

Government Supports for PPP Projects in Korea

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Korea's Leading Think Tank **KDI**

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Introduction of PIMAC

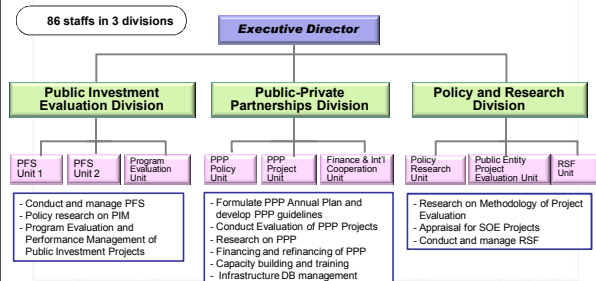
- ❑ PIMA (Public Investment Management Center) was founded in Jan 2000 as an affiliated body of KDI.
 - The MOSF, then the Ministry of Planning and Budget, decided to establish it to conduct Pre-Feasibility Studies (PFSs).
- ❑ PIMAC (Public and Private Infrastructure Management Center) was established as a merger of PIMA and PICKO by the second amendment of 'The PPP Act' in January 2005.
 - The PICKO (Private Infrastructure Investment Center of Korea) of KRIHS (Korea Research Institute for Human Settlements) was founded in April 1999, to manage PPP projects as stipulated by the amendment of PPP Act.
- ❑ PIMAC is a statutory organization based on the PPP Act, while the KDI itself is based on the 'Government Funded Research Institute Act.'

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Organization Chart of PIMAC

- ❑ Enables comprehensive and systematic management of both traditional public investment and PPPs



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The Role of PIMAC in PPP System

- 1) Researcher
 - ✓ Support for formulation of the Basic Plan for PPP
 - ✓ Theoretical and policy studies on PPP programs
 - ✓ Development of implementation guidelines
- 2) Advisor & facilitator for PPP Procurement
 - ✓ Development of PPP projects
 - ✓ Execution and Review of VFM test
 - ✓ Support for formulation of RFPs
 - ✓ Review of RFP and concession agreement
 - ✓ Assistance in tendering and negotiation
- 3) PPP Market Promoter
 - ✓ Training programs and seminars on PPP for public officials
 - ✓ International cooperation
 - ✓ PPP Database management

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Part-01 Overview of Korea PPP System

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Evolution of the PPP legal framework

- Aug. 1994, PPP Act legislated. 'Act on Promotion of Private Investment into Social Overhead Capital'
 - As the 'infrastructure gap' was regarded as a bottleneck of economic growth, PPP system along with transport tax was introduced.
- Jan. 1999, PPP Act amended to promote PPP market
 - No strong financial sector to introduce project financing
 - Losing momentum in the wake of the Asian financial crisis in 1997-98
 - Encouraging private parties to develop projects by awarding bonus points in bidding to initial proposers (Unsolicited PPP Projects).
 - Risk Sharing (Minimum Revenue Guarantee)
- Jan. 2005, PPP Act amended.
 - Introduction of BTL scheme and expansion of facility types to include social infrastructure
 - Strengthened fiscal discipline

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Trend of Public & Private Investment on Economic Infrastructure (SOC)

Unit: Tril. KRW, %

	'95-00	'01	'02	'03	'04	'05	'06	'07	'08	'09	'10	'11*
PPP Investment** (A)	2.7	0.6	1.2	1.0	1.7	2.9	2.9	3.1	3.8	3.9	2.7	2.2
Gov't Investment (B)	69.7	16.0	16.0	18.4	17.4	18.3	18.4	18.4	20.5	24.7	24.5	24.4
A / B (%)	3.9	3.8	7.5	5.4	9.8	15.8	15.8	16.8	18.5	15.8	11.0	9.0

* : Based on 2011 government budget forecast.

** : Private investment on PPP projects covering central government BTO projects, local government BTO projects more than 200B KRW or with 30B more national fund and BTL rail projects

- PPP investment in the SOC (Social Overhead Capital) sector has reached over 15% of government investment on government infrastructure projects since 2005 even though the figure has dropped to around 10% recently.

