Public Investment Management in Korea: Efficiency and Sustainability

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Public and Private Infrastructure Investment Management Center
1. Budget Process and Public Investment Decision
2. Preliminary Feasibility Study
3. Expenditure Monitoring and Performance Evaluation
4. Public-Private Partnerships in Infrastructure Investment
5. Fiscal Risk Management for PPPs
6. KDI and PIMAC
Part-01 |

Budget Process and Public Investment Decision
## Major Players in Korea’s Budget Process

<table>
<thead>
<tr>
<th>Players</th>
<th>Roles</th>
</tr>
</thead>
</table>
| Budget Office of the Ministry of Strategy and Finance (MOSF) | • Compiles budget bids and prepares the draft budget  
• Allocates funds to spending ministries  
• Approves the transfers of funds between line items |
| Treasury Bureau of the MOSF | • Releases cash to spending ministries  
• Manages the treasury single account held in the Bank of Korea  
• Issues treasury bonds and manages assets and liabilities  
• Collects ministerial financial reports, prepares the whole-of-government financial reports, and sends them to the BAI  
• Produces the government financial statistics |
| Tax and Customs Office of the MOSF | • In charge of tax policy  
• Prepares revenue forecasts  
• Oversees the National Tax Service and the Customs Service |
| Line ministries | • Execute the budget and prepare financial reports |
## 1. Budget Process and Public Investment Decision

**Players**

<table>
<thead>
<tr>
<th>Players</th>
<th>Roles</th>
</tr>
</thead>
</table>
| Ministry of Public Administration and Security (MOPAS) | • In charge of local government tax and spending policies  
• Allocates the Local Shared Taxes (a formula-based block grant to local governments) across local governments  
• Coordinates the central government subsidies to local governments  
• Approves the borrowing by individual local governments |
| Board of Audit and Inspection (BAI) | • The supreme audit institution in Korea, whose head is nominated by and reports to the President. The National Assembly can also request audits on specific issues to the B.A.I.  
• Checks the regularity of ministerial activities  
• Prepares and tables the financial report to the National Assembly |
| National Assembly | • Deliberates and votes on the budget  
• Approves the transfers of funds between programs  
• Reviews and approves audit reports |
Introduction of MTEF in 2004 for Budgeting

Before MTEF (bottom-up budgeting)

- Budgeting on next single budget year
- Limited medium- to long-term planning function
- MOSF focused on the microscopic spending control

After MTEF (top-down budgeting)

- Budgeting over next 5 year including the current year
- Spending ceilings for sectors and programs
- MOSF focused on the strategic alignment of budget requests with overall policy directions

MTEF: Medium Term Expenditure Framework
1. Budget Process and Public Investment Decision

New Initiatives of Public Investment Management

- **1994**: TPCM introduced
- **1999**: PFS introduced
  - RSF introduced
- **2003**: RSF guidelines developed
- **2006**: RSF strengthened
  - RDF introduced
  - The National Finance Act legislated

- **TPCM** (Total Project Cost Management)
- **PFS** (Preliminary Feasibility Study)
- **RSF** (Re-assessment Study of Feasibility)
- **RDF** (Re-assessment of Demand Forecast)
1. Budget Process and Public Investment Decision

Implementation Process of Public Investment

<table>
<thead>
<tr>
<th>Ex Ante</th>
<th>Intermediate</th>
<th>Ex Post</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planning</td>
<td>Draft Design</td>
<td>Operation/ Maintenance</td>
</tr>
<tr>
<td>PFS</td>
<td>Blueprint Design</td>
<td></td>
</tr>
<tr>
<td>Feasibility Study</td>
<td>Land Acquisition/ Construction</td>
<td></td>
</tr>
</tbody>
</table>

TPCM, RSF & RDF

Performance Evaluation/
EBP (In-depth Evaluation of Budgetary Program)

* Evaluation works in RED characters are owned by budget ministry
Part-02 Preliminary Feasibility Study (PFS)
2. Preliminary Feasibility Study (PFS)

