Implementation of Public Investment Systems

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Note: This presentation includes some materials from previous presentations developed with José Larios, Edna Armendariz and Martin Ardanaz (IADB), as well as from the thesis of Antonio Rojas
Contents

1. Introduction.
2. Gaps regarding Public Investments.
3. Approaches that respond to the gaps (Good practices)
4. Some recommendations
5. New challenges
1.-Introduction:
Context - Economic growth slowdown

Real GDP growth (%)

Advanced Economies
Emerging Economies
ASEAN 5
Sub Saharan Africa
Latin America and the Caribbean

Fuente: Based o data from the World Economic Outlook (WEO, IMF, 2019).
1. Introduction: Growth models

Y = F (K, L, A)
- Y: Product
- K: Capital factor
- L: Labor factor
- A: Total factor productivity

How does Public Investment contribute to growth?
It is part of the total investment (K)
But especially in the TFP:
  - Boosting private investment
  - Complementing with public investment those from the private sector that are not privately profitable: Crowding In versus Crowding Out Effect

Selecting public projects well.
1.- Introduction: Positive relationship between growth of public investment and GDP

Latin America: real growth of public investment and GDP

Source: Armendariz, Contreras calculations based on IDB and WEO data
1.-Introduction:
Positive relationship between growth of public investment and GDP (Latin America)

Relationship between economic growth and public investment growth in Latin America, 2009-2016

Source: Antonio Rojas with IMF data, 16 economies, years 2009 and 2015
Literature presents mixed evidence, results mainly show that public investment correlates positively in growth, although not always significantly.

Hypothesis: efficiency in investment management (part of the Total Factor Productivity) may be making a difference in how public investment impacts GDP.
1.-Introduction: The efficiency hypothesis

- Mixed evidence in the literature, not in 100% of cases and not always with statistical significance

- On the other hand, what is the causality?
  - Investment => Growth?
  - Growth => Investment?

- Most of the studies in the reviewed literature study correlation, but not cause-effect relationships.
1. - Introduction: Questions about gaps

- How much is invested?
- What are we investing in?
- How efficient is investment management?
2.-Gaps: How much is invested?

2.-Gaps: How much is invested?

Public investment expenditure, 2000-17 *
(percentage of GDP)

Source: IADB calculations based on IADB, OECD and WEO data.* 2014 for ASEAN economies.
** Latin America includes: Bolivia, Chile, Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Honduras, México, Nicaragua, Panamá, Paraguay, Perú, República Dominicana and Uruguay.
2.- Gaps: How much is invested?

Latin America: Public investment expenditure, 2000-2014 (% GDP)

Group 1: Bolivia, Colombia, Ecuador, Panamá y Perú

Group 2: Chile, Costa Rica, El Salvador, Guatemala, Honduras, México, Nicaragua, Paraguay, República Dominicana y Uruguay

Source: IADB calculations based on IADB data.
2.- Gaps: What are we investing in? (Latin America)

Source: IADB calculations based on IADB data.
2.- Gaps: What are we investing in?

Perú (2014)

- Transporte
- Vivienda y Serv. Comunitarios 1/
- Educación
- Agua
- Agro
- Salud
- Servicios Públicos 2/
- Defensa
- Orden y Seguridad
- Cultura y Religion
- Medio Ambiente
- Energía
- Otras Act. Econ. 3/
- Protección Social

Chile (2014)

- Transporte
- Protección Social
- Salud
- Educación
- Vivienda y Serv. Comunitarios 1/
- Orden y Seguridad
- Servicios Públicos 2/
- Cultura y Religion
- Energía
- Defensa
- Medio Ambiente
- Agro
- Otras Act. Econ. 3/

Source: IADB calculations based on IADB data.
2.-Gaps: How efficient?

Public investment, efficiency, and growth

- Growing interest in measuring efficiency and comparing between economies:
  - PIMA framework (IMF)
  - Dabla - Norris et al (PIMI).
  - IADB (Latin America)
  - Others
2.-Gaps: How efficient?

PIMA Results

• Weaknesses of PIM institutions are widespread across the public investment cycle (2018).

Source: Staff calculations based on PIMA reports.
2.-Gaps: How efficient?

PIMA Results

- There is significant room for improving the design of PIM institutions, both across and within economies.

Source: Staff calculation based on PIMA reports.
2.- Gaps: How efficient?

