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Public Private Partnership in the Transport Infrastructure: Lessons for Kyrgyz Republic

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Public Private Partnership in the Transport Infrastructure: Lessons for Kyrgyz Republic

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Abstract

Because of the inadequacy of the national budgets to finance the infrastructure needs of their respective nations, many governments are undertaking reforms aimed at creating Public Private Partnerships (PPP) for delivering projects such as transport infrastructure. The analysis of the experience of the Korean government in PPPs for transport projects shows that the provision of a regulatory environment, incentive mechanism and institutional capacity is important for PPPs to effectively compliment government efforts in financing transport infrastructure. The paper concludes that Korean PPPs are playing a pivotal role in transport infrastructure financing. It also identifies the strengths of the Korean PPP experience in areas of policy, and regulatory and institutional reforms which can be applicable to Kyrgyzstan context which is still in its infancy of PPP development.

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I. Introduction

Faced with increasing resource constraints amid continued demand for transport infrastructure, many countries are undertaking reforms aimed at creating Public Private Partnerships (PPP)¹ for delivering projects such as transport infrastructure. PPPs in transport infrastructure are important since "transportation is a precursor to economic development, acting as lubricant for both domestic and international transactions" as well as improving the welfare of people (Button 2002; United Nations 2009). Further claims by Thompson (2004), Amos (2004), Estache (2001), Mody and Walton (1998) suggest that PPPs play an important role in improving the transportation infrastructure by removing the bottlenecks associated with public provision. Because of this renewed thinking about private provision among policy makers, pragmatic governments around the world are undertaking reforms aimed at increasing private participation in infrastructure (Ferreira and Khatami 1996).

Undertaking policy, regulatory and institutional reforms for effective private participation in infrastructure development is not an easy task, and in the developing world, governments are confronted with many challenges in implementing PPP reforms (Estache, Juan, and Trujillo 2007). More interestingly, academics championing the subject of PPPs have noted that outcomes are not always as planned. According to Guash (2004), 75% of the transport contracts in Latin America were renegotiated. Findings by Estache and Fay (2007) reveal that experiences in developing and transitional economies are mixed. In Eastern Europe and Africa, they found that more needs

¹ The definition of PPPs in this paper relates to an agreement usually between public and private sector in which the private sector undertakes to exclusively or jointly provide a service such as construction sector of project and assumes part of the financial, technical and operation risks of the project.

to be done to understand how transport financing reforms work. Experience with other developed counties such as the United Kingdom, United States, Germany and Australia have been successful (Estache 2001). These mixed results are due to the diverse socio economic and political environments that differ from country to country, rendering conventional ways of undertaking PPP reforms ineffective at times. The obvious challenge for PPP reformists is to understand how governments in developing countries can initiate the policy, regulatory and institutional reforms that are critical for the establishment of PPPs to develop their transport projects.

Financing of transport infrastructure in Korea dates back to the 1960s when high levels of transport investment were financed by both foreign aid and domestic savings (Kim 2006). Adequate provision of transport infrastructure was one of the main government policies to lubricate the wheels of the economy, and the outcomes were significant (Ro 2002). Beginning the early 1990s, the Korean economy, which had shown great resilience, began to experience challenges. Consequently, congestion problems started to emerge (Hahm 2003). To mobilize additional resources, the government started to initiate PPPs mainly in transport infrastructure. First, a significant drive towards attracting private participation came with the enactment of Private Participation in Infrastructure (PPI) Act in 1994. However, these first efforts were not really successful, and the advent of the 1997 financial crisis further compounded the situation. A new PPI initiative was launched in 1999 which inter alia established a special unit called the Private Infrastructure Investment Center of Korea (PICKO). Further revision to the act was made in 2005. These measures resulted in a steady increase in privately financed transport projects, and the PPP market has gradually become attractive to private investors.

Kyrgyzstan as compared to Korea is still far from instituting the necessary reforms for effective private participation in transport projects. Although policy guidelines have been developed, they are largely fragmented and lack comprehensiveness to entice the much needed private investment. More fundamentally, the enabling statutes are absent and responsibility among agencies is intermixed. The situation has been further exacerbated by a decade of economic sluggish. Nonetheless, the economic environment has now stabilized, and the country is on the recovery path. Given the inadequacy of the public budgets, coupled with a huge transport infrastructure backlog, many projects will need frontloading to foster economic development. PPPs will, therefore, be crucial to supplement the government resources in the provision of transport infrastructure.

This study thus reviews the reform experience of the Korean government in the development of transport PPPs and draws lessons for Kyrgyzstan. It asserts that, despite the initial challenges, PPPs in Korea are playing some positive role in transport infrastructure financing. It examines the policy, regulatory and institutional reforms instituted in Korea to guide PPP development in transport infrastructure specifically roads, railways, airports and seaports. The study seeks to establish important reform prescriptions that may be considered for the increase in private investment in transport infrastructure, the key success factors, and issues perceived as constraints and impediments to private sector participation as well possible solutions. Studies on PPPs in Korea have tended to focus more on the risk sharing approach. Whilst recognizing risk shying incentive mechanisms as an important component in PPPs, this paper extents the analysis by identifying possible key policy action points such as the potential implications of innovative financing mechanisms such as minimum revenue guarantees, the possible implications of the continued increase in

unsolicited projects in PPP procurement and also tries to define the role envisaged for the Korean government in the PPP market.

To obtain an in depth analytical view of the Korean PPP reform measures, the paper will be centered on the following research questions: First, what kind of policy, regulatory and institutional measures were implemented by the Korean government to develop PPP market; and what were the challenges encountered as well as the current government efforts to further promote the market? Second, what were the implications of the incentive measures and procurement process in the development of the PPP market and the potential risk of these innovative financing mechanisms? Third, what is the role of PPP market in transport infrastructure financing including its contribution to infrastructure resource allocation? Lastly, what lessons can be applied in the Kyrgyzstan's context which is still in the infancy stage of PPP development.

This study will be organized into seven chapters as follows: the introduction is in chapter 1, and chapter 2 includes a literature review and theoretical framework. Chapter 3 analyses the transformation of PPPs in Korea. Chapter 4 examines the government support system and its implication in the PPP market, and chapter 5 discusses the role of the government in PPPs as well as the role of PPPs in financing transport infrastructure. Chapter 6 reviews PPPs for transport infrastructure in Kyrgyzstan's context and attempts to ascertain the benefits from the Korean experience offering some important transferable lessons for Kyrgyzstan. Chapter 7 concludes the study.

II. Literature Review

This chapter reviews the PPP reform experiences of both developed and developing countries, citing the successful or unsuccessful cases and the accompanying factors behind these outcomes. Competition is an integral part of transport reform, and its effects on efficiency and creativity are also reviewed. Many academics point to the fact that the core aspect of successful public private partnerships in transport projects lies in the ability to attract competent private financiers. Baeitti (2001) emphasized that transport projects, especially Greenfield projects, have unique features that make them complex to structure and implement, and thus are not very attractive to private investors. Therefore, governments have to develop appropriate mechanisms to attract private players to achieve the desired objectives. Cuttaree et al. (2009) noted the discouraging early efforts of private participation in Europe and Central Asia that occurred from 1993 to 1999. In the Czech Republic's D5 project they found that it was abandoned in 1993 as it became obvious that projected traffic volume had been severely overstated. Hungary's M1/M5 project was also confronted by low traffic volumes and public resistance to toll roads leading to its nationalization. This evidence points to the need to promote institutional capacity building and effective procurement rules to guide the PPP market.

Sharma and Martland (2004) in their study on private participation in transport projects in India discussed two examples of PPP success stories: the Bandra-Worli Sea Link and the Airoli Bridge. However, they mentioned that a number of steps were needed to effectively attract the private sector. They classified the constraints into two: indirect challenges and direct challenges. Among the indirect constraints were issues involving low economic development, high poverty and high population. Direct constraints included planning and institutional issues, methodological and procedural issues, financial problems as well as social and political issues. To address these problems, suggestions were proposed for a strategic planning network, clarity on roles of government and private sector, adequate risk sharing, the creation of a regulatory body, a clear bidding procedure and issues regarding public acceptance.