Demands on large SOC projects vs. limitation of resources

- Increasing demand on public expenditure from various budget areas
  - After economic crisis in 1997-98, the issue of fiscal soundness became important
  - Considerable increase in government expenditure for social welfare also drew attention
- Increasing needs for large scale infrastructure investment
  - Prioritizing among SOC projects became more important

Failure in feasibility studies in the past

- Criticism on the feasibility studies by spending ministries
  - Objective and fair feasibility studies were required for efficient budget allocation
- Since 1999, KDI is responsible to conducting Preliminary Feasibility Studies (PFS) on large SOC projects
- PFS is a tool for prioritizing and evaluating the public investment
  - PFS is conducted before budgetary decision-making and concrete project design
2. Preliminary Feasibility Study (PFS)

What is PFS?

- Short and brief evaluation of a project to produce information for budgetary decision
  - Owned by the Ministry of Strategy and Finance (MOSF)
  - Managed by PIMAC

- Meaning of “PRELIMINARY” is two-folded:
  - Provisional; and
  - Preceding a (detailed) feasibility study

- The National Finance Act of 2006 provides the legal framework of PFS
2. Preliminary Feasibility Study (PFS)

Coverage of PFS?

- All new large-scale projects with total costs amounting to 50 billion Won ($50 million USD) or more are subject to PFS.
  - Before the NF Act, PFS was centered on infrastructure projects.
  - PFS has expanded to non-infrastructure (e.g. R&D, welfare) programs.

- Local government and PPP (Public-Private Partnership) projects are also subject to PFS if central government subsidy exceeds 30 billion Won.

- The following types of projects are exempted from PFS:
  - Typical building projects such as government offices and correctional institutions
  - Legally required facilities such as sewage and waste treatment facility
  - Rehabilitating projects and restoration from natural disaster
  - Military facilities and projects related with national security
2. Preliminary Feasibility Study (PFS)

PFS Procedure

Line Ministry
- Submit PFS Projects Candidate

Ministry of Strategy & Finance
- Select PFS Projects
  - Request PFS
  - Make Investment Decision
  - Announcement

KDI (PIMAC)
- Organize Teams/Conduct PFS
  - Submit PFS Report

Feasibility Study or Stop
2. Preliminary Feasibility Study (PFS)

Flowchart of 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
2. Preliminary Feasibility Study (PFS)

Structure of AHP in PFS

- Overall Feasibility
  - Economic Analysis
    - Consistency with higher level plan
      - Attitude toward the project
    - Preparedness
    - Project-specific item (optional)
  - Policy Analysis
    - Project risks
      - Financial feasibility
      - Environmental impact assessment
  - Balanced Regional Development Analysis
    - Project-specific factors
      - Project-specific item (optional)
      - Project-specific item (optional)
      - Project-specific item (optional)
      - Regional backwardness analysis
      - Regional economic impacts
      - Project-specific item (optional)

Alternatives

Project Implementation

Status Quo
2. Preliminary Feasibility Study (PFS)

AHP (Analytic Hierarchy Process)

- AHP is a multi-criteria decision making technique to combine quantitative and qualitative elements of evaluation into a decision under a hierarchical structure.
  - Structures a complex decision problem into a hierarchy by grouping element of decision
  - Gives weight on each element through pair-wise comparison
  - The consistency of the weighting can be tested

- A group of seven or eight experts are involved in the decision making.
  - PFS team members (PM of KDI, Professors, and Engineers)
  - Advisory committee members (Staffs of PIMAC, and outside advisory members)

- Since 2005, the ranges of AHP weight were set to reflect importance of balanced regional development

<table>
<thead>
<tr>
<th>Economic Analysis</th>
<th>Policy Analysis</th>
<th>Balanced regional development analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>40 ~ 50 %</td>
<td>25 ~ 35%</td>
<td>15 ~ 30%</td>
</tr>
</tbody>
</table>

- A project is evaluated as feasible if AHP score is 0.5 points or more out of 1.0 point.
## 2. Preliminary Feasibility Study (PFS)

