank (Woori CS Asset Management)	Woori Bank (KRW 300 bil.)
Regional Development Fund	April 2007	170	Mirae Asset Maps Investment Management	Busan Bank (KRW 30 bil.), Kyongnam Bank (KRW 30 bil.), Kwangju Bank (KRW 30 bil.), Daegu Bank (KRW 30 bil.)
Korea Privately Placed BTL Fund	April 2007	570	Korea Investment & Securities (Korea Investment Management)	NACF (KRW 200 bil.), KFCC (KRW 100 bil.), Shinhan Life (KRW 50 bil.), LIG Life (KRW 20 bil.)
Consus Infrastructure 1	July 2007	120	Consus Asset Management	Kyobo Life (KRW 60 bil.), NACF (KRW 40 bil.), Heungkuk Life (KRW 10 bil.), Meritz Fire (KRW 10 bil.)
Hanwha TRI Circle Infrastructure Fund 1	Jun. 2009	300	Hanwha Investment Trust Management	Korea Life (KRW 240 bil.), Hanwha General Insurance (KRW 30 bil.), First Fire & Marine (KRW 30 bil.)
KIAMCO BTL	Dec. 2009	500	KDB KIAMCO	KDB (KRW 150 bil.), KOFC (KRW 150 bil.), Kyobo Life (KRW 100 bil.), NACF (KRW 100 bil.)



3. Facilitating Infrastructure Financing

Changing Conditions in Infrastructure Financing



- ❖ **In the early years of the PPP law enactment, BTO (Build-Transfer-Operate) was the most popular model used to stimulate infrastructure investment that required huge funds.**
 - To bring more private capital to public infrastructure, concession agreement was introduced. Under this agreement, the government provides guaranteed revenues for private parties for a certain period after the completion of the construction.
 - Consequently, if revenues fall below the guaranteed level, this would be additional burden on the government.

- ❖ **Regarding concession agreement between the government and private sector entity, excessive demand forecast gave additional burden to the government during the concession period.**
 - For that reason, the government tried to reduce its burden.
 - As a result, BTL (Build-Transfer-Lease) model was introduced.

- ❖ **The government's reduced burden has increased the burden on financial advisers and credit enhancement providers.**

Facilitating Infrastructure Financing

❖ **Conduct more sophisticated feasibility assessment**

- Need more sophisticated feasibility assessment of privately-financed infrastructure projects. Rather than a uniform approach, different approaches to evaluating various project structures should be adopted.

❖ **Introduce new investment structures for infrastructure financing through capital markets**

- Asset securitization, which is backed by revenues from infrastructure facilities, allows investors to exit their investment in infrastructure as early as possible and also helps arrangers to attract diverse investors.
- Securitization can be used as the way to raise funds for infrastructure projects through capital markets. Introducing various asset classes and structures will enhance flexibility in this financing vehicle.

Facilitating Infrastructure Financing

❖ **Nurturing infrastructure funds**

- Public offerings and listing of infrastructure funds boost investment liquidity and catalyze investment in PPP projects.
- Establishing publicly-offered infrastructure funds in particular allows individual investors to participate in infrastructure projects, and thus, large infrastructure funding is made possible.

❖ **Adopt fund structures dedicated to specific projects**

- PPP projects to build infrastructure need long-term large funding and face uncertainty over exit time. Therefore, the government should come up with measures to support PPP projects to a certain extent in order to induce private investment.

❖ **Expand the base of private investors for PPP projects**

- Pension funds, mutual aid associations, and insurance companies are key prospective investors for PPP projects. Therefore, it is necessary to establish legal and institutional frameworks for encouraging these investors to engage more in PPP projects.