Policies for Managing Public Investment Spending in Korea

Kangsoo Kim
(Executive Director, Public and Private Infrastructure Management Center, Korea Development Institute)
1. Introduction of Public Investment Management System (PIMS) in Korea

2. Challenges and the Way Forward
PIMA (Public Investment Management Center) was established in Jan 2000 as an affiliated body of KDI.
- The MOSF, then Ministry of Planning and Budget, decided to establish it to conduct PFS.

PIMAC (Public and Private Infrastructure Management Center) was established as a merger of PIMA and PICKO by the second amendment of ‘The PPP Act’ in January 2005.
- The PICKO (Private Infrastructure Investment Center of Korea) of KRIHS (Korea Research Institute for Human Settlements) was founded in April 1999, to manage PPP projects as stipulated by the amendment of PPP Act.

PIMAC is a statutory organization based on the PPP Act, while the KDI was established in 1971 by the ‘Government Funded Research Institute Act.’
Organization of PIMAC of KDI

Executive Director

Legal Affairs Team

96 staff members in 3 divisions

**Public Investment Evaluation Division**

- Conduct and manage PFS
- Policy research on PIM
- Conduct and manage RSF

**Public-Private Partnerships Division**

- Formulate PPP Annual Plan and develop PPP guidelines
- Conduct evaluation of PPP Projects
- Research on PPP
- Financing and refinancing of PPP
- Capacity building and training
- Infrastructure DB management

**Policy and Research Division**

- Research on methodology of project evaluation
- Appraisal for SOE Projects
- Int’l Cooperation
- Tax Expenditure Appraisal and Evaluation
The role of PIMAC stipulated by the National Finance Act

1) Evaluator and/or Government Agency in Public Investment Management (PIM) :
   - Carry out preliminary feasibility study (PFS)
   - Carry out re-assessment study of feasibility (RSF)
   - Carry out re-assessment of demand forecast (RDF)

2) Researcher
   - Support for new initiatives of better PIM
   - Policy studies on PIM
The role of PIMAC stipulated by the PPP Act

1) Researcher
   - Support for formulation of the Basic Plan for PPP
   - Theoretical and policy studies on PPP programs
   - Development of implementation guidelines

2) Advisor and/or Government Agency in Project Management
   - Development of PPP projects
   - Execution and Review of VFM test
   - Support for formulation of RFPs
   - Review of RFP and concession agreement
   - Assistance in tendering and negotiation

3) PPP Market Promoter
   - Training programs and seminars on PPP for public officials
   - International cooperation
   - Database management
# Areas of Expertise of PIMAC Staff

As of May 2013

<table>
<thead>
<tr>
<th>Areas of Expertise</th>
<th>Head Count</th>
</tr>
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<tr>
<td>Economics</td>
<td>26</td>
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<tr>
<td>Finance/Business/Accounting</td>
<td>16</td>
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<tr>
<td>Law</td>
<td>6</td>
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<tr>
<td>Transport</td>
<td>13</td>
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<tr>
<td>Engineering (civil, architecture, environment, etc.)</td>
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<tr>
<td>International cooperation</td>
<td>4</td>
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<tr>
<td>Others (urban planning, real estate, tourism, etc.)</td>
<td>23</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>96</strong></td>
</tr>
</tbody>
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Part-01  Introduction of Public Investment Management System (PIMS) in Korea
Most infrastructure investment projects had been evaluated by foreign organizations or experts.

As the nation began to expand steadily at an unprecedented rate financially and economically, the number of projects and their value increased, rendering effective analysis increasingly difficult.

Implementation of new infrastructure investment as suggested by the Five-year Economic Development Plans.

Review of the feasibility of investment projects by IPDC.

New treasury investment and loan projects, costing over 10 billion Korean Won (KRW) in total.

Investment Appraisal Bureau (IAB) was established in EPB.