### Number of PFS by Sector (1999~2009)

<table>
<thead>
<tr>
<th>Sector</th>
<th>1999</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>Sum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Road</td>
<td>11</td>
<td>11</td>
<td>20</td>
<td>9</td>
<td>11</td>
<td>24</td>
<td>11</td>
<td>27</td>
<td>30</td>
<td>12</td>
<td>22</td>
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<tr>
<td>Railway</td>
<td>2</td>
<td>7</td>
<td>14</td>
<td>8</td>
<td>7</td>
<td>13</td>
<td>6</td>
<td>12</td>
<td>5</td>
<td>2</td>
<td>5</td>
<td>79</td>
</tr>
<tr>
<td>Seaport</td>
<td>1</td>
<td>5</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>5</td>
<td>1</td>
<td>4</td>
<td>2</td>
<td>27</td>
</tr>
<tr>
<td>Culture and tourism</td>
<td>3</td>
<td>2</td>
<td>5</td>
<td>2</td>
<td>5</td>
<td>2</td>
<td>1</td>
<td>5</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>31</td>
</tr>
<tr>
<td>Water resources</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>5</td>
<td>5</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>12</td>
<td>34</td>
</tr>
<tr>
<td>Others</td>
<td>1</td>
<td>4</td>
<td>1</td>
<td>4</td>
<td>2</td>
<td>12</td>
<td>7</td>
<td>4</td>
<td>7</td>
<td>15</td>
<td>20</td>
<td>78</td>
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<tr>
<td><strong>Sum</strong></td>
<td>19</td>
<td>30</td>
<td>41</td>
<td>30</td>
<td>33</td>
<td>55</td>
<td>30</td>
<td>52</td>
<td>46</td>
<td>38</td>
<td>63</td>
<td>437</td>
</tr>
</tbody>
</table>

Unit: number
### Proportion of Feasible Projects by Sector (1999~2009)

<table>
<thead>
<tr>
<th>Sector</th>
<th>1999</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>Total Projects (A)</th>
<th>Total Feasible Projects (B)</th>
<th>(B)/(A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Road</td>
<td>45.5</td>
<td>27.3</td>
<td>30.0</td>
<td>33.3</td>
<td>72.7</td>
<td>87.5</td>
<td>36.4</td>
<td>63.0</td>
<td>63.3</td>
<td>75.0</td>
<td>50.0</td>
<td>188</td>
<td>106</td>
<td>56.4</td>
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<tr>
<td>Railway</td>
<td>50.0</td>
<td>57.1</td>
<td>35.7</td>
<td>75.0</td>
<td>71.4</td>
<td>53.8</td>
<td>83.3</td>
<td>40.0</td>
<td>20.0</td>
<td>100.0</td>
<td>80.0</td>
<td>79</td>
<td>44</td>
<td>55.9</td>
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<tr>
<td>Seaport</td>
<td>100.0</td>
<td>80.0</td>
<td>100.0</td>
<td>50.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>40.0</td>
<td>100.0</td>
<td>100.0</td>
<td>50.0</td>
<td>27</td>
<td>21</td>
<td>77.8</td>
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<tr>
<td>Culture and tourism</td>
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<td>40.0</td>
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<td>0.0</td>
<td>100.0</td>
<td>100.0</td>
<td>40.0</td>
<td>50.0</td>
<td>100.0</td>
<td>0.0</td>
<td>31</td>
<td>14</td>
<td>43.5</td>
</tr>
<tr>
<td>Water resources</td>
<td>100.0</td>
<td>100.0</td>
<td>0.0</td>
<td>0.0</td>
<td>60.0</td>
<td>66.7</td>
<td>66.7</td>
<td>100.0</td>
<td>100.0</td>
<td>50.0</td>
<td>91.7</td>
<td>34</td>
<td>23</td>
<td>67.7</td>
</tr>
<tr>
<td>Others</td>
<td>100.0</td>
<td>75.0</td>
<td>0.0</td>
<td>75.0</td>
<td>50.0</td>
<td>66.7</td>
<td>71.4</td>
<td>50.0</td>
<td>42.9</td>
<td>46.7</td>
<td>78.9</td>
<td>77</td>
<td>48</td>
<td>62.9</td>
</tr>
<tr>
<td>Average</td>
<td>63.2</td>
<td>50.0</td>
<td>34.1</td>
<td>43.3</td>
<td>60.6</td>
<td>74.5</td>
<td>63.3</td>
<td>53.8</td>
<td>56.5</td>
<td>68.4</td>
<td>67.7</td>
<td>436</td>
<td>256</td>
<td>58.7</td>
</tr>
</tbody>
</table>
Part-03  Expenditure Monitoring and Performance Evaluation
TPCM is a device that budget ministry monitors expenditure on public investment and checks increase in project cost throughout the project cycle from planning to construction completed.