In Vietnam, Finlayson (2007) suggests that, although a Build Operate Transfer (BOT) law was in place, it had been revisited on several occasions. However, despite these revisions, very little private sector participation had been realized in infrastructure projects. Factors cited as hampering effective PPP development included difficulty in land acquisition and legal complexities, foreign exchange risk, the absence of revenue guarantees, corruption and a lack of clarity on procurement procedures and standardized contracts. They also noted that Decree 15 introduced in 2004 further compounded the situation in transport infrastructure as it excluded the private ownership of infrastructure in sectors such as ports, roads and water.

Further evidence on the role of reforms is provided by Queiroz (2005) in the study on private participation in transitional economies where the findings suggested relatively low regulatory oversight in highways projects. The reasons cited for the low uptake included the lack of an appropriate legal and regulatory framework, an unstable political and economic environment, low risk mitigation mechanisms, and reduced traffic volumes. The case of Mpulungu Port in Zambia confirms Queiroz's findings of incomprehensive regulations in concessions where a single operator was also involved in other downstream operations as a user of the port. Because of the low competition in bidding, the concessionaire abused its market position by taking all exclusive rights to use all of the port facilities and charging exorbitant tariffs. It was not possible to renegotiate these issues among the contracting parties in terms of the contract agreement, so ultimately, the Zambian Competition Commission intervened and

the issue is still pending in court today, illustrating the negative outcomes of failure to promote transparency in bidding.

Similarly, findings of Gray (2001) further confirm the negative consequences of improperly designed project contracts and the lack of policy framework that guide the development of PPP markets. Because of policy failures and the lack of capacity to forecasts revenues in the case of Mexican toll roads, a poorly implemented BOT road resulted in the government having to remit 2.7 billion USD in compensation. Harris (2003) further suggested that in the Mexican case, investor actions were influenced by their expectation of anticipated future support from the government. Guarantees from the Mexican government thus created a moral hazard resulting in investors paying less attention to project fundamentals. According to Harris (2003), the burden of the taxpayers was estimated at the much higher figure of 7 billion USD. Similar evidence was also provided by Tanczos and Kong (2001) who found that in Korea, the implementation of a new motor way road project resulted in the government having to compensate the concession company toll discounts given to airport workers, resources which were to be shouldered by the taxpayers.

In the rail sector, Sharp (2005) confirms the complexity of the reforms. For Europe and Central Asia, Sharp mentions that the lessons learnt in railway reforms elsewhere have been revealed - that reforming is a complex, long term process and that putting in place the "mutually supportive legislation, [and] institutional and management to deliver substantial changes takes take great deal of time and effort." Mention was made of the fact that reform is not a "fire and forget" process, markets themselves will not stand still, structural change is not a means to an end and that ownership does matter in transport infrastructure. This buttresses the important role of governments in developing policy, regulatory and institutional reforms for effective private sector participation. Notwithstanding the above failures and challenges, remarkable private financing has been registered in other countries. In Chile, findings by Queiroz et al, (2008) indicates that motorways have been used by government as a successful way of attracting private savings especially from abroad to ease the budgetary pressures.

The private investments in road infrastructure now constitute 50% of total investment from a figure of less than 5% in 1994. Among the reasons cited is the appropriate legal framework, risk mitigation measures and effective guarantees from the government that have provided a platform for competitive bidding required for the effective private financing of transport projects. Findings by Chandavarkar (1994) that in the case of Malaysia, the government, in order promote the participation of foreign firms, had to provide 17-year external risk guarantees for the North-South expressway project also complements the Queiroz findings. USAID (2008) cited the example of Argentina where port facilities have been successfully implemented through private sector participation. As a result of a government policy which allowed PPP participation in port facilities, the Buenos Aires Port 6 berth was subcontracted to five different companies while the port authorities retained ownership of the facilities. Following this private participation, cargo increased by 50% between 1990 and 1995, labor productivity increased by 275% and Argentine ports became the cheapest in the Latin American countries.

Argentina's transport reform in the 1990s is also quite revealing. According to Estache (2001), the comprehensive transport sector privatization and deregulation implemented in Argentina was a notable example of similar sector reforms in the developing world. It brought to the fore the complexities and challenges encountered in pursuit of efficiency gains without derailing the macroeconomic objectives of government. Notable of these was the reduction

of subsidies in a sector previously dominated by public sector financing without undermining the needs of the poor. Although notable efficiency gains were seen, the sector still had to be slightly subsidized.

The Austopista highway in Chile is another successful PPP project. According to the United Nations (2008), the success of the project is largely attributed to the competitive bidding process that was open to national and international firms. Other contributory factors included the institutional mechanisms that managed the project professionally, the technical competence of the project developer and immunity to political interference. On the African continent, evidence from Bullock (2005) found that railway concessions in Africa yielded positive results in terms of labor and productive efficiency. According to the findings, labor productivity improved and user service requirements were met in all the concessions of the railway projects studied. However, findings by Estache, Ellis and Trujilo, (2007) revealed the low uptake of transport PPP projects in Africa compared to other regions. Reasons cited for this low uptake included issues related to the policy and regulatory framework, lack of experience and financial resources. To address these, they suggested the use of appropriate incentive mechanisms that attract foreign companies to compete with local companies.

From a general perspective, the academic debate on the potential gains of the reform of transport infrastructure provision through PPPs was also premised on the perceived need for more competition emanating from more private participation. Gray (2001) discussed private participation and noted that it creates opportunities to unleash competition. Further mention was made of the fact that competition enhances efficiency through the transference of demand risk from taxpayers to users and investors. Estache (2001) states that support for private participation was based on static and dynamic efficiency gains

emanating from competition. Additional evidence by Estache and de Rus (2000), Juhel (1998), and Thompson and Budin (1998) reveal that increased competition in the financing of infrastructure sectors such as transport improves efficiency and creativity. Competition brings efficiency, creates a mechanism for strong incentives, and in some cases, introduces transparent regulatory procedures (Ferreira and Khatami 1996). In addition to improving efficiency, competition, as suggested by Swaroop (1994), introduces technological advancement and ultimately reduces the monopolistic behavior of service provision. In the Korean context, Kim (2008) reveals that as a result of government support measures, competition for projects among private players has increased the bidding rate from 1.2 in 2001 to 3.5 in 2007, and competition has increased efficiency and creativity.

However, an analysis of the effects of private participation on competition and of how competition improves efficiency and creativity in the Korean PPP market is beyond the scope of this paper, although research on effects of competition on efficiency and creativity in Korean PPPs could be quite informative and is recommended.

Iterer ences		
Impact	Government Action Points	Potential benefits and
		References
Improved	- Strong Mutual commitment	Partnerships between the public
Transport	- Improvement in public sector	and private sector can be
Infrastructure	management	significant sources of financing for
Financing	- Stable macroeconomic	transport investment.
	framework	Estache (2001), UNCTAD (2009),
	- Adequate enforcement	Klingebiel and Ruster (2000)
	mechanism	-
	- Secure property rights	
	- Risk sharing mechanism	

Table 2.1 Critical Issues on PPPs for Transport Projects and KeyReferences

Relieve	- Political will	Reduce the burden on fiscal
National Budget	Development of specialized infrastructure financePromotion of private	entities, better risk sharing, accountability and monitoring, attraction of foreign direct
	entrepreneurship - Allowing financial market	investment.
	development	Chandavarkar (1994), Gray
	- Risk mitigation	(2001), Estache, Juan, and Trujillo
	- Ensure appropriate rate of	(2007),UNCTAD (2009),World
	return	Bank (1994), Estache (2004),
		Swaroop (1994)

The above literature provides key issues in the PPP reforms comprising the negative and positive aspects of institutional capacity building, demand forecasting techniques, minimum revenue guarantees, lack of financial resources, subsidy payments, the bidding and procurement process, land acquisition, foreign exchange risk and revenue estimation which were also quite apparent in the Korean PPPs in the initial phases of PPP development. Interrogating the experiences of how Korea confronted similar challenges is therefore worthwhile. Although PPPs in Korea started at a sluggish pace amid the absence of proper guiding policies, it can be said that PPP initiatives in Korea are playing a positive role in transport infrastructure provision by complementing government in financing. Table 2.1 highlights some of the main issues surrounding PPP markets and includes a key reference list.

