Public-Private Partnership (PPP) Units and the Urgency for Public Infrastructure Provision: Korea’s Experience

Saiful Islam*

Summary

The public infrastructure provision is not provided solely by the public sector; it also involves the private sector. A business relationship between a private-sector company and a government agency for the purpose of providing public infrastructure is typically referred to as a Public-Private Partnership (PPP). In the global arena, the private sector’s contribution to a PPP program has increased significantly, although the PPP concept is still developing and has some issues that still must be addressed. Major issues of a PPP consist of, but are not limited to, the capacity of both parties, legal and institutional arrangements, and financial-administrative implementation. There is an urgent need for PPP units to be designed in order to address government failures. In addition, the PPP program must be supervised. The PPP Unit in Korea, referred to as the Public and Private Infrastructure Investment Management Center (PIMAC), has led to improvement of the PPP program and contributed to national economic growth.

Introduction

Korea’s experience with public infrastructure provision is likely one of the best examples of the provision’s success. While most developing countries still suffer from limited infrastructure access as well as poor quality and reliability in the early stage of development, Korea successfully resolved those difficulties several decades ago while it was still a developing country. Korea’s infrastructure provision has advantages in terms of high-level political support, financial support from fiscal sources and private capital, a sustainable project supply, and an increasing investment demand for infrastructure projects.

Infrastructure provision is economically expensive, absorbs double digits of Gross Domestic Product (GDP) in low-income countries, requires substantial upfront capital for benefits spread over time, and is plagued with difficulties in cost recovery. It is also inefficient, and suffers from poor public management, including the design, procurement, building, operating, and maintaining of public infrastructures. Korea made strategic choices through allocating their fiscal capabilities to prioritize infrastructure provisions that they estimated would boost economic growth. In addition, to combat poor public management performance caused by public infrastructure provision failures, several initiatives including strong leadership, raising the stakes of public officials, as well as increasing the transparency in procurement have been implemented.

Infrastructure development in Korea can be classi-
fied into three stages of progress. First, it focused on meeting urgent needs in transportation and energy in the 1960s. Second, in the 1970s and 1980s, it concentrated on the preemptive and sufficient supply of infrastructure availability. Finally, PPPs were widely adopted in the 1990s. Each series has contributed to economic growth, as indicated by increasing income per capita and economic growth within those times.

The PPP was introduced in the late 1990s to accelerate the provision of public infrastructure, to transfer risk on infrastructure buildings, and to provide sufficient room for innovation by the private sector. It is more sensible to implement a PPP for these reasons rather than to overcome insufficient fiscal capacity to build public infrastructure. However, Korea did not automatically succeed in implementing an effective PPP. Through trial and error and continuous improvement, their experience can be classified into four phases of PPP development: Phase 1) sporadic promotion of PPP-based projects; Phase 2) induce private capital to build infrastructure facilities; Phase 3) positive government support and decision role for revitalizing private investment; and Phase 4) revitalization of infrastructure fund and abolition of minimum revenue guarantees as well as the introduction of government compensation of base (raw) cost (Kim 7). Three success factors allowed these phases to develop: supportive programs consist of financial support, risk sharing, credit guarantee schemes, and tax incentives; a professional service provider and the PIMAC; and foreign investor participation. Dedicated PPP Units, such as the PIMAC, were established to complete several functions of government required to reinforce the PPP program. The functions comprise policy formulation and coordination, quality control, technical assistance, standardization and dissemination, and promotion and marketing (Sanghi, Sundakov, and Hankinson 2).

This paper will examine the progress of public infrastructure provision and private sector involvement in Korea, including their contribution to national economic growth, the PPP program, and its major issues including establishing a PPP Unit to overcome a poor public management system. The final part of the paper will concern lessons learned in Korea’s experience with PPPs.

**Public Infrastructure Provision and the Invitation of Private Capital**

Infrastructure development is defined as the combination of physical plants and the accompanying services of economic entities used at the macroeconomic level to enhance the productivity and quality of life for the public in a country or region. The World Bank categorizes the infrastructure industry into public utilities, public works, and transportation. Public utilities include power, telecommunications, piped water supply, sanitation and sewerage, solid waste collection and disposal, and piped gas. Public works consist of roads, and major dam and canal works for irrigation and drainage.

Included in transportation are urban and interurban railways, urban transport, ports and waterways, and airports. It is believed that infrastructure development will increase production and consumption as well as diversify rural economies by providing alternative consumption and employment opportunity (Heinke & Wei 21).

Common sense suggests that modern economies cannot function without infrastructure, which provides a variety of critical services in determining production and consumption possibilities in an economy. However, additional infrastructure may not necessarily lead to additional growth (Fay & Toman 3).