Public investment, efficiency, and growth

Source: FMI (2015): Making public investment more efficient
2.-Gaps: How efficient?

2.-Gaps: How efficient?

Relationship between GDP per capita and good quality in the administration of public investment (PIMI index, Dabla-Norris et al) in low-income countries.

Logarithm of GDP per capita

\[ y = 0.8226x + 6.1841 \]
\[ R^2 = 0.2709 \]

Source: Antonio Rojas with data from the IMF and Dabla-Norris et al. (2010)
2.-Gaps: How efficient?

Public investment, efficiency, and growth

Indicator of efficiency of public investment by groups of economies

AE = advanced economies; EM = emerging markets; LID = low income economies. Source: IMF, 2015
2.-Gaps: How efficient?

Public investment, efficiency, and growth (Latin America)

Public investment efficiency 2009 and 2015 data

In this graph, and in the following one, the efficiency measurement is restricted to one dimension: ability to replace assets beyond depreciation.

Source: Antonio Rojas thesis (2019)
2.-Gaps: How efficient?

Public investment, efficiency, and growth (Latin America)

Public investment efficiency 2009 to 2016 data

Source: Antonio Rojas thesis (2019)
<table>
<thead>
<tr>
<th>Dimension</th>
<th>Dimensions based on DN</th>
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<tbody>
<tr>
<td>Strategic guides and project evaluation (24%)</td>
<td>Strategic guides</td>
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<td>Methodologies for project preparation and evaluation / Social prices</td>
</tr>
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<td></td>
<td>Project evaluation</td>
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<td>Project Selection (19%)</td>
<td>Budget allocation</td>
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<td>Role of the legislation</td>
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<td>Transparency</td>
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<td>Selection criteria</td>
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<td>Project Implementations (20%)</td>
<td>Bidding Process</td>
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<td>Deadlines</td>
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<td>Internal Control and audits</td>
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<td>Ex post Evaluation (22%)</td>
<td>Project Evaluation, Audits and Asset Management</td>
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<tr>
<td>General characterization of the public investment cycle (15%)</td>
<td>Operational descriptions</td>
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<td>Role of the legislation</td>
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<td>Human Resources</td>
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<td>Access to information</td>
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<td>ICT</td>
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</tbody>
</table>

Source: Armendariz, Contreras, Parra and Orozco, 2016
There is consistency between these four groups and the average age of the SNIPs of the countries:
- Group 1 and 2: 21 years old
- Group 3: 11 years
- Group 4: 5 years
2.- Gaps: How efficient?

IADB Results - 2016
Source: Armendariz, Contreras, Parra and Orozco, 2016
2.- Gaps: How efficient?

2.- Gaps: How efficient?

IADB Results 2016

Source: Armendariz, Contreras, Parra and Orozco, 2016
What does efficiency depend on?

Quality of investment cycle management

3. Good practices

Planning

Audit and ex post Ev.

Evaluation ex-ante

Selection and budget

Implementation and monitoring

Ex Ante

Ex Post
3.- Good practices

Management tools in cycle components

- Planning
- Evaluation ex-ante
- Selection and budget
- Implementation and monitoring
- Audit and ex post evaluation

Ex Ante

Ex Post
3.- Good practices
Korea

Central level planning

Sectoral level planning

Project level control

MTEF

Local MTEF

Sector Plan

Grant-in-aid Lists

Feasibility Study

Investment Appraisal

PPP Review Committee

3. Good practices

Management tools in cycle components

- Planning
- Evaluation ex-ante
- Selection and budget
- Implementation and monitoring
- Audit
- Ex Ante
- Ex Post
Chilean Public Investment System

Efficient Public Investment
3.- Good practices

Management tools in cycle components

Planning

Selection and budget

Implementation and monitoring

Evaluation ex-ante

Audit and ex-post Ev.
3.- Good practices

Management tools at implementation stage
- Project planning
- Project scheduling
- Resource allocation and capacity planning
- Budgeting and monitoring project costs
- Quality management

PWC survey of 1524 participants from 38 countries, including 20 from the OECD. The rest of the emerging economies

3.-Good practices

Management tools in cycle components

- Planning
- Selection and budget
- Implementation and monitoring
- Audit and ex post Ev.
- Evaluation ex-ante