Coverage of TPCM:
- Projects whose construction period exceeds two years; and
- Civil engineering works whose TPC exceeds 50 billion Won (USD 50 million), or architectural projects whose TPC exceeds 20 billion Won (USD 20 million); and
- Projects implemented by the central government or its agents, or by local governments or private institutions that include central government funding.
3. Expenditure Monitoring and Performance Evaluation

Principles of TPCM

- Increase in construction size through design modification is not allowed except for inevitable events.
- The construction costs are not arbitrarily inter-changeable between project phases or between construction units.
- The minister in charge of the project is to consult with the Minister of Strategy and Finance about adjusting TPC, if TPC change is inevitable.
- The line ministry is allowed to set construction contingencies for up to 8% of the contract price of a project to cope with inevitable design modification and amendment of the law and so on.
3. Expenditure Monitoring and Performance Evaluation

RSF (Re-assessment Study of Feasibility)

• The same methodology and implementation procedure as PFS are applied

• Under TPCM, RSF is conducted if:
  - TPC has increased by more than 20 percent (excluding price escalation and increase in land acquisition cost) of the cost endorsed by the MOSF at the previous phase of the project; or
  - the PFS has not been conducted although it falls under the PFS coverage

• Decision making
  - RSF team makes judgment whether to continue or to stop the project
  - Compared with PFS, it is emphasized to find alternatives to cut down size and cost of a project
### 3. Expenditure Monitoring and Performance Evaluation

**RDF (Re-assessment of Demand Forecast)**

- Under TPCM, RDF is to verify the adequacy of demand forecast with latest information available, reflecting changes in project environment.
- RDF can be conducted at any phase throughout the project cycle from planning to construction completed when:
  - a substantial decrease of demand is anticipated due to material changes in the premises on which demand forecast has been made or errors have been found in demand forecast; or
  - more than five years have passed since the latest demand forecast had been conducted.
- When the demand forecast for a project is decreased by 30% or more, the MOSF conducts RSF and decide whether to continue or to stop the project.
### 3. Expenditure Monitoring and Performance Evaluation

<table>
<thead>
<tr>
<th>Method</th>
<th>Performance Monitoring</th>
<th>Program Review</th>
<th>Program Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Establish objectives and indicators and use the results in government budget operation (Prepare performance report)</td>
<td>• Provide a check list of projects for review and keep track of which projects are operated properly and which are making progress, etc.</td>
<td>• Apply scientific evaluation method on each project to analyze, spot problems, and provide a alternative (Prepare evaluation report)</td>
</tr>
<tr>
<td>Main responsible body</td>
<td>• Each ministry (Budget Division)</td>
<td>• Each Ministry (Budget division) and budget authority</td>
<td>• Each Ministry (Project Management Division)</td>
</tr>
<tr>
<td>Applicable project</td>
<td>• All policies and programs</td>
<td>• Most programs (20~30% of all)</td>
<td>• Individual programs and projects</td>
</tr>
<tr>
<td>Merits</td>
<td>• An overall progress report can be achieved but not enough information can be given on individual project basis.</td>
<td>• Trade off between Performance Monitoring and Program Evaluation</td>
<td>• Detailed information can be given on individual project basis but due to excessive time and cost spent, this method is not suitable for all projects.</td>
</tr>
<tr>
<td>Application</td>
<td>• Used in management of performance of an organization, as reference material for setting budget, and in preparation of performance budget report</td>
<td>• Used in improvement of project operating method, and a (deliberation) reference for setting budget</td>
<td>• Used in improvement of project operating method.</td>
</tr>
</tbody>
</table>
3. Expenditure Monitoring and Performance Evaluation