Over the past five decades, Korea has transformed its national economy, becoming one of the most highly developed countries in the world. Korea has al-
tered itself from a war-devastated country to an advanced industrial nation, with the world’s 15th largest GDP; it is the sixth-largest exporter and largest producer of many high-tech products. In the early 1950s, its per capita GDP was around U.S. $60-80, jumping to more than U.S. $28,000 in 2012. Infrastructure development played a key role in transforming Korea through a series of development stages. As a typical poor agrarian country in the 1960s, development focused on meeting urgent needs in transportation and energy. In the 1970s and 1980s, preemptive and sufficient supply of available infrastructure was prioritized. Market mechanisms and economic principles were respected but meeting development goals was required for key industries to receive government intervention. In addition, an outward-oriented strategy was adopted by fostering export industries that utilized an abundant labor force. Another characteristic called foreign capital inducement was encouraged to cover capital shortages. In the 1990s, PPPs were widely adopted following their emergence in developed countries.

The success of a PPP depends on the government’s support programs, which consist of financial support, risk sharing between government and private sector, credit guarantee schemes, and tax incentives. A PPP Unit, referred to as the PIMAC, was a significant institution established by the government. Finally, in order to escalate capital accumulation, foreign investors were allowed to participate in PPP projects which required significant amounts of funding and cutting-edge technical skills or technology.

The PPP market in Korea has grown and developed into a stable and highly profitable financial market due to the government’s systemic support and management, resulting in revitalized PPP programs over the past decade. The PPP market has solidified itself as a new model in raising funds and creating infrastructure funding. Private sector interest is increasing and through various policies, the government has recently been working to reinvigorate green PPP financing as part of its effort to upgrade its PPP promotion strategy.

**PPP in Korea**

In the early 1990s, Korea found itself with a serious shortage of infrastructure facilities, such as roads, railways, seaports, and airports. Recognizing there would be limits to their ability to fund the needed construction of infrastructure facilities, the Korean government realized the need to induce private sector participation in infrastructure investment as an alternative means to rejuvenate infrastructure. The government began to advocate for PPP projects with the August 1994 enactment of the Act on Promotion of Private Capital Investment in Social Overhead Capital (Kim 69).

As other country reasons of PPP promotion, Korea introduced PPP because of a lack of resources and to take advantage of private sector creativity and efficiency. Through PPPs, it is possible to accelerate the process to obtain public infrastructure provisions; however, a consequence is that the government borrows from future generations, and there is a loan to pay off in the mid- and long-term.

Several years after the Act on Promotion of Private Capital Investment in Social Overhead Capital was promulgated, Korea and other Asian countries were suffering under the financial crises of late 1997. In response to the financial crisis wave that hit Korea’s economy, the government created an across-the-board amendment (the Act on Private Participation in Infrastructure) in December 1998. The amendment reinvigorated PPPs through various government policies, including promoting the minimum revenue guarantee (MRG).

A decade after the introduction of PPPs, demand for a public infrastructure provision was growing increasingly diversified. In January 2005, the law was
revised to expand the range of facilities covered from economic infrastructures, such as transportation facilities like roads, railways, seaports, and environmental facilities, to social infrastructures, such as schools, military residences, housing and welfare facilities for the aging, and cultural facilities. The revision also introduced the build–transfer–lease (BTL) method, in addition to the existing build–transfer–operate (BTO) method, expanding the scope of participation in PPP financing and diversification opportunities. In October 2009, the MRG was abolished and replaced by the government-supported measure for compensation of base (raw) cost, where the government shares the investment risk of projects conducted with a public policy goal. The risk of sharing infrastructure provisions between the government and the private sector became a requirement of PPPs, not only in Korean practice, but also in other countries.

The match of supply and demand growth on the infrastructure provision led the PPP market in Korea to grow and develop into a stable and highly profitable financial market. Private sector interest grew and through various policies, the government responded positively by reviving green PPP financing as part of its effort to upgrade its PPP promotion strategy and meet the new requirement of sustainable development.

Public-private partnership projects in Korea have grown significantly over the past two decades. When PPP projects were first introduced in 1995, 400 million Korean Won was invested in PPP projects (mostly BTO projects), just 0.5% of total social overhead capital (SOC) investment. However, in 2008, KRW 3.7 trillion was invested in PPP/BTO projects, about 18.5% of total SOC investment. The figure below shows the increase in proportion of PPP investments to total SOC investments over the past 15 years.

Successful PPP projects in Korea also face some challenges. Traditionally, PPP investments have been dealt with separately from public financial management and have not yet come under direct government expenditure regulation. In the future, government obligation on PPPs, such as payments for BTL projects and MRG payments for BTO projects, will increase significantly. That amount must be controlled under certain levels suitable for maintaining fiscal soundness and sustainability, namely as a safeguard ceiling. Another issue is with the accounting

**Figure:** Percentage of Annual Public-Private Partnership/Build Transfer Operate Investment to Total Social Overhead Capital Investment (%).