Theoretical Framework

The theoretical framework follows from the literature in that, in order to build a PPP program, the government must extensively implement the necessary policy, regulatory and institutional reforms that induce private sector participation. In the absence of the appropriate reforms, the attraction of more players in the market mean that the PPP program will not be possible, and government will

continuously shoulder the burden of transport infrastructure provision, crowding out other economic sectors.

In the majority of cases, as pointed by Klingebiel and Ruster (2000), the initial phase of PPP development is often marred by the absence of comprehensive policy, regulatory and institutional reforms, and hence, likely to have few private players, thus ensuring that the PPP contribution to infrastructure development will be minimal. This was evident in the Korean PPP market in the period prior to 1994. With the implementation of various regulatory measures such as the enactment of the (PPI) act in 1994 and its subsequent amendments in 1999 and 2005, policy reforms which comprised the financial and non-financial incentives such as minimum revenue guarantees, subsidies, land acquisition, buyout rights, and the institutional reforms such as the establishment of PICKO. The PPP market has managed to attract private players because of risk mitigation mechanisms among other reforms. Transport financing in Korea has gradually shifted towards private provision. The research, therefore, recognizes reform as important in the development of a PPP market for transport projects and that government support should actively provide incentive and support mechanisms. This study extends the analysis to include the effect of the reforms on the composition of total infrastructure financing, and the actual number of projects undertaken. The basic theoretical framework is illustrated in Figure 2.1.



Figure 2.1 Theoretical Framework

III. Development of PPP Market for Transport Sector of Korea and Government Support Mechanism to PPP Market

This chapter tracks the development of the PPP market for transportation infrastructure, reviews the effects of the government efforts to create a PPP market and analyses the government support mechanisms in Korea.

3.1 Development of PPP Market for Transport Sector of Korea

In the Republic of Korea, investment through the method of public-private partnership started mainly in the early 90s specifically after the creation of the first Act on Promotion of Private Investment into Social Overhead Capital during August 1994. The meaning of this first act was to invite the private sector to invest on infrastructure projects by using the method of PPP. The main reason why the government asks the private sector to invest in the creation of transport infrastructure facilities is because normally these projects demand of very high levels of investment, so the government decides to share the risk of the creation of these projects. This allows the government to concentrate on investing in other areas of the development of the country where investment is needed to increase the welfare of the population, leaving the private sector to incur the costs of these infrastructure projects (Um and Dinghem 2004).

There is no question regarding the high quality of transport infrastructure in Korea currently. This situation has been possible because of the efforts of the government to promote investment through the method of public-private partnership that has been increasing since 1998 due to the guaranties provided by the government on the investment of their capital since the implementation of the controversial policy created by the Korean government - the minimum revenue guarantee (MRG).

The evolution of the public-private partnership acts in the Republic of Korea is illustrated in Figure 3.1.



Figure 3.1 Evolution of the PPP Act

Source: Ministry of Strategy and Finance Public and Private Infrastructure Investment Management Center (PIMAC 2012).

As observed in Figure 3.1, the evolution of the PPP mechanism in the Republic of Korea has taken several steps towards a better implementation of this mechanism, but it is important to mention that the Act on Private Participation in Infrastructure of December 1998 has been the turning point in the development of private investment in transport infrastructure facilities. The development of PPP in the Republic of Korea can be divided in four different evolutionary stages from 1968 until 2005; Stage one is the period from 1968 to August 1994; Stage two is the period of the enactment of the Promotion of Capital Investment in Social Overhead Capital from August 1994 to March 1999; Stage three is the expansionary period from early 1999 to 2004; and Stage four is period of the introduction of the BTL method in January 2005. All four stages are described in the following paragraphs. During the first stage, Korea undertook hardly any transport infrastructure projects with cooperation of the private sector. This period began in 1968 with President Park Cheong

Hee² and his five-year economic development plans. In 1970, the first National Physical Development Plan was initiated to create better transport infrastructure projects such as the Seoul-Pusan Expressway. These projects were built without private investment. It was not until the late 1980s when the government saw the need to invite the private sector to join in the investment of new transportation facilities through the application of the PPP method. This necessity resulted from Korea's rapid economic growth in the previous years, and this created a need for the expansion of the existing road network in Korea and also facilities such as airports, railways and ports.

Stage two began in the early 1990s when Korea had a deficit in transport infrastructure which was becoming a bottleneck for economic growth as it was increasing logistics costs versus international competition. In August 1994, the Korean government created an act called the Act on Promotion of Private Investment into Social Overhead Capital. This act was implemented by the Minister of Strategy and Finance (MOSF) and specified the start of the use of the build-transfer-operate (BTO) model. During this period, the government targeted 45 projects only 10 of which were consigned to concessionaires. This period marked the beginning of the PPP method in Korea, but it was only projects solicited ³ by the government were considered. This stage of the implementation of PPP was affected by the Asian economic crisis that spread to Korea in late 1997.

² President Park Chung Hee was in power for 19 years and started the Five-Year Economic Development Plan (Cha 2010).

³ A solicited project is that the competent authority identifies a project for A solicited project is that the competent authority identifies a project for private investment and announces a RFP (Request for Proposals).

The third stage was the most questioned stage in history of PPP in Korea. In January 1999, an act was amended to promote PPP, which included the introduction of a PPP legal framework to encourage private sector involvement in investment in transport infrastructure projects. The act also included important policies such as the Risk Sharing Mechanism and the Minimum Revenue Guarantee (MRG) that have been the most questioned policies in the implementation of PPP in the Republic of Korea. For this reason, the MRG was abolished in 2009' and a new risk sharing mechanism was adopted. The implementation of the procedure for unsolicited projects was also implemented during this phase. During this third stage, a rather large growth in private investment in infrastructure projects in transport can be observed; this was due to the implementation of the MRG as it allowed private companies reduce their risk sharing in specific projects.

During the fourth stage, in January 2005, the PPP Act was amended and the built-transfer-lease (BLT) method of investment was introduced for those projects that had been unable to cover their operating expenses. A leasing fee for the facility was added to accommodate this situation. There was also a significant expansion of facilities type in the social infrastructure sector and the diversification of investor profiles. There are currently 45 types of eligible infrastructure facilities in 15 categories. This section will include the tables and figures of the current situation of transport infrastructure, both finished and unfinished, in Korea. Figure 3.2 shows the amount invested in trillion won by the private sector in Korea in the different areas of the transport infrastructure sector during the period of 2004 to 2009.



Figure 3.2 Private Investments

3.2 Incentives towards Greater Private Participation

Building a PPP market hinges on the ability of the government to offer incentives and other risk mitigation measures (Estache and Fay 2007, 23). BTO projects, the majority of which are transport projects, involve a great amount of risk and uncertainty. Of great concern to the private sector is the financial viability of projects. The government has to come up with various options aimed at improving the financial rate of return of the project. This financial rate of return is a compromise between the government and the private sector, taking into account the type of risk as well as type of project. Under the various PPP acts, the Korean government offered incentives and other measures to entice more private players.

The following is a review of some of the main government incentives and support systems and their implication in the PPP market.

Source; Chung (2011)

Land Acquisition

Given the geography of Korea, land issues are a source of potential risk that worry many private investors in Greenfield projects, particularly roads and railways. Without the requisite government support, private players normally fail to access land. Evidence by Ro (2002) revealed that, between 1985 and 1990, speculative land bubbles increased the cost of constructing a kilometer of highway from 4 million USD to 26 million USD. Because of the precarious situation regarding land, the Korean government has prioritized land allocation for infrastructure projects, and in most cases, it acquires land on behalf of investors.