- **Performance evaluation (PE) by MLTM**
  - Construction projects with TPC of 50 billion Won ($50 million USD) or more are subject to PE
  - PE shall be conducted within three years of construction completion
  - Analyses of PE include:
    - Cost and time overrun
    - Comparison of forecasted demand and actual demand and project impacts
    - Degree of acceptance by local residents
    - Suggestions for improvements

- **EBP (In-depth Evaluation of Budgetary Program) by MOSF**
  - No EBP on public investment program has been conducted so far
Part-04 Public–Private Partnerships in Infrastructure Investment
Challenges are how to ensure the upkeep and consistent maintenance of infrastructure and how to invest efficiently.

In resolving these challenges, private sector involvement in infrastructure provision has emerged as a preferred method.

PPP:
- Enhancing Efficiency in investment of infrastructure
  - Advantages of bundling asset creation and service provision.
  - Package deal of DBFO.
  - Delivery on time and on budget.
- Increased Resource: Private financing can support increased infrastructure investment without adding to government borrowing.
4. Public-Private Partnerships (PPP)

What is PPP?

- Literature currently does not offer single, however widely agreed definition
  - The European Investment Bank “relationships formed between the private sector and public bodies often with the aim of introducing private sector resources and/or expertise in order to help provide and deliver public sector assets and services.”
  - The Asian Development Bank “arrangement where a private party delivers infrastructure services under a concession agreement.”
  - The OECD “agreement between the government and one or more private partners (which may include the operators and the financiers)

- “The partnerships between the public sector and participants (typically developers, investors, constructors and other service providers) to construct and operate core infrastructure assets such as highways, hospitals, schools and powers plants under the term in concession agreements
  - The Public-Private Partnerships in Infrastructure (PPPI) and Private Partnership in Infrastructure (PPI) are often used interchangeably. Also the term Concession is often used synonymously.
4. Public-Private Partnerships (PPP)

- The Spectrum of public and private participation

The Spectrum of combination of public and private participation, classified according to risk and mode of delivery

4. Public-Private Partnerships (PPP)

**Legal Framework of the PPP System**

- **Hierarchy of legal and administrative framework of PPP System**
  - PPP Act
    - PPP Act Enforcement Decrees
      - Annual PPP Plan
      » PPP Guidelines

- **The Legal Status of the PPP Act**
  - The PPP Act and the PPP Act Enforcement Decrees are the principal components of the legal framework of PPP
  - The Act is a special Act that precedes other Acts
  - Exempts PPP projects from strict regulation in national property management
  - Allows a SPC to play a role of competent authority
### PPP Facility Types