![Graph showing the percentage of annual public-private partnership/Build Transfer Operate Investment to total social overhead capital investment](Image)

Source: Ministry of Strategy and Finance, Korea (Kim 78)
Public-Private Partnership (PPP) Units and the Urgency for Public Infrastructure Provision: Korea’s Experience

When accrual basis is implemented in government accounting, future payment of BTL project is similar in nature to liability, which is stated on balance sheets. However, this has not yet been reflected in government accounting. Due to many PPP projects entering operational stages, it is necessary to manage and monitor service performance of individual projects. Therefore, competent authority is required, which has a significant role on the project initiation and construction stages. In addition, during the construction and operational phase, frequent refinancing by private sectors led to early realization of financial profit.

In PPP introduction, a particularly challenging situation occurs in the initiation and construction stages. The challenge is resolved by establishing a PPP Unit, which plays a very important role in overcoming many issues during initiation phase. The PIMAC was established in the early stages of PPP introduction to ensure that PPP promotion was managed properly by a professional government authority.

### PPP Unit

Understanding the role of PPP Units requires an appreciation of the role of PPPs in achieving governments’ policy objectives. Governments that have a long history with PPPs have recognized their usefulness in achieving specific objectives, including the net present value of money as measured against services the government typically provides on its own, and optimal risk transfer to private partners (rather than maximum risk transfer to the private sector). However, achieving these objectives is no simple task. Managing a successful PPP program requires a range of specialized functions, and not all governments possess them or the ability to perform them effectively.

Governments often create a PPP Unit to help correct failures where they have identified weaknesses in the functions required to manage a PPP program, or “government failures.” The need to address specific government failures is one reason PPP Units require “custom” designs.

A PPP Unit must be given the necessary executive

![Diagram](image-url)

**Source:** PPIAF and World Bank
authority, rather than simply acting as an advisory body. If no government agency exists that is well suited to correct government failures in a country, responsibility should fall to the PPP Unit.

Studies suggest that in countries with successful PPP programs, the PPP Units that contributed to that success performed more of the functions necessary to correct government failures. To provide comprehensive and professional support for the implementation of PPP projects, Korea established a PPP Unit, or PIMAC, affiliated with the Korean Development Institute, a government-funded economic research institution. The governance of the PIMAC is prescribed in the PPP Enforcement Decree. Their functions include supporting the Ministry of Strategy and Finance in the formulation of the PPP Basic Plan, supporting the competent authorities and ministries in the procurement process, promoting foreign investment in PPP projects through consultation services, and other related activities, and developing and operating capacity-building programs for public sector practitioners. In addition, the PIMAC conducts policy research related to PPP programs and provides policy advice to the MoSF and procuring ministries.

Finally, the PIMAC contributes to the success of PPP programs in Korea by effectively achieving its objective as a PPP Unit in assisting the public and private sectors and promoting infrastructure projects (Sanghi & Sundakov 5).

Lessons Learned

Some lessons may be drawn from Korea’s experience with PPP development (Kwon).

First, because infrastructure is closely related to current and future industry placement, urbanization, and the daily lives of the public, it is necessary to establish a strong planning organization with full power in economic policy coordination and a strong hold on finance under the direction of a concrete future vision of the government. Second, infrastructure development plays a leading role and therefore, preemptive, sufficient, and steady investment is necessary. This could be achieved by a top-down approach through consideration of the weak capacity of the private sector and welcoming foreign capital with local partnership. Third, as a solution to the inefficiency of government monopoly suppliers and capital shortages, PPPs need to be widely adopted, not waiting until the country reaches middle-income level. Fourth, a positive framework must be established to coordinate stakeholders’ interests to serve governments interested in infrastructure growth and effective public policy, to appeal to the private sector’s interest in maximizing the return on investment, and that of consumers who seek to realize their value for money. Fifth, foreign capital inducement should be encouraged as a complement to domestic capital shortages and creating momentum to adopt international standards in infrastructure development. Sixth, to avoid political pressure, a transparent and professional decision-making process is necessary through strict compliance with the law (PPP Act), with the help of professional PPP Unit authorities such as PIMAC and civic groups’ surveillance.

WORKS CITED


2 Heinke, Gary. Wei, John. APEC Report: Examine and Disseminate Innovative Approaches to Financing of Initiatives such as Sustainable Infrastructure and Building, Planning, Design, Construction and Operation for Asia Pacific Economic Co-operation (APEC). 2000. Consultancy to Examine and Disseminate Innovative Approaches to Financing of Initiatives such as Sustainable Infrastructure and Building, Planning, Design, Construction, and Operation for Asia Pacific Economic Co-operation (APEC).

3 Kim, JayHyung. Kim, Jungwook. Shin, Sunghwan. Lee,