Minimum Revenue Guarantee

Revenue estimation is a complex and daunting task for many private investors. Risk taking by the private sector will, therefore, compel governments to provide revenue guarantees against unintended outcomes such as revenue shortfalls. Guaranteeing positive returns ensures the financial viability of many projects and thus private players are likely to enter markets that are even perceived as too risky. Many transport projects, because of the associated risks regarding traffic volume and pricing, fall into this category.

In Korea, the PPI act provides for government guarantees of up to 90% of the projected revenue in the case of solicited projects and 80% for unsolicited projects. Since the actual revenue can also be more than what would have been projected, the government provides a limit on the amount that can be retained by the financier. According to the act, there is a minimum of 110% of anticipated revenue for solicited projects and a minimum of 120% in the case of

unsolicited projects. Table 3.1 shows the changes to the application of minimum revenue guarantees since their inception in 1999.

	January 1999		January 1999 May 2003		May 2003	January 2006	
	Solicited	Unsolicited			Unsolicited		
Period	Whole op	erating period	15 Years	10 Years	Abolished		
Guarantee	90 %	80 %	First 5 Years 90 %	First 5 Years			
level			Next 5 years 80 %	75 %			
(Max)			Last 5 years 70 %	Next 5 years			
				65 %			
Condition	None		No MRG applied if	Same as Left			
			Actual Revenue				
			50 % of Forecasted				
			Revenue				

Table 3.1 Profile of MRG

Source: Kim Jae-Hyung (2007).

Following the amendment to the PPP act in 1999, the number of concessions increased and with minimum revenue guarantee support abolished in 2005 and for unsolicited proposals, is decreased sharply as it is shown in Figure 3.3.

Figure 3.3 Number of Concessions Awarded



Source: Kim, Kang-Soo. 2008. "PPP Regulation and Promotion in Korea." Public and Private Infrastructure Investment Management Center (PIMAC) and the Korea Development Institute (KDI).

The rise and fall of the concessions following the introduction and abolishment of minimum revenue guarantees gives testimony to the effect of guarantees on private participation.

Tax Incentives

Tax incentives are an important instrument used by governments to direct market activities. The Korea government has broadened the use of tax incentives as an intervention in the PPP market to try and stimulate private investment. These tax incentives include the following: 1) private players acquiring real estate for BOT projects are exempted from registration tax; 2) investors involved in infrastructure facilities and the construction of facilities supplied to state or local governments such as BTO and BOT projects will be applied a 0% value added tax; 3) exemption or reduction from various appropriation charges that might be applicable; 4) in computing corporate taxes, 8% of the investment is recognized as a reserve to be treated as an expense; 5) company involvement in investment has the leeway to issue infrastructure bonds with a tax rate on interest earned of only 15%.

The motive behind tax incentives is to improve the financial return to private players. Tax exemptions improve the bankability of most infrastructure projects that would be unattractive under normal circumstances. Thus, tax incentives, whilst depriving the government of a potential source of short term revenue, result in long term fiscal gains through increased private participation in PPP projects.

Foreign Exchange Risk

Private investors, particularly foreign investors, have increasingly become cautious about the impact of foreign exchange risk. Recurring financial crises,

for example, the 1997 Asian financial crisis and 2008 global financial crisis, pose a threat to foreign investment. In Korea, user fees and charges for infrastructure project are denominated in Korean won making revenues very vulnerable to exchange rate fluctuations. To cushion against these exchange rate fluctuations, the Korean government instituted measures to curtail exchange rate risk. For foreign exchange rate fluctuations exceeding 20%, a maximum of 50% of losses due to changes in rates can be offset through adjustments in tariff rates, government subsidies concession periods and other mitigation measures that may be deemed necessary. Chile has successfully used the same strategy as noted by Queiroz et al. (2008).

Buyouts (Concession Termination Payment)

Unavoidable circumstances might force the abandonment of projects. The PPI law has a provision that compels the outright buyout of a project. The termination payment on the construction period is calculated based on already incorporated private investment depending on the cause of termination. On the other hand, termination on the operating period is based on the depreciated

Туре	Concession Period	Operating Period
Default By	Incorporated private investment	Depreciated value of the amount
Concessionaire	amount	of the fault
Non-Political	Incorporated private investment	Weighted average of the sum of
Force Majeure	amount X [1+standard debt	the sum of the depreciated value
	interest rate(A)]	of the amount on the left +future
		expected profit while
		considering the remaining period
Political Force	Incorporated private investment	Same as above
Majeure	amount X [l+(A+B)/2]	
Default by	Incorporated private investment	Same as above
Government	amount X [1+current IRR(B)]	

Table 3.2 Calculation of Termination Payment

Source: Kim Jay Hyung. 2008. "Role of the Government Instruments for Mitigating Risks in Korean PPPs." Paper presented at a Conference on Public Private Partnerships in Infrastructure, Washington, DC.

value of already incorporated private investment and the current value of the expected future profit. Table 3.2 shows the different ways of calculating termination payments.

Social Overhead Capital Credit Guarantee

The social overhead capital credit guarantee provides credit guarantees for PPP projects to improve the timely payment of debt service. Administration of the fund is done by the Korea Credit Guarantee Fund (KODIT)⁴ and the products guaranteed include a guarantee of facility loans (during construction), working capital loans (operation), bridging loans, and refinancing and infrastructure bonds.

The maximum guarantee coverage stands at 200 billion KRW. As shown in Table 3.3, the approved credit guarantee rose from 331 billion KRW to 1.2 trillion KRW in 2007. About 62% of the credit guarantees in 2007 were channeled towards transport projects as indicated in Table 3.4.

Year	2001	2002	2003	2004	2005	2006	2007
Number	11	9	6	10	11	15	16
Amount	331	303	469	1005	1006	1215	1207

Table 3.3 Approval of Credit Guarantee

Source: Kim Kang-Soo (2008).

⁴ Korea Credit Guarantee Fund was established in June 1976 with sole responsibility of administering the credit guarantee system in Korea.

	Railway	Parking lot	Logistics	Roads	Schools	Ports
Number	1	1	3	3	7	1
Amount	200	15	167	600	221	4

 Table 3.4 Status of Credit Guarantee in 2007

Source: Kim Kang-Soo (2008).

Protection against Reduction of Tariffs or Shortening of Concession Duration

The economic landscape and policy directions are susceptible to change. These ad hoc measures may inevitably have a dampening on both the duration of the concession period and the tariff structure. In event of such circumstances, the Korean government provides for protection from the reduction of tariffs or the concession period if the developer is able to reduce construction costs below those originally estimated in the planning phase. Another implication is that there will be no adjustment if construction costs exceed the original estimates.

Mitigation of Market Interest Rate Risks

In the Korean financial market, according to Kim (2008), the gap between corporate bonds and treasury bonds is widening. Many private investors are becoming susceptible to interest rate risk. As shown in Figure 3.4, in the year 2000, the gap was relatively small but started to gradually rise in 2007, and the situation further worsened in 2008. To mitigate the market interest rate risk, the Korea government introduced an interest rate risk sharing incentive in February 2009. This facility is applicable to projects which started construction or concluded financial agreements in 2009. In case of BTO projects when the benchmark interest rate changes by more than 0.5%, the competent authority may grant a subsidy or redeem the excess amount depending on the magnitude of the change.



Figure 3.4 Trends in Market Interest Rate

Source: Kim Kang-Soo (2008).

Compensation on Project Preparation Costs

The project preparation cost for most transportation projects can be enormous. These costs are usually incurred in the preparation of feasibility studies, and the preliminary and final designs of the projects. Noumba, and Dinghem (2005) observe that the high cost of preparing bids is a major deterrent to private participation. To encourage more bidding on projects, the Korean government covers the costs of feasibility studies and other preparation costs for the projects solicited. In the case of unsolicited projects, part of the preparation costs of the second best bidder may be reimbursed. The compensation of project costs is one of the most effective means by which the Korean PPP market has managed to induce private participation (Ministry of Planning and Budget 2007). As also noted by Kim (2008), the main reason behind this incentive is to compensate

the unsuccessful bidder for a portion of the proposal cost for the purpose of promoting more private participation.