<table>
<thead>
<tr>
<th>Facility Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Road (4)</td>
<td>Road and ancillary facilities, non-road parking facilities, intelligent transportation system, transfer centers</td>
</tr>
<tr>
<td>Rail (3)</td>
<td>Railway, railway facilities, urban railway</td>
</tr>
<tr>
<td>Port (3)</td>
<td>Port facilities, fishing port facilities, eligible facilities for new port construction</td>
</tr>
<tr>
<td>Airport (1)</td>
<td>Airport facilities</td>
</tr>
<tr>
<td>Water resources (3)</td>
<td>Multi-purpose dams, river-affiliated ancillary structures, waterworks</td>
</tr>
<tr>
<td>Communications (5)</td>
<td>Telecommunication facilities, information communication system, information super-highway, map information system, ubiquitous city infrastructure</td>
</tr>
<tr>
<td>Energy (3)</td>
<td>Electric source facilities, gas supply facilities, collective energy facilities</td>
</tr>
<tr>
<td>Environmental (5)</td>
<td>Excreta treatment facilities and public livestock waste-water treatment facilities, waste disposal facilities, waste-water treatment facilities</td>
</tr>
<tr>
<td>Logistics (2)</td>
<td>Distribution complex and cargo terminals, passenger terminals</td>
</tr>
<tr>
<td>Culture and Tourism (9)</td>
<td>Tourist site or complex, youth training facilities, public/professional sports facilities, libraries, museum and art galleries, international conference facilities, culture centers, science museum, urban parks</td>
</tr>
<tr>
<td>Education (1)</td>
<td>Pre-school and school facilities</td>
</tr>
<tr>
<td>National defense (1)</td>
<td>Military residential facilities</td>
</tr>
<tr>
<td>Housing (1)</td>
<td>Public rental housing</td>
</tr>
<tr>
<td>Welfare (3)</td>
<td>Senior homes and welfare medical facilities and facilities for remarried seniors, public health and medical facilities, childcare facilities</td>
</tr>
<tr>
<td>Forestry (2)</td>
<td>Natural recreational resorts, arboretums</td>
</tr>
</tbody>
</table>
• Solicited Projects
  - A solicited project is that the competent authority identifies a project for private investment and announces a RFP

• Unsolicited Projects
  - For an unsolicited project, a private company (project proponent) submits a project proposal, and then the competent authority examines and designates it as a PPP project
4. Public-Private Partnerships (PPP)

**BTO (Build-Transfer-Operate) Scheme**
- Both solicited and unsolicited projects are eligible
- Roads, seaports, and railway projects, etc
- User-fees, Minimum Revenue Guarantee (MRG) for solicited projects

**BTL (Build-Transfer-Lease) Scheme**
- Only solicited projects are eligible
- School, dormitory, military housing, etc
- Government payments (Lease rent + operating costs)
- Low risk-low return
4. Public-Private Partnerships (PPP)

Value for Money (VfM) Test

• What is a VfM Test?
  - Conducting feasibility study and assessing VfM (Value for Money) by comparing PFI against PSC to test if PPP procurement improves the value of tax payer’s money
    ✓ PFI (Private Finance Initiative)
    ✓ PSC (Public Sector Comparator)

• Why conduct a VfM Test?
  - Article 7, Paragraph 3 of the Enforcement Decree of the PPP Act stipulates the implementation of a VfM Test
  - The Competent Authority uses VfM reports as basic material to make a judgment on whether to move forward with the PPP project proposed by the private proponent

• VfM Test Strengthened by PIMAC in 2005
  - 1st stage : Feasibility study → Decision to Invest
  - 2nd stage : VfM assessment → Decision to Implement by PPP
  - 3rd stage : Present a best implementation practice
## 4. Public-Private Partnerships (PPP)

### Public & Private Infrastructure Investment Trends

<table>
<thead>
<tr>
<th></th>
<th>'98</th>
<th>'00</th>
<th>'01</th>
<th>'02</th>
<th>'03</th>
<th>'04</th>
<th>'05</th>
<th>'06</th>
<th>'07</th>
<th>'08</th>
<th>'09</th>
<th>'10 *</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private Investment (A)</td>
<td>0.5</td>
<td>1.0</td>
<td>0.6</td>
<td>1.2</td>
<td>1.0</td>
<td>1.7</td>
<td>2.9</td>
<td>2.9</td>
<td>3.1</td>
<td>3.8</td>
<td>3.9</td>
<td>4.1</td>
</tr>
<tr>
<td>Gov't Investment (B)</td>
<td>12.7</td>
<td>15.2</td>
<td>16.0</td>
<td>16.0</td>
<td>18.4</td>
<td>17.4</td>
<td>18.3</td>
<td>18.4</td>
<td>18.4</td>
<td>20.5</td>
<td>25.4</td>
<td>25.1</td>
</tr>
<tr>
<td>A / B (%)</td>
<td>3.9</td>
<td>6.6</td>
<td>3.4</td>
<td>5.6</td>
<td>9.8</td>
<td>16.1</td>
<td>15.9</td>
<td>17.0</td>
<td>18.4</td>
<td>15.4</td>
<td>16.3</td>
<td></td>
</tr>
</tbody>
</table>