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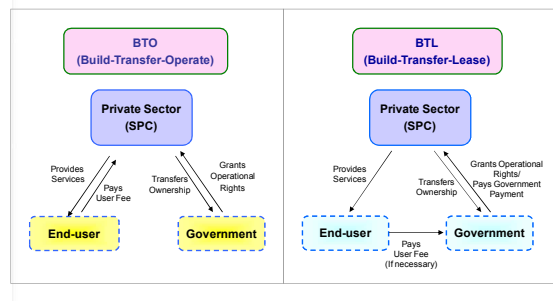
Signed PPP Projects in Korea (As of Dec. 2011)

		TOTAL (# of projects) Project Cost (USD)	%	Under Operation	Under construction	Under preparation
TOTAL		(600) 79.3 bn	(100%) 100%	(417) 45.8 bn	(145) 23.4 bn	(38) 10.1 bn
Competent Authority	Central Government	(151) 46.2 bn	(25.2%) 58.3%	(77) 25.7 bn	(53) 11.8 bn	(21) 8.7 bn
	Local Government	(449) 33.1 bn	(74.8%) 41.7%	(340) 20.1 bn	(92) 11.6 bn	(17) 1.4 bn
Project Type	BTO	(200) 57.3 bn	(33.3%) 72.2%	(144) 34.4 bn	(36) 13.9 bn	(20) 9.0 bn
	BTL	(400) 22.0 bn	(66.6%) 27.8%	(273) 11.4 bn	(109) 9.5 bn	(18) 1.1 bn

BTO: Build-Transfer-Operate; BTL: Build-Transfer-Lease

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Procurement Schemes



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Procurement Schemes(2)

	BTO (Build-Transfer-Operate)	BTL (Build-Transfer-Lease)
Investment Recovery	User fees Construction subsidy (MRG)	Lease payment (Fixed Revenue)
Project risk	Demand risk on concessionaire	Little demand risk on concessionaire
Investment Return	High risk, high return	Low risk, low return
Project Initiation	Both solicited and unsolicited projects	Solicited projects only

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Examples: BTO (Economic Infrastructure)

	Incheon International Airport Expressway - Total Project Cost: KRW 1,334 billion - Funding: Equity/Debt/Subsidies = 25%/59%/16% - Length: 40.2 km, 8 lanes - Competent Authority: Ministry of Land, Transport, and Maritime Affairs - Construction Period: 1995-2000 - Operation Period: 30 years
	Seoul Beltway Northern Section - Total Project Cost: KRW 1,471 billion - Funding: Equity/Debt/Subsidies = 23%/51%/25% - Length: 36.3 km, 8 lanes (Total Length: 128 km) - Competent Authority: Ministry of Land, Transport, and Maritime Affairs - Construction Period: June 2001-June 2008 (currently in operation) - Operation Period: 30 years
	Busan New Port Phase 1 - Total Project Cost: KRW 1,648 billion - Funding: Equity/Debt/Subsidies = 20%/55%/25% - Work Scope: 9 berths (50,000 t), 3.2 km - Competent Authority: Ministry of Land, Transport and Maritime Affairs - Construction Period: 2001-2009 - Operation Period: 50 years

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Examples : BTL (Social Infrastructure)



Chungju Military Apartment Housing

- Total Project Cost: KRW 18.6 billion
- Work Scope: 200 households and convenience facilities
- Competent Authority: Ministry of Defense
- Construction Period: 2005-2007
- Operation Period: 20 years



Ulsan National Institute of Science and Technology

- Total Project Cost: Approximately KRW 250 billion
- Work Scope: Site 1,028,200 m², Total Floor Area 153,691 m²
- Competent Authority: Ministry of Education, Science and Technology
- Construction Period: 2007-2010 (1st Phase 2007-February 2009)
- Operation Period: 20 years



Anhwa High School

- Total Project Cost: Approximately KRW 962 million
- Work Scope: Site 13,264.03 m², 5 stories above ground
- Competent Authority: Gyeonggi Province Office of Education
- Construction Period: 2006-2007
- Operation Period: 20 years

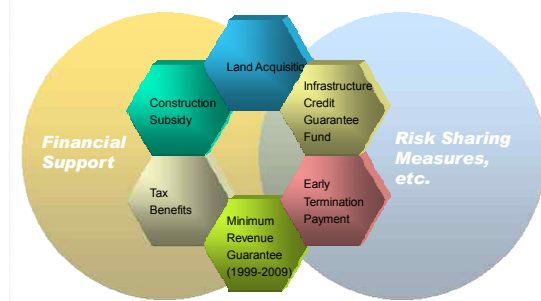
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Part-02 | Government Supports



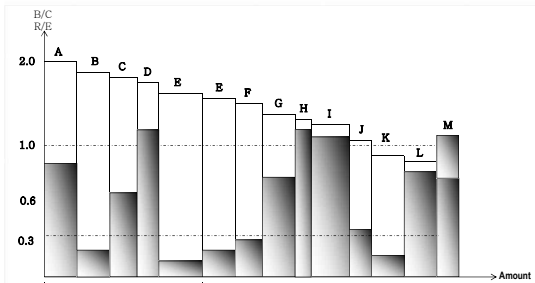
Governmental Supports



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Justifying Government Subsidy to PPP Projects



white bar = B/C; shaded bar = R/E

By implementing A and D via PPP, government can allocate saved resources to E and F projects.