Criteria for review and analysis:
- long-term plans and alignment with economic policies;
- cost, facility size, and international competitiveness;
- financing capability, debt service capacity, profitability;
The “Regulations on the Major Investment Project Review” amended (EPB dir.);
Review of projects with total investment of KRW 50 billion or more;
Internal review of projects with KRW 10 billion to just under KRW 50 billion by an “operating division”

The Budget Office in MFE
Difficult to review the results of feasibility assessments of major projects submitted by each operating division

The Planning and Budget Committee (PBC)
Lack of objectivity and reliability of feasibility studies performed under the supervision of each ministry; the PBC’s assertion that feasibility studies for new large projects could not be left up to each ministry

Currency and Financial Crisis

Total Projects Cost Management (TPCM)

「The Private Capital Inducement Promotion Act」

Introduction of pre-feasibility study,
The Public Investment Management Center (PIMA) at the Korea Development Institute (KDI) to undertake pre-feasibility studies was established (2000)

The Planning and Budget Committee (1998) + The Budget Office Ministry of Planning and Budget (MPB); 「The Enforcement Decree of the Budget and Accounts Act」

「The Act on Private Participation in Infrastructure」 (MPB); the amendment of PPP Act
The Need for Effective PIM System (I)

Considerable increase in government expenditure for social welfare and physical Infrastructure

Consolidated Fiscal Expenditures and Net lending by Central Government

(unit: trillion won, % of expenditure)

The Need for Effective PIM System (II)

Distribution of Traffic Forecasting Errors and Marginal Productivity of Economic Infrastructures

Mean: -41.75

\[ f = \left( \frac{T_a - T_r}{T_r} \right) \times 100 \]

- \( T_a \): Traffic forecasting error (%)
- \( T_a \): Actual traffic
- \( T_r \): Forecast traffic

Traffic forecasting error (%)
Financial crisis in 1997-98

- In an effort to resolve the fundamental causes of this crisis and to reinvigorate its economy, the Korean government embarked on sweeping structural reforms by taking drastic and decisive measures.
- Reforms executed in the fiscal and public sectors focused to enhance efficiency and transparency, with the goal of improving efficiency of government investment through the effective management of public spending.
- Large-scale projects requiring a great deal of government spending needed budget cuts under the policy goal of securing fiscal health. To this end, the Public Project Efficiency Bureau was formed in 1998, which worked out the Comprehensive Measures for Public Project Efficiency including the Preliminary Feasibility Study (PFS).
Criticism against Feasibility Studies by Line Ministries: Lack of Objectivity and Reliability in FS

- The baseline cost of the Seoul-Busan High Speed Rail (KTX) project has more than tripled from 5.5 trillion KRW ($5.5 billion USD) to 18.5 trillion KRW ($18.5 billion USD).
  - A feasibility review committee investigated the FS.
- Thirty-two out of thirty-three projects (1994-98) were evaluated as feasible in FS.
  - Conflict of interests, No check & balance
Introduction of New PIM system

- **New paradigm of PIM**
  - **Total Project Cost Management System (TPCMS)** was strengthened for projects that take more than 2 years and cost more than 50 billion KRW.
  - The Enforcement Decree of the Budget and Accounts Act was amended in April 1999 to require that any new large project be carried out with a pre-feasibility study, feasibility study, basic design, implementation design, compensation, and construction.

- **Introduction of the Preliminary Feasibility Study (PFS)**
  - Short and brief evaluation of a project to produce information for budgetary decision.
  - Owned by the Ministry of Strategy and Finance (MOSF) and managed by PIMAC.
  - All new projects with total costs amounting to 50 billion KRW (about 50 million USD) or more are subject to PFS.
  - The National Finance Act of 2006 provides the legal basis of PFS.
Analysis Structure in the PFS

Project proposal

Background study
- Review of statement of purpose
- Collect socio-economic, geographic, and technical data
- Brainstorming (Other Alternatives)
- PFS issues raised

Economic analysis
- Demand analysis
- Cost estimation
- Benefit estimation
- Cost-benefit analysis
- Sensitivity analysis
- Financial analysis

Policy analysis
- Consistency with higher-level plan and policy directions
- Project risk (financing and environmental impacts)
- Project-specific evaluation item

Balanced regional development analysis
- Regional backwardness index analysis
- Regional economic impacts

Analytic Hierarchy Process
- Overall feasibility
- Prioritization
- Financing and policy suggestion
A stepping stone of the Integrated Public Investment Management System

- Same/similar methodologies and inquiry process were applied.
- Other evaluations are spin-off products of PFS.