**A**: Public works completed  
**B**: Annual budget in transportation and regional development sector, *The Five-year National Fiscal Management Plan*

*2010 estimate is the government forecasted figure.*
## 4. Public-Private Partnerships (PPP)

### PPP Projects by Procurement Scheme (As of Sep. 2009)

<table>
<thead>
<tr>
<th>Step</th>
<th>Type</th>
<th>BTO (National Projects)***</th>
<th>BTO (Competent Authority Projects)</th>
<th>BTL (Trill. KRW)</th>
<th>Total (Trill. KRW)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under Operation</td>
<td>29 (18.4)</td>
<td>81 (3.8)</td>
<td>142 (5.3)</td>
<td>252 (27.5)</td>
<td></td>
</tr>
<tr>
<td>Under Construction</td>
<td>32 (22.1)</td>
<td>12 (0.5)</td>
<td>92 (6.5)</td>
<td>136 (29.1)</td>
<td></td>
</tr>
<tr>
<td>Preparing to construct</td>
<td>10 (8.9)</td>
<td>9 (0.9)</td>
<td>8 (0.4)</td>
<td>27 (10.2)</td>
<td></td>
</tr>
<tr>
<td>Under Negotiation</td>
<td>15 (9.5)</td>
<td>9 (1.3)</td>
<td>79 (3.8)*</td>
<td>103 (14.6)</td>
<td></td>
</tr>
<tr>
<td>Under Review</td>
<td>-</td>
<td>6 (0.7)</td>
<td>45 (3.7)*</td>
<td>54 (4.4)</td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td><strong>86 (58.8)</strong></td>
<td><strong>120 (7.3)</strong></td>
<td><strong>366 (19.7)</strong></td>
<td><strong>569 (85.8)</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>203 (66.1)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Part-05 Fiscal Risk Management for PPPs
5. Fiscal Risk Management for PPPs

- A **safeguard ceiling for PPPs** may emphasize that even if a government drives a large-scale PPP project forward, that is, involving large-scale borrowing from future generations, the aggregate fiscal commitment should be limited to a sustainable level for maintaining fiscal soundness and stability.

- **United Kingdom**
  - Annual government payment for PFI: about 2% of total government expenditure.
  - PFI investment: 10% to 15% of total public investment.

- **IMF**
  - Give high priority to the institutional framework for PPPs.
  - No standardized principles, but suggest an alternative approach, considering adopting a method, in which if either adopts lease accounting standards or takes into account EUROSTAT standards.
  - Recommend a Comprehensive Disclosure Requirement for PPPs, and, when appropriate, ceilings on PPP programs.

- **EU**
  - Set rules on the PPPs.
  - EUROSTAT: Allowing to record as private investment PPPs that transfer to the private sector the bulk of construction risk and either of the performance or demand risk.

Source: Jay-Hyung Kim (2008)
5. Fiscal Risk Management for PPPs

• Korea

  - Setting a safeguard ceiling on government payment
    ▪ Annul government payment: 2% of total government budget expenditure, or,
    ▪ PPP investment: 10% to 15% of total public investment.

  - Setting criteria on government ‘budget’, which becomes a denominator of the ceiling rate
    ▪ Plan 1: 2% of revenue of central government (general + special net accounting)
    ▪ Plan 2: 2% of expenditure of central government (general + special net accounting)
    ▪ Plan 3: 2% of expenditure of central + local government participating PPPs (general + special net accounting)
    ▪ Plan 4: 2% of expenditure of central + local government (general + special net accounting)
    ▪ Plan 5: 10% to 15% of capital budget of the government

Source: Jay-Hyung Kim (2008)
5. Fiscal Risk Management for PPPs

Simulation

- Examines whether total amount of public financing of signed and planned BTO plus BTL projects exceeds the 2% ceiling.
- In Scenario 1, still less than 2%, but, in Scenario 2, higher than 2%.