Construction Subsidy

In most concessions, private investors are always wary of the price fluctuation risks. As noted by Kim (2008), the risk arises because of political and public pressure that might make it impossible to maintain user fees at agreed levels. The determination of the construction subsidy depends on the individual concession agreement. As shown in Table 3.5, the construction subsidy for a transport project varies from 30-50% of total investment, with roads and ports being less than 30% and rails less than 50%. However, there is no construction subsidy for freight terminals.

Ту	ре	e Number Total To of Project Priv Projects Costs Inves		Total Private Investment	Financial Subsidy for Construction	
				Project Costs	(Amount)	(Ratio)
Central	Roads	34	24,718	19,761	4,957	20
Government	Railways	11	10,134	6,146	3,988	39
Managed	Seaports	17	4,810	3,720	1,090	23
Projects	Logistics	5	860	849	11	1
	Airport	7	602	602	0	0
	Environment	9	1,369	374	995	73
	Subtotal	83	42,492	31,452	11,040	26
Local	Roads	19	2,172	1,783	389	18
Government	Parking lots	24	205	203	2	1
Managed	Environment	50	1,771	743	1,028	58
Projects	Others	9	804	752	53	7
	Subtotal	102	4,953	3,480	1,472	30

Table 3.5 Construction Subsidy for PPP Projects

Source: Kim Jay Hyung. 2008. "Role of the Government Instruments for Mitigating Risks in Korean PPPs." Paper presented at a Conference on Public Private Partnerships in Infrastructure, Washington, DC.

The provision of a construction subsidy cushions them against market risks and aids in ensuring that the capital invested is recouped. Therefore, the presence of a construction subsidy is likely to attract private players in the PPP market. In the transportation sector, a total of 10.4 billion KRW had been paid to private investors as of June 2008.

The above incentive measures have had a positive effect in the Korean PPP market. Hahm (2003) mentions that the Korean PPP market started at a sluggish pace with the enactment of the PPP act in 1994 because of the absence of accompanying incentive instruments and effective risk sharing from the government. The Korean government revised the act in 1999 and again in 2005 with a pack of new incentives.

In addition, these policy reforms are continuously being refined in line with market development. This is evidenced by the abolishment of minimum revenue guarantees for unsolicited projects in 2006 and the introduction of the sharing of interest rate fluctuation risk in February 2009. The motive behind incentive mechanisms is on risk sharing and to guarantee economic returns to private investors and insure the attractiveness of the PPP market.

In the Korean context, there is considerable evidence to suggest that incentive mechanisms have impacted the attraction of competent developers in the PPP market. The new airport motorway project is one of the projects that has been successfully implemented through PPPs. The project entailed the construction of three bridges and a tunnel. According to Tanczos and Kong (2001), the project started in November 1994 and was completed ahead of schedule in November 2000. In their analysis of the new airport motorway project, they revealed that the government's preparedness to share risk with the private sector through its incentive mechanisms was one of the most important factors behind the success of the project. In this project, the government offered the following incentives to

the concessionaire: 1) guaranteed 90% of the estimated operation revenue prescribed in the concession agreement for a maximum period of 20 years of operation in the event of an anticipated considerable fall in revenue; 2) excessive revenue redemption in the event of the actual collected revenue surpassing 110% of the projected revenue as prescribed in the concession agreement for 20 years of operation; 3) increase of foreign exchange rate by more than 20 (foreign exchange loss): adjustment of tariffs or financial support; 4) decrease of the foreign exchange rate by more than 20 (foreign exchange gain): adjustment of tariff or refund of foreign exchange gain; 5) buyout right; and 6) contributed through land acquisition and site delivery.

To further reinforce the benefits of private participation, Tanczos and Kong (2001) noted that the new airport motorway project was magnificent, including a bridge with special features to withstand wind pressure of 55 m/s and earthquakes of a magnitude of 6.0 on the Richter scale. The project was the first of its kind in the world, confirming the effective role of incentives in attracting compete developers in the PPP market. However, traffic volumes fell below 50% of initial estimates, and government had to compensate the concessionaire using minimum revenue guarantees.

Further evidence on the role of government incentives and support in attracting private participation is provided by Kim (2008) who suggests that the Korean government has successfully facilitated infrastructure provision by lifting regulations, and by granting financial incentives and support. Accordingly, many financial investors including banks, insurance companies and infrastructure funds are now keen to invest in the PPP market. The Ministry of Planning and Budget (2007) mentions that measures such as simplified required documents and mandatory compensation for project preparation costs have promoted PPPs, which has ultimately improved private sector participation. Cho (2008) reveals

that the increased role of private investment in infrastructure has enabled the early provision of services, introduced private sector creativity and innovation in construction, and heightened the satisfaction of facility users.

In summary, where possible, the government should try to provide incentive mechanisms to cushion private investors against the risks associated with the implementation of transport projects. However, these incentives should take into consideration market developments and should be in the best interest of the government. The Korean government managed to abolish the minimum revenue guarantee for unsolicited projects without causing distortions in the PPP market. In the Korean case, well structured and targeted incentive mechanisms played and still play a positive role in PPP development.

IV. Role of PPP Market in the Financing of the Transport Infrastructure in Korea

The previous chapter analyzed the government support measures and their implication in the PPP market. This chapter reviews the role of the PPP market in Korea, specifically the issues that need redress as well as the current contribution of PPPs in the financing of transport infrastructure.

4.1 Size of the Role of the PPP Market in Transport Infrastructure Financing

About 15 years have passed since the launch of the first notable drive towards a PPI program in Korea. It seems that government efforts have made a positive contribution to PPP development. Owing to the various measures put in place by the Korean government to promote PPPs, private participation in transport infrastructure has grown significantly (Ministry of Planning and Budget 2007). Korea has, therefore, gradually shifted from public to private financing thereby expanding and modernizing its infrastructure investments. In terms of actual PPP investments in Korea, Cho (2008) reveals that the amount has grown from merely 0.5 trillion KRW in 1998 to 3 trillion KRW in 2007 as can be seen in Figure 4.1. On the other hand, Kim (2008) further reveals that the annual PPP budget for transportation and regional development as a percentage of total public investment rose from 3.9% in 1998 to 16.8% in 2007 as shown in Table 4.1.

As a result of government efforts in the PPI program, the number of transport projects being undertaken has also grown significantly. Cho (2008) further observed that the total project costs for signed BTO projects as of June 2008 amounted to 43.2 trillion KRW of which roads constituted 58%, rail (21%), port (14%) and others (7%). In terms of numbers, as of June 2008, a total of

185 projects were at various stages of PPP implementation compared to the 100 recorded between 1994 and 1998 as shown in Table 4.3.



Figure 4.1 Increases in Amount of Private Investment

Source: Cho (2008).

Table 4.1 Public and Private Investment Trend

	1998	2000	2001	2002	2003	2004	2005	2006	2007
Private	0.5	1.0	0.6	1.2	1.2	1.7	2.5	3.0	3.5
Investment									
Public	12.7	15.2	16.0	16.0	18.4	17.4	18.3	18.4	18.4
Investment									
A/B (%)	3.9	6.6	3.4	7.5	6.6	9.8	14.2	16.3	16.3

Source: Kim, Kang-Soo (2008).

A: Public works completed

B: Annual budget in transportation and regional development. The Five-year National Fiscal Management Plan

Out of these national projects, those under operation and construction amounted to 56 compared to only 5 registered for the period of 1994-1998. On the other hand, local and municipal projects under operation and construction amounted to 87 against a figure of 36 recorded from 1994 to 1998. The increase in the

number of projects according to Kim (2008) can be attributed to improvements in the procurement system, continuous refinement of incentives by the government and the participation of more private players. There could be a tendency of overlap in the figures because of the length of the period of construction, but these statistics point to some positive aspects of PPP financing.