Ex Ante
Ex Post
3.- Good practices

EX POST EVALUATION OF MAJOR TRANSPORT INFRASTRUCTURE PROJECTS

Gerard de Jong
Significance and ITS Leeds
Silvia Vignetti
CSIL Centre for Industrial Studies, Milan
Chiara Pancotti
CSIL Centre for Industrial Studies, Milan
<table>
<thead>
<tr>
<th>Cluster</th>
<th>Case study</th>
<th>Behavioural pattern</th>
<th>Determinants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Successful</td>
<td>Greece – Rio Antirio Bridge (Bright Star)</td>
<td>Project in which the good predictions made ex ante turn out to be accurate. The project delivers value for money and success. Even in the event of exogenous negative events, the project performance remained positive.</td>
<td>![Chart]</td>
</tr>
<tr>
<td>Intermediate success</td>
<td>Poland - Gdańsk Tram (Star)</td>
<td>The project performance is very positive. However, due to the fact that the infrastructure and services refer to a small intervention embedded into an existing wider network the positive performance of the project is highly influenced by network effects not fully attributable to the project. Project partially successful. The sub-optimal coordination among level of governments partially clouded the fulfilment of all the expected objectives. However, the most urgent need was successfully addressed.</td>
<td>![Chart]</td>
</tr>
<tr>
<td>Least successful</td>
<td>Spain – Malaga Bypass (Blurred Star)</td>
<td>Project performance is positive but far below the expectations. This is due to some deficiencies in the planning phase.</td>
<td>![Chart]</td>
</tr>
<tr>
<td></td>
<td>Hungary – M43 motorway (Little Star)</td>
<td>Project affected by a combination of ex ante unfavourable factors (overoptimistic traffic forecast, inappropriateness to the local context). However, the effective design and a good managerial capacity prevented the project failure.</td>
<td>![Chart]</td>
</tr>
<tr>
<td></td>
<td>Germany – Autobahn A14 (Rising Sun)</td>
<td>Project in which a combination of ex ante unfavourable factors (optimism bias, inappropriateness to the local context and bad incentives) prevented the project to reach its expected benefits and the good managerial capacity is unlikely to save the project from its underachievement.</td>
<td>![Chart]</td>
</tr>
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<td></td>
<td>France - Le Havre tramway (Eclipsed Sun)</td>
<td></td>
<td>![Chart]</td>
</tr>
</tbody>
</table>
Pillar 1: Co-ordination across levels of government and policy areas

1) Principle 1. Invest using an integrated strategy tailored to different places

2) Principle 2. Adopt effective instruments for co-ordinating across central and local levels of government

3) Principle 3. Co-ordinate horizontally among local governments to invest at the relevant scale

Effective public investment across levels of government (OECD, 2019)
Pillar 2: Strengthen capacities for public investment and promote learning across levels of government

1) Principle 4. Assess upfront the long-term impacts and risks of public investment (Ex ante Evaluation)
2) Principle 5. Engage with stakeholders throughout the investment cycle
3) Principle 6. Mobilise private actors and financing institutions to diversify sources of funding and strengthen capacities
4) Principle 7. Reinforce the expertise of public officials and institutions involved in public investment
5) Principle 8. Focus on results and promote learning from experience (Ex post Evaluation)
4. Recommendations

Pillar 3. Ensure sound framework conditions at all levels of government

1) Principle 9. Develop a fiscal framework adapted to the investment objectives pursued

2) Principle 10. Require sound and transparent financial management at all levels of government

3) Principle 11. Promote transparency and strategic use of public procurement at all levels of government

4) Principle 12. Strive for quality and consistency in regulatory systems across levels of government
5.-New challenges

Weak application of technologies en some economies (scale 0 -4):

Latin America Results 2019

UN has proposed a roadmap based on the Sustainable Development Goals (SDGs):

Challenges for Public Investment Management.

Will the project portfolios be adapted to the SDGs?

New topics also emerge, such as:

Climate change and the incorporation of issues related to disaster risk

Risk management in general (not only climate)

Energy efficiency

Public-private articulation of project portfolios

Mega projects. Example: airports in large capital cities, large bridges, etc.
Implementation of Public Investment Systems:

Thanks!
3.- Good practices and bad practices

Professional team size $M_1 = 2 \times \text{Team size } M_2$

Source: Own elaboration
3.-Good practices