Forecast on Ratio of Public Financing of Signed and Planned BTO plus BTL Projects: Scenario 1

Forecast on Ratio of Public Financing of Signed and Planned BTO plus BTL Projects: Scenario 2

Assumptions:
1. Calculation of amount of public financing of BTO: Based on agreements + Planned
2. Estimated period of BTL projects in Scenario 1: 10 years (3.8 tri.(2005), 7.3 tri.(2006), 5.5 tri.(2007), 5.0 tri.(2008) to be invested each year in 2009-2015)
3. Estimated government expenditure = (247 trillion won in 2007, adjusted for 4% inflation)

Source: Jay-Hyung Kim (2008)
The amount of public financing for signed and planned BTO projects is not yet at a level that can affect the stability of fiscal management.

If the government carries out BTL projects for a limited amount of 37.6 trillion won in 2005~2015 like in Scenario 1, there will be no fiscal problem. However, if the government carries out BTL projects for more than a decade or longer at a cost of annual 10 trillion won in Scenario 2, it may stiffen the government fiscal management.
5. Fiscal Risk Management for PPPs

Implications and Challenges

• The government should take into account the additional fiscal burdens for MRG when making policy judgment on the scales of BTO and BTL projects to be launched in the future.

• To effectively monitor 2% ceiling on PPPs, the following issues should be characterized in detail:
  – Who evaluates the ceiling?
  – When and how often evaluates the ceiling?
  – Is the ceiling kept mandatorily?
  – How to report to and get approval from the National Assembly?
Part-06  KDI and PIMAC
### History of KDI and PIMAC

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dec. 1970</td>
<td>Promulgation of law establishing KDI (Law No. 2247)</td>
</tr>
<tr>
<td>Feb. 1971</td>
<td>Promulgation of Presidential Act establishing KDI (Presidential Act No. 5527)</td>
</tr>
<tr>
<td>Mar. 1971</td>
<td>Establishment of KDI</td>
</tr>
<tr>
<td>Dec. 1991</td>
<td>Establishment of the Economic Information and Education Center within KDI by merging the National Institute of Economic System and Information</td>
</tr>
<tr>
<td>Dec. 1997</td>
<td>Establishment of KDI School of Public Policy and Management</td>
</tr>
<tr>
<td>Jan. 2000</td>
<td>Establishment of Public Investment Management Center (PIMA) within KDI</td>
</tr>
<tr>
<td>Jan. 2005</td>
<td>Establishment of Public and Private Infrastructure Investment Management Center (PIMAC) within KDI</td>
</tr>
</tbody>
</table>

*PIMA of KDI + PICKO of Korea Research Institute for Human Settlements*
KDI belongs to the National Research Council for Economics, Humanities and Social Science (NRCS) under the Office of the Prime Minister.
Through comprehensive and systematic implementation of policy research and management of both public and private investment for infrastructure, PIMAC functions as the promoter of efficiency and effectiveness for infrastructure investment as a whole.
### Areas of Expertise of PIMAC Staff

<table>
<thead>
<tr>
<th>Areas of Expertise</th>
<th>Head-Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economics / Business</td>
<td>32</td>
</tr>
<tr>
<td>Finance</td>
<td>3</td>
</tr>
<tr>
<td>Accounting</td>
<td>7</td>
</tr>
<tr>
<td>Law</td>
<td>4</td>
</tr>
<tr>
<td>Transport</td>
<td>14</td>
</tr>
<tr>
<td>Engineering (civil, road, architecture, port, environment, etc)</td>
<td>15</td>
</tr>
<tr>
<td>Urban Planning</td>
<td>1</td>
</tr>
<tr>
<td>Tourism</td>
<td>1</td>
</tr>
<tr>
<td>Water Resources</td>
<td>1</td>
</tr>
<tr>
<td>International Cooperation</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>81</strong></td>
</tr>
</tbody>
</table>

As of January 2010
The role of PIMAC as 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
Thank you