	1994-	1998	2008		
	National	Local	National	Local	
Under Operation	_	6	22	75	
Under Construction	5	31	34	12	
Construction Awarded	5	9	10	4	
Under Negotiation	_	9	15	8	
Rfps announced	35	_	2	3	
Total	45	55	83	102	

Table 4.2 Current Status of BTO Projects in Progress as of June 2008

Source: Kim Kang Soo (2008).

The PPP market has also registered some progress regarding the foreign participation of foreign companies in transportation projects. Foreign investors receive the same treatment as domestic investors and are also entitled to additional benefits such tax credits and financial support. Consequently, there has been foreign funding in some transport projects as foreign companies respond to incentives. In addition, it is widely believed that the introduction of foreign players usually brings in new skills, equipment and expertise into the market which ultimately increases the creativity of the market. From Table 4.3 it can be seen that foreigners invested an average of 47% as equity in transport projects and an average of 50% as debt which may show that the market is attractive to foreign investors.

There is considerable evidence to suggest a positive performance of PPPs reforms. Kwon (2007) notes that Korea has achieved excellent results in implementing PPPs and that PPPs are complementing insufficient government

expenditure and also leading to the early development and supply of expressways. In terms of value for money, the Korea Ministry of Strategy and Finance and the Korea Development Institute (2008) point out that more private participation in the Korean PPP market increased risk transfer, without which the intended value for money improvements would not occur. Shin (2009) further revealed that the Korean government has been successful in risk sharing and risk management by lifting regulations and granting financial support and incentives. Kim (1996), Hong and Kim (1997) and Noumba and Dinghem (2005) also suggested that PPPs in Korea have reduced the fiscal burden and improved effectiveness and transparency.

 Table 4.3 Projects PPP with Foreign Participation

Instrument	Project							
Equity	Busan New Port Phase 1(25%), Incheon Bridge (23), Yongin LRT							
	(26%), Busan New Port Phase 2-3 (8,5%), Daejeon Riverside							
	Expressway (67%), Songlo-Mansu Sewage Treatment Facility (80%),							
	Busan Aquarium (100%)							
Debt	Busan New Port Phase 1 (43%), Daejeon Riverside Expressway (85%),							
	Daegu-Busan Expressway (10%), Seoul Beltway (11%), Busan							
	Aquarium(100%)							

*(): Ratio of foreign investment to total equity or debt amount Source: Korea. Ministry of Strategy and Finance (MOSF) and the Korea Development Institute (KDI) 2008, Building a better future through Public Private Partnerships in Infrastructure in Korea. Seoul: Ministry of Strategy and Finance.

According to statistics from the OECD, in 2004, Korea was ranked second with PPP deals amounting to about 9.7 billion USD. The ranking order for 2003 and 2004 is shown in Table 4.4. This signifies that the Korean PPP market is now very attractive on the international stage. Regionally, according to the 2003 World Bank database on PPPs, the Korean PPP market is ranked highly in East Asia and the Pacific Region. As shown in Table 4.5, among the five largest economies which constituted 90% of total PPP investment in East Asia and the

Pacific Region for the period of 1990-2001, Korea was ranked third with total investments of 33.2 billion USD, almost 16% of total regional investment. In addition, the 2003 World Bank database on PPPs mentions that Korea had the three largest PPP projects in the region, and notable among these was the Kimpo Airport Expressway, further buttressing evidence on how the PPP market has transformed over time in financing transport infrastructure.

Many academics point to fact that PPPs have the potential to bring about welfare effects in the economy. Winston (1993), and Crampes and Estache (1998) argued that the main reason compelling the government to reform PPP is because of fiscal space. They revealed that many governments are operating under tight budgets, and investments in transportation infrastructure among others crowd out resource allocation to other sectors of the economy especially in the area of social welfare. By bringing on board private investors to provide infrastructure that would have been otherwise provided by government enables national budgets to increasingly allocate resources to the social sectors of the economy.

Rank	Country	Value	Deals	% Share	Ranks	Value	Deals	% Share
2004		USD			2003	USD		
		millions				millions		
1	United	13.212	81	32.6	1	14.694	59	56.7
	Kingdom							
2	Korea	9.745	9	24.1	3	3,010	3	11.6
3	Australia	4.648	9	11.5	7	611	4	2.4
4	Spain	2.597	7	64.1	2	3.275	8	12.6
5	United	2.202	3	5.4	4	927	2	3.6
	States							
6	Hungary	1.521	2	3.8	11	251	1	1.0
7	Japan	1.473	15	3.6	10	274	5	1.1

Table 4.4 Top ten countries with the Largest PPP Deals in 2003 and 2004

8	Italy	1.269	2	3.1	5	714	3	2.8
9	Portugal	1.095	2	2.7	n.a.	n.a.	n.a.	n.a.
10	Canada	746	3	1.8	n.a.	n.a.	n.a.	n.a.

Source: OECD. 2006. "Interim Report on the Role of Private Participation in Major Infrastructure Provision." OECD, Paris.

of Cumulative PPP Investments 1990-2001							
Country	Investments	Investments as Share					
	(2001 billion USD)	Of Regional Total					
China	53.8	26					
Malaysia	36.6	17					
Korea	33.2	16					
Philippines	32.1	15					
Indonesia	28.9	14					
Total of 5 Countries	184.7	88					
Total of East Asia and Pacific	210.6	100					

Table 4.5 Top five countries Orderof Cumulative PPP Investments 1990-2001

Source: World Bank. PPP database. 2003. Private Participation in Infrastructure Trends in Developing Countries in 1990-2001." Public Private Infrastructure Advisory Facility. Washington. DC. World Bank.

In Korea, initially, the provision of transportation infrastructure was the prerogative of the government with very limited private participation. However, in the face of a rapidly aging population, the provision of a social safety net is gradually rising, limiting public investments in infrastructure (MOSF and KDI 2008). Faced with increasing resource constraints, the government undertook the PPP reforms already mentioned to attract more private players. The result has been a steady increase in private participation in the infrastructure sectors such as transportation where private entities are supplementing the government budget.

The performance of Korean PPP has therefore had a positive contribution in terms of transport financing as it has progressively increased its proportion in infrastructure financing. As noted by Park (2007), the role of PPP in Korea is expected to be maintained or to even grow bigger to finance the necessary resources in the economy. Cho (2007) further summed up the performance of PPPs in Korea by noting that "PPPs in Korea have complemented public investments, introduced creativity and efficiency, increased value for money, reduced construction period, reduced project operation expense, reduced total project cost, and revitalized Korea financial industry."

It can be inferred that through the Korean government's reform efforts, the PPP environment has transformed over time, and key success factors include a solid legal frame corresponding to international standards, a strong government commitment and support, a simplified procurement process and well-coordinated institutional arrangements including the central role of the MOSF among other initiatives. As a consequence, the amount of PPP resources in infrastructure financing has improved, and the number of PPP funded projects has increased.

4.2 Issues to be Resolved and Future Role Government's to Promote PPPs

Although the Korean PPP market has managed to attract private players over the last 15 years, it still needs further refinement. This subsection reviews some of the inefficiencies in the PPP market as these are perceived by both national and international observers. First, the Korean PPI is still faced with an astonishing increase in the number of unsolicited⁵ proposals. As revealed by

⁵ For an unsolicited project, a private company submits a project proposal, and then the competent authority examines submits a project proposal, and then the competent authority examines and designates it as a PPP Project.

Kim (2008), as of December 2007, solicited projects for the transport sector stood at 41 and unsolicited projects at 40. Unsolicited projects tend to circumvent evaluation procedures and a review of their economic feasibility and benefits. Therefore, under normal circumstances, the PPP market is expected to have only a few unsolicited projects. This might be a signal of some incompetence of authorities, and therefore, the government should fully capacitate the authorities to prepare feasibility studies or augment their budgets to contract out the services. In addition, failure by the competent authorities⁶ to prepare preliminary designs for projects might mean more resource outlays in compensating the project preparation costs to private initiators.