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Construction Subsidies by Sector

- The government may grant a part of construction cost as subsidy to the concessionaire, if it is necessary to keep the user fee at an appropriate level.
- Subsidy shall be determined in the individual concession agreement.
- ✓ Rule of thumb subsidy rate: Roads & Ports: 30% max; Rails: 50% max (unit: billion KRW, %)

Project Type	Number of Projects	Total Project Cost (amount)	Total Private Investment Project Cost (amount)	Financial Subsidy for construction	
				(amount)	(ratio, %)
Central Government Projects	Roads	34	24,718	19,761	4,957
	Rails	11	10,134	6,148	3,986
	Ports	17	4,810	3,720	1,090
	Logistics	5	860	849	11
	Airports	7	602	602	0
	Environment	9	1,369	374	995
	Subtotal	83	42,492	31,452	11,040
Local Government Projects	Roads	19	2,172	1,783	389
	Parking lots	24	205	203	2
	Environment	50	1,771	743	1,028
	Others	9	804	752	53
	Subtotal	102	4,953	3,480	1,472

(Source: PIMAC, End of June, 2008)

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Tax Benefit

- SPCs are exempted from acquisition tax and registration tax on real estate for BOT projects.
- 0% VAT on construction services
- Separate taxation and application of lower tax rate (15%) on interest income from long-term (15 years or longer) infrastructure bonds issued by concessionaire
- Infrastructure fund investors are taxed separately on the dividend income from infrastructure funds, while others are subject to combined financial income tax.

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MRG (Abolished in 2009)

- Minimum Revenue Guarantee (MRG): A certain level of forecasted annual revenues is guaranteed by government. And when the actual operating revenue falls short of it, the government pays the deficit.

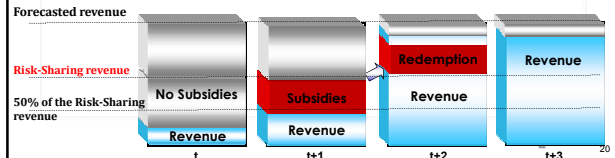
Profile of Minimum Revenue Guarantee

	Jan 1999		May 2003	January 2006		Oct.2009
	Solicited	Unsolicited		Solicited*	Unsolicited	
Period	Whole operating period		15 Years	10 Years		
Guarantee Level (Max)	90%	80%	First 5 Years 90% Next 5 Years 80% Last 5 Years 70%	First 5 Years 75% Next 5 Years 65%	Abolished	Abolished
Condition	None		No MRG applied if Actual Revenue < 50% of Forecasted Revenue	Same as Left		

- 36 out of 145 signed contracts include MRG clauses at the end of 2008.
- Criticisms against MRG
 - Government took most of the risks, but still provided high returns on investment to SPC.
 - MRG scheme provided SPC with incentives to overestimate future demand.

New Risk-Sharing Scheme

- When the actual operation revenue is less than the designated risk-sharing revenue, government makes up the shortfall for SPC.
 - Risk-Sharing Revenue:** The amount of operation revenue that guarantees the IRR comparable to the government bond's rate of return
- When the actual operation revenue exceeds the risk-sharing revenue, the government subsidies given so far are subject to redemption.
- Subsidies are given only when the actual operation revenue is higher than 50% of the risk-sharing revenue.



New Risk-Sharing Scheme vs MRG

	New Risk-Sharing Scheme	MRG
Government	Supports the private sector's investment recovery by setting the PSC (Public Sector Comparator) as a ceiling	Guarantees certain level of revenue
Private Sector	Low-Risk, Low-Return - Project IRR is comparable to government bond yield (interest payment not included) - Government subsidies withdrawn	Low-Risk, High-Return - 65~90% of the projected revenue guaranteed - Government subsidies not withdrawn
Coverage Period	The overall period of operation * long-term support at low IRR	A portion of the total operation period (e.g. 10 years) * short-term support at high IRR
Impact	Investment risk borne by the private sector is mitigated with greater motivation for profit	Pro: Encourages private sector participation in PPPs Con: May result in the private sector's moral hazard

SOC Credit Guarantee Fund

- SOC credit guarantee fund provides various guarantee services for PPP projects.
 - Guarantee for facility loans (during construction)
 - Guarantee for working capital loans (during operation)
 - Guarantee for bridge loans
 - Guarantee for refinancing
 - Guarantee for infrastructure bond

Support for Land Acquisition

- Concessionaire is granted the rights to expropriate land and/or may use (or purchase) public property for free or at lower price.
- In practice, land acquisition costs are born by the government in many cases.
 - Government usually purchases land from individual property owners, while most of administrative works are shared by private partners.