**Timeline:**
- 1994: TPCM introduced
- 1999: PFS introduced
- 2003: RSF guidelines developed
- 2004: RSF strengthened
- 2005: SABP
- 2006: RDF introduced
- 2004-2005: MTEF
- 2004: SABP

- TPCM (Total Project Cost Management)
- PFS (Preliminary Feasibility Study)
- RSF (Re-assessment Study of Feasibility)
- RDF (Re-assessment of Demand Forecast)
- PMS (Performance Monitoring System)
Performance of PFS (II)

- **Increase of objectivity, consistency, and transparency of the public investment**
  - General guidelines to minimize the methodological ambiguity
  - External experts on evaluation team to reflect open review and to gain supports from potential adversarial group
  - Systematic management
  - Minimization of impact of external interest groups on evaluation

- **Enhancement of fiscal efficiency by preventing non-feasible projects**
  - Only about 60% of the projects were feasible preventing start of unnecessary or not urgent projects by PFS.
  - The total financial savings from the PFS executed from 1999 to 2014 amounted to KRW 120 trillion.
Prevention of Optimism Bias and Political Intervention

Distribution of Traffic Forecasting Errors before and after PFS

Before

After

\[ I = \left( \frac{T_a - T_f}{T_a} \right) \times 100 \]

- \( T_a \): Traffic forecasting error (%)
- \( T_f \): Actual traffic
- \( T_r \): Forecast traffic

Mean: -41.75

Mean: -12.25
Performance of PFS (IV)

Note: 1) PFS completed as of 31 Dec 2014.
2) About 60 PFS conducted by other organizations are not included.
Performance of PFS (V)

Note: 1) PFS completed as of 31 Dec 2014.
2) About 60 PFS conducted by other organizations are not included.

Proportion of feasible projects
- 1999: 65.0%
- 2000: 53.3%
- 2001: 43.3%
- 2002: 59.4%
- 2003: 74.5%
- 2004: 63.3%
- 2005: 53.8%
- 2006: 56.5%
- 2007: 68.4%
- 2008: 68.3%
- 2009: 75.0%
- 2010: 74.4%
- 2011: 69.4%
- 2012: 76.9%
- 2013: 76.9%
- 2014: 75.0%

Saving Project Cost
- Average: 63.2%

Total Saving Project Cost
- 2014: 121.1 Trillion

KDI
Role as preemptive fiscal expenditure management tool


PFS on Transport

Intermediary evaluation (RSF, RDF under TPCM)

VfM on PPP Projects

Social Infrastructure

Non-infrastructure (R&D, Welfare program)

PFS on Local Gov’t Projects

PFS on SOE Projects

Ex post Evaluation
Part-02 | Challenges and the Way Forward
The PFS has served its original purpose: preventing inefficient projects from being initiated and avoiding unnecessary budget spending and investing saved funds into projects that can bring higher productivity results

- Distortion and excessive bias of the assessment results were corrected by introducing the PFS.
  - Traffic forecasting results were not biased toward overestimation, and proper estimation or underestimation also took place to a considerable extent.

- Among those 382 road and railway projects on PFS, 215 projects, namely 56.82% of all, was evaluated as feasible.
  - The amount of cost savings achieved between 1999 and 2014 was 89 trillion 518.8 billion, among which 6 trillion 851.2 billion won was saved by proposing effective alternatives and 82 trillion 667.5 billion won by cancelling unfeasible projects.
Some have raised concern that a promising project with high productivity may not pass the PFS and end up being discarded because of the critical and conservative views.

The PIM process needs to be a mix of macro-level policy and micro-level objectives to improve the investment efficiency:

- Strong linkage of infrastructure development to national policy direction such as economic growth
- Guide of infrastructure development by a strategic vision of national development
- Capability to adjust investment priority by national economic development stage
International comparison of general gov’t debt levels showed Korea has a sound fiscal condition compared with other countries.

Source: OECD Economic Outlook 95 database (May, 2014)
Public sector debt is a sustainable level, but the size and portion of the debt held by public corporations are relatively greater than other countries.

Source: http://stats.oecd.org