Secondly, although the Korean PPI market has managed to attract foreign investors as revealed by Noumba and Dinghem (2005), the dominance of domestic firms is visible. Korean domestic firms such as Samsung, Daewoo, Posco, Hyundai and Kumho are largely competent, and most circumstances, provide the initial capital requirements needed to develop PPI projects. However, these companies may also try to abuse their dominance by establishing other consortiums with the implicit objective of crowding out other players in subsequent PPP tender projects. From 1994 to 2004, out of the 149 projects awarded, only 12 had foreign participation. Therefore, the Korean government needs to continuously refine its policies with the view of attracting more foreign players in the PPP market for diversity and the effective bidding of projects.

⁶ Competent authorities initiate potential projects after considering the related plans and demand for facility. They evaluate the procurement options to determine whether PPP procurement is more efficient than conventional method.

Thirdly, Korea has extensively carried out regulatory reforms in the last decade. Although effective regulatory oversight is not necessarily a sufficient factor to improve participation, it is however, a valuable mechanism to ensure transparency prevails in the bidding process as well as holding private investors responsible and accountable for their actions. The existence of an autonomous regulatory agency such as PICKO as suggested (Guash 2004) has the largest marginal effect on the outcomes of PPI tenders. Although this oversight is evident in Korea, it is still slightly deficient in capacity as shown by the continual claims for minimum revenue guarantees. Noumba and Dinghem (2005) suggest that in Korea, regulatory oversight seems to be evident due to the increasing number of claims for minimum revenue guarantees. The increasing number of fiscal commitments may dilute the gains from private participation in infrastructure, and in the long term, private participation may prove to be costly. Given the interconnectedness of the global economies and the contagion effects of crisis such as the 1997 and 2008 financial crises, price fluctuation may not guarantee long term fiscal gains. Thus, the government may need to tighten the capacity of PPP institutions.

Increased private sector involvement in the transport infrastructure does not mean the government should fold its hands in these activities. It is largely expected to shift its attention to policies and strategy formulation for the sector and to increasingly finance social projects. In the majority of cases, according to Estache (2001), the challenge facing governments is to shift away from being self-regulatory providers of transport services to assume an independent regulatory role of service whose provision now rests with private sector. Since not all transport projects are viable to private developers, this new envisaged government role is necessary. Even if private participation is viable, public regulation in areas of safety and quality of service is important to ensure that consumers are not jeopardized. The Korean government is expected to identify priority areas for PPP investment and the establishment of long term PPP investment plans linked to the National Fiscal Management Plan⁷. More critically, it fosters the promotion of global networks and the knowledge exchange programs for the promotion of PPPs entailing participation in international events, conferences, and multilateral and bilateral cooperation where the best international practices can be adopted.

The Korean government must strengthen its capacity and policies to allow the private sector to exercise its role in infrastructure development and operations in the future. According to Ro (2002), the only feasible way to attract and maintain the desired level of private participation in the PPI market is for government continuously deregulate, guarantee a market economy, and globalize. If a good environment prevails in Korea over that in any other part of the world, private investment will surely trickle in. By doing this, the Korean government could turn some of its transport infrastructure challenges into opportunities.

⁷ National Fiscal Management Plan is a five yearly plan that represents national visions and directions. It provides medium term perspective of fiscal management strategy and outlines detailed investment plans.

V. Public-Private Partnerships for Transport Infrastructure in Kyrgyz Republic

The above chapters have reviewed Korea's transformation towards a developing a PPP market for transport infrastructure. This chapter looks at the PPPs for the transport sector in Kyrgyzstan, the economic environment and its implication for PPPs, the status of private sector participation in transport infrastructure and its main challenges. Benefiting from the Korean experience, the last section draws lessons for Kyrgyzstan.

5.1 Background to Public-Private Partnerships

Most infrastructures in Kyrgyzstan were developed during the Soviet era. Due to lack of financial funds for proper maintenance, provision and development of the infrastructure of Kyrgyzstan after the collapse of Soviet Union, many infrastructures have become significantly degraded.

The aging infrastructure, not only urban infrastructures that needed to be renewed or renovated. Transport and communications are considered as a strategic sector in the Kyrgyz economy ("National Sustainable Development Strategy for the period of 2013 - 2017").

Insufficient budgetary funds are not able to increase public funds investments into restoration of infrastructure facilities and deliver of new projects. Up the present, restoration of road networks and construction of new ones are carried out at expense of significant state-backed external loans. To 2014, amount of the external debt of Kyrgyzstan reached 54 percent of GDP. The country faces technical default when the level of external debt reaches 60 percent of gross domestic product.

Nevertheless, the loans do not allow the country to meet all needs to finance the transport infrastructure. 80% of roads are outside the security and annually destroyed by exploitation.

Therefore, the joint efforts of government and private business in the form of PPP become very urgent and timely to better allocate state's economic opportunities and capacities. PPP in Kyrgyzstan is presented at a very early stage of developing by adopting legal framework in 2012, changing the regulatory framework, developing the basic concepts, and designing a portfolio of pilot projects, PPP market has begun to form.

5.2 Lessons from Korean Experience

Lessons on international comparative studies should be drawn with care. Countries have diverse economic backgrounds and different stages in institutional settings, technological know-how and levels of governance. In addition, nations are under different macroeconomic situations in terms of fiscal positions, public-private relationships and financial markets. Furthermore, Kyrgyzstan and Korea have different internal and external environments. However, there are lessons to be learnt from Korea on how it has progressively built a PPP market for transport infrastructure.

Given the economic situation facing Kyrgyzstan, prescribed policies should be viewed in the perspective of the long term. It can be seen that the PPP market in Kyrgyzstan is still in the infancy stage of development and is characterized by an absence of proper guidelines and enabling acts as well as responsible institutions.

The Korean experience shows that firstly, before the initiation of the PPP program, Korea had always developed comprehensive infrastructure development plans for the transportation sector and had clear objectives. Under

tight budgetary constraints, the prioritization of projects and effective concentration of resources were extremely important. The role of transportation in the economy had long been realized by the Korean policy-makers which made it easy for Korea to undertake successive investments in the sector without encountering many political setbacks. In the context of building a PPP market, PPP projects in Korea are integrated along with the government investment strategy, midterm fiscal framework and the budget cycle. PPP projects are part of an overall government investment strategy and have been pursued in the context of value for money compared to standard normal public procurement. This is meant to ensure the maximization of project impacts whilst necessitating project profitability for a given level of investment. The fiscal implications of PPPs are known and integrated into a medium term fiscal framework and national budget, and PPP projects are not allowed outside the regular cycle of the government investment plan. This in turn is supported by a legal, regulatory and institutional set up that handles PPPs.

Secondly, the Korean government played an instrumental role in the development of the PPP market through its risk sharing approach. Adequate risk sharing is particularly important if private investors are to provide high quality and cost effective services. The success of PPP requires that the risks be borne by the party that has greater leverage in managing that risk. Risk assignment should, therefore, be clearly spelt out in the contract. Given that the risk assignment is complex, understanding can be enhanced by isolating individual risks and identifying which parties control those the most. However, in conventional construction, operation risk should be typically borne by the private investor whereas political, exchange rate, regulatory and residual value risk should be in the government's domain. Quick policy modifications and adjustments with regard to risk sharing were largely evident in the development

of the PPP market in Korea as the government made policy adjustments continuously to attract private investment in PPP market. It is, however, noted that Kyrgyzstan does not have a comprehensive risk sharing mechanism to safeguard private investments. As a country emerging from a decade of economic decline, as it seek its path towards greater involvement of private sector, reforms are needed in this area.