Early Termination Payment and Buyout Option

- Government pays early termination fees
 - Concessionaire is eligible for some early termination fee in case of force majeure.
 - Early termination fee is given not only when the contract is terminated either by government's fault but also by SPC's fault.
 - The formula of early termination fee is defined by concession agreements.
- Buyout Option
 - In case of force majeure, the SPC can request the government to buy back the operation rights of the asset.

Foreign Exchange Risk Mitigation (Abolished)

- Introduced in the wake of the Asian financial crisis, it can be applied to foreign exchange losses or gains to the foreign currency borrowed for revertible facilities.
- Applicable to foreign exchange fluctuation in $\pm 20\%$ or more
- Mitigation measures
 - ✓ Adjustment of user-fee
 - ✓ Provision of direct operating subsidies
 - ✓ Re-negotiation of agreements

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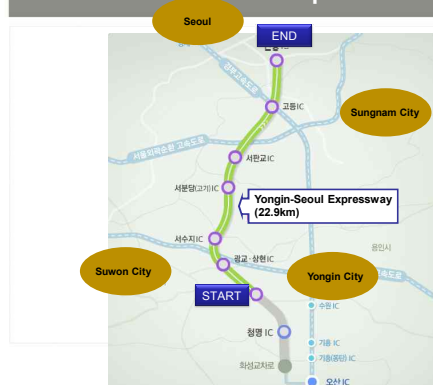
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Part-03 Example: Yongin-Seoul Expressway

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Site map



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Project Features

- Yongin-Seoul Expressway aims to relieve traffic congestion along the Seoul-Busan Expressway, the corridor occupied with heaviest traffic in Korea.
- This project is regarded as a environment friendly and residents friendly facility by constructing 60% of the line with tunnel and bridge to preserve eco-system and installing noise barrier tunnels, artificial waterfalls, underground sports facility to improve the residents quality of life.



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Milestones

Sep.16, 2002	Project Proposal submitted (Unsolicited)
~ Mar. 2003	Project Review by PICKO Suitable for PPP Project
Sep.18 ~ Dec.17, 2003	Request for Proposals
Dec.18, 2003	Tender Evaluation and Selection of the Preferred Bidder
~ Jan.10, 2005	Negotiation and Contract Award (Managed by PIMAC)
May.21, 2005(1st Stage) Aug.22, 2006(2nd Stage)	Approval of Detailed Implementation Plan
Oct.31, 2005 ~ Jun.30, 2009	Construction
Jul.1, 2009 ~	Operation

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Concession Agreements

Procurement Type	Build-Transfer-Operate
Competent Authority	Ministry of Land, Transport and Maritime Affairs
Total Length (km)	22.9 (4~6lanes) Tunnels: 10, Bridges: 21
Construction Period	3.5 years
Operation Period	30 years
Project Costs (KRW)	814.4 bn KRW
Time Saving	45 min~23 min economic benefit : 88.6 billion/year
Toll collection	Toll: 1,800 KRW Two toll gates collect 1,000 KRW, and 800 KRW respectively The toll is about 1.2 times higher than that of the Korea Expressway Corporation, the corresponding SOE.
Rate of Return on Investment (IRR)	7.01% (real)

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Government Supports for the Yongin-Seoul

- Land acquisition costs was born by the MLTM
 - Government purchased land and paid land prices as stipulated by the Land Acquisition Act.
 - Government usually purchases land from individual property owners, while most of administrative works are shared by the SPC.
- Construction subsidy
 - The government granted 365.2 bn KRW, or 44.8% of total project cost of 814.4 bn as construction subsidy
- Minimum Revenue Guarantee (MRG)
 - First 5 years: 75% of forecast revenue
 - For the following 5 years 65%, and for the last 5 years 55%
 - Government have not paid the MRG from the second year of the operation, because the actual traffic volume is around 90% of the forecasted traffic volume.

Part-04 | Concluding Remarks



Efficiency Gains or Value for Money

- It is criticized that the government allowed SPCs to enjoy higher rate of return than government's bond rate, even though most of the project risks were born by the government.
- The government have provided too much incentive to induce private investment into PPP projects.
 - ✓ An empirical study shows that expressway PPP projects enjoyed about 4% of excess return.
 - ✓ Jay-Hyung Kim, et al, PPP Infrastructure Projects: Case Studies from the Republic of Korea, KDI and ADB, 2011.

PPP Promotion vs Fiscal Discipline

- The PPP is justified when it not only expands fiscal space but only increases the value of tax payer's money.
- Keep balanced between PPP market promotion and fiscal discipline in the practice of the PPP policy.

THANK
YOU!

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