Thirdly, Korea has managed to develop technical expertise in government. PPPs require this development of technical expertise including the ability to conduct project appraisal and prioritization, manage projects and ensure that PPP projects fit into the broader fiscal and economic policy objectives of government's investment strategy. This is particularly necessary to help prevent cost overruns, which are apparent in transportation infrastructure projects. To this end, Kyrgyzstan needs to develop skills at the appropriate level to properly interrogate and assess issues such as the price risks involved in PPP projects and to further negotiate and deal with the private sector in a more flexible and effective manner.

Fourthly, unlike in most developing countries, Korea established institutions with a clear allocation of responsibilities within the government to deal with PPPs. In Korea, key agencies such as the Ministries of Strategy and Finance, Construction and Transport, Planning and Budget are competent authorities that have clear roles and responsibilities in the PPP market. Cho (2008) notes that one of the key success factors in Korean PPPs was the central role of MOSF through the development of National PPP policies, coordinating sector plans, undertaking PPP reviews and approval of PPP projects, and convening the PPP committee when necessary. In addition, institutions like the Korean Highway Corporation and Korea Transport Institute were established to provide assistance and management in construction as well as carry out transport-related

research. The overall institutional framework has an important bearing on helping government to build its reputation as a trustworthy partner and mitigate potential risks, thereby increasing private investors.

While institutional frameworks may vary from country to country, many experiences point out that a central PPP unit like PICKO in Korea responsible for the entire program serves as a useful springboard to facilitate PPPs. The unit serves as a one stop shop for different players in the PPP market. PPP units have two important responsibilities: 1) policy setting entailing addressing challenges related to implementing PPP programs and issuing PPP annual guidelines; and 2) the project side, encompassing project management, value for money tests and providing technical advice. Therefore, the government of Kyrgyzstan needs to pay special attention to institutional development and capacity building in the public sector. These institutions will serve as a pool of technology and human capital development which plays an integral in the development of the PPP market.

Fifth, how to mobilize private financial resources is a topical issue. The BTO and other initiatives of direct private involvement in infrastructure development are effective tools but are not prerequisites. In the Korean case, although this initiative was started in the late 1990s, some progress has been realized. Whenever possible, Kyrgyzstan should seek a path to private participation backed by other concomitant budget allocations to buttress the transport development agenda. Of particular importance are the resources needed for subsidies to build PPP markets such as a construction subsidy, minimum revenue guarantees, a social overhead capital development fund, project preparation costs among other resource requirements. To comprehensively tap into the private sector funding, the development of the financial sector, bond market and pension insurance sector should be also pursued. Sixth, PPP contracts in Korea are based on competitive bidding and incentive based regulation. The procurement process for both unsolicited and solicited projects provides an opportunity for fostering the effectiveness of the PPP market. For unsolicited projects, requesting third party proposals is subject to project initiators to competition. The open bidding process induces transparency among potential project developers. The core principles guiding effective private participation entail fairness, transparency and accessibility to contract rules and the negotiating process. According to UNCTAD (2009) the law should "foresee a process which would guarantee a transparent and competitive selection process (including exceptions from competitive procedure), equal treatment of potential investors, the opportunity to challenge the rules and decisions of contracting authorities, and competitive rules for unsolicited proposals." In the same vein as Kyrgyzstan seeks to build a reputable PPP market, these issues should be taken into consideration.

Although most of the recommendations will require gradual implementation, given the current economic stability and the fact that there has been some movement regarding EPFs, an enabling act becomes an urgent action point. It is necessary that the government aggressively engage the private sector and all agencies involved with a view creating a PPP act and not rely on fragmented policy guidelines.

VII. Conclusion

Owing to the reform efforts of the Korean government, the PPP market for transport projects has transformed over time. The proportion of transport PPPs in infrastructure provision has progressively increased, and PPPS are complementing government efforts in infrastructure financing. The Korean government implemented many reforms in the area of policy, regulatory and institutional framework to attract more private participation in the PPP market. Undertaking these reforms was possible through greater involvement and commitment from the government because of the associated fiscal implications of incentives such as construction subsidies, minimum revenue guarantees and compensation for project preparation costs. The Korean government had to build the institutional capacity for effective coordination and the various ministries and key agencies such as the Ministries of Planning and Budget, Strategy and Finance, and Construction and Transport and PICKO as well as competent authorities. These institutions have clearly defined roles and responsibilities that guided private sector participation. The government also developed PPP plans to guide private investors.

However, there are areas that need refinement to effectively guide private sector participation. The issue of the potential risks of the incentive mechanism needs to be reviewed with the objective of ensuring that private gains are real rather than perceived. There is a need to assess the long run implications of incentive mechanisms. In addition, the continued increase in unsolicited projects should be treated with caution, and further research on this subject would be worthwhile. In terms of the government role, the only feasible way to attract and maintain the desired level of private participation in the PPI market is to continuously deregulate, guarantee a market economy and globalize. The government will also be expected to identify priority areas for investment and refine policies in line with market developments.

In the context of Kyrgyzstan to effectively attract private participation in transport sector, the government needs to prioritize the enactment of enabling legislation to ensure the enforcement of rules and regulations by parties involved in the PPP projects. Currently, the PPP laws are not well defined, so the basic legislative and regulatory laws cannot be applied to PPPs. The act should be comprehensive enough to cover all the areas that have the potential to attract private investment with particular attention to transport projects because of their economic and social importance. In addition, it should specify the evaluation criteria for PPP projects.

Similarly, there is a need for a good policy planning framework. As noted earlier, the policy environment guiding PPPs is ambiguous and poses greater risks to private investors. Because of the economic instability, the private sector is likely to seek sovereign risk guarantees before committing funds. It is therefore imperative for government of Kyrgyzstan to provide sovereign risk guarantees to stimulate investment in areas where demand is unpredictable. The government fiscal commitments towards PPPs should be consistent with the planned PPP investments and integrated into the national budgets.

More importantly, on the institutional side, the government should come up with a strong institutional framework with a clear demarcation of responsibilities within the public sector to handle PPPs. The roles of institutions such as the Ministries of economy and finance, and other competent authorities should be clearly elaborated and benchmarked to speed up processing of PPPs. In the long term, it would be worthwhile to establish a dedicated unit preferably housed in the Ministry of Finance or Ministry of economy responsible for dealing with PPP processes and contractual issues. This PPP unit should aim to serve as a one stop shop for handling the different aspects related to PPPs.

Likewise, the procurement process in Kyrgyzstan should be comprehensively reviewed with the objective of a unification of the bidding and selection process as the current process is fragmented, time consuming and lacks transparency. For unsolicited projects, there is a need to request proposals from third parties for effective bidding. Graft and corruption which is prevalent in the procurement process should be addressed. It will meaningless to improve the policy environment without curbing the malpractices that divert resources from projects that would otherwise look good on paper. Priority should be on the capacity building of technical expertise to evaluate bids as well as efficient demand forecasting techniques. These efforts will culminate in the attraction of the much needed foreign investors in the long term.

For policymakers in Kyrgyzstan, PPPs should not be viewed in the context of financing only, but more importantly on institutional capacity building, technology transfer, innovations and removing capacity constraints to implementation. It requires fiscal reform and improvements in public sector management. Developing countries like Kyrgyzstan require critical aspects in short supply in the developing world such as financial markets and sophisticated skills. Improving the capacity of the local financial markets to mobilize resources will foster the development of a PPP market. Recognition should be accorded to the effective role of forging continuous dialogue between private and public players. Public awareness of PPPs is therefore important. All the prescribed reforms can facilitate Kyrgyzstan to gradually build a PPP market to deliver its transport infrastructure needs.

In conclusion, the Korean experience shows that properly implemented legislative, institutional, support and incentive reforms create a good

environment for transport PPPs. For countries pursuing PPPs, actions with respect to legal framework, streamlining administrative procedures, providing incentive support and establishing one stop shops for PPPs are recommended. To academia, further research on the possible impact of innovative financial mechanisms such as minimum revenue guarantees and the reasons behind the continued increase in unsolicited projects in Korea is recommended.

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