Capital Budgeting for Resilient Cities
Financing Public Investment Sustainably

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City Resilience Program
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Public Investment Plans

Infrastructure Budgeting/Financing/Execution
Leveraging medium term capital budgeting to yield a better infrastructure program?

- Concessional Debt
- Commercial Debt (Bonds, Banks)
- Pay as You Go
- Concessions/PPPs
- Land Value Capture
Successful capital budgeting is a balance act requiring short, medium and long term perspectives.
Capital Budgeting

✓ Important subset of public investment management (PIM), linking public investment decision with budgeting, financing, procurement

✓ Definition also encompasses all projects were government agencies play a role in the realization of capital projects (e.g., through PPPs or SOEs), either as directly sponsoring or in some way sanctioning authorities

✓ Communicates city-level financing strategy to politicians, public and financiers
Motivations

• Create and sustain priority public infrastructure assets for growth and resilience in an efficient and fiscally sustainable manner

• Leverage all available financing opportunities available to a city for fulfilling a coherent program of project needs

• Adequately monitor & manage fiscal risks at the city level

• Public scrutiny, discipline, and credibility associated with infrastructure spending
Examples

- Ireland
- China
- USA
- Colombia

Your Cities!
How familiar are you with capital budgeting?

- A: Never heard of it (4%)
- B: I'm not very familiar, but want to learn more (49%)
- C: It would be better if we were systematic about our budgeting, but we haven't gotten organized (42%)
- D: We have a fantastic system that helps us organize our medium-term development program (5%)
Agenda

09:00-9:45  Overview / Top-Down Framework

09:45-10:30 Top-Down Perspective Group Exercise

10:30-10:45 Feedback

10:45-11:00 Tea!

11:00-11:15 Bottom-up Framework

11:15-11:45 Bottom-up Perspective Group Exercise

11:45-12:00 Feedback

12:00-12:30 Tools & Takeaways
1. Setting the envelop
   - Fiscally sound
   - In line with fiscal rules

2. Setting the objectives & aligning with development strategy
   - prioritization
   - allocative efficiency

3. Sectoral composition of capital investment

4. Exploring innovative financing for infrastructure investment
   - PPP
   - Special Purpose Vehicles/Joint Ventures
   - Government Business Enterprises
   - Land Value Capture Financing
Top-down (Financing)

Bottom-up (Priority Projects)
1. **Setting the envelop**
   - Fiscally sound
   - In line with fiscal rules

2. **Setting the objectives & aligning with development strategy**
   - prioritization
   - allocative efficiency

3. **Sectoral composition of capital investment**

4. **Exploring innovative financing for infrastructure investment**
   - PPP
   - Special Purpose Vehicles/Joint Ventures
   - Government Business Enterprises
   - Land Value Capture Financing
TOP-Down Exercise
MTFF-DSA: An Anchor for Capital Budgeting

• Responsible capital budgeting requires a forward-looking perspective:

  ➢ Can I afford to finance these capital programs in short and medium-to-long term?
  ➢ Can I repay my debt eventually? Will my debt ratio stabilize at a reasonable level?
  ➢ Will future interest payments crowd out my ability to maintain essential public services?
  ➢ Will I be able to cover my financing needs tomorrow?
  ➢ How sensitive are these conclusions to stronger or weaker than expected macroeconomic or fiscal results?
  ➢ Can these capital projects open up more opportunity for the cities, and improving my fiscal perspective?

MTFF-DSA: what capital budgeting strategy is consistent with the city’s development strategy and long-term debt sustainability?
What is the MTFF - DSA?

Macroeconomic forecast
Primary fiscal balance
Change in net financial assets
Interest payments
Debt stock
Financing need
Information: Public Sector Balance Sheet?
China Sub-National Capital Budgeting

• Very high rates of investment by cities and provinces

• High reliance on “one off” land related revenues, special purpose vehicles and debt financing

• Under State Budget Law, national government has tightened avenues for off-budget financing due to fiscal risk concerns

• World Bank was asked to support Hunan Province and Dadukuo City
Under a WB Development Policy Operation (DPO) program, Hunan Province constructed a Debt Sustainability (DSA) for only province-level finances that consolidates the finances of budgets, LGFVs, and PPPs, linking this to an integrated capital financing plan and MTFF.

- Hunan Provinces passes almost the entire sum of central transfers down to the local level
- It also has significant public investment programs, particularly in roads and rail.
- Even under optimistic assumptions on future toll revenues, the DSA revealed former plans for public investment to be unsustainable.
- Hunan Province therefore made a decision to freeze province-level public investment at its 2015 level in the MTFF.
- Hunan Province significantly cut investment in high way, but increased investment in truck roads and rural roads, with particular focus on improving road networking.
- Capital budgeting is now extended from transport in 2015 to 8 sectors in 2017.
Figure: Hunan Provincial Debt Sustainability: Baseline and Stress Scenarios
(Public Liabilities as a Percentage of Province GDP)
Dadukou Debt at end-2015: A starting point for the DSA

Direct Government Debt: 10.5bn

Comprehensive debt: 23.7bn [after consolidation]
Dadukou District also adopted a medium term strategy for public investment that is consistent with fiscal sustainability in the DSA under baseline projections and a stress test scenario.

Figure: Dadukou District Debt Sustainability: Baseline and Downside Scenarios
/Public Liabilities as a Percentage of District GDP/
PIM/CB are subsystems; order matters
Fiscal Space Subject to Scenarios
Capital Options?

Capital Program
Budget Financing

Land Value Capture

Own Source

Transfers/Grants

Concessional

Concessional (Project)

PPPs & Concessions

Loans & Bonds

Concessional (Program)

Commercial Bank Lending

Domestic Bonds

International Bonds

PPPs

Concessions

LVC - TIF

LVC - DevRights

LVC - Disposition

LVC - Inkind

LVC - Inkind

LVC - Disposition

LVC - DevRights

1 2 3 4 5 6
PIM is a system: all functions matter

Emphasis is on functionality not form – countries need the eight functions for PIM to be effective with evaluation used to improve functionality over time.

Common Problems
• Development plans disconnected from actual budgets/projects
• White elephant projects with little socio-economic value
• Lack of pipeline of high-quality projects
• PPP projects that create risk for govt.
• Projects awarded to unqualified firms
• Opaque resource-for-infrastructure deals without due safeguards for ensuring good value
• Corruption/delays in procurement
• Delays in land/site acquisition
• Cost escalation, time-overruns
• Contract disputes/ abandoned projects
• Poor quality of completed projects
• Poor operation and maintenance of completed assets
• Institutional inertia/ No systemic response to address problems

Consequences
• Few valuable public assets are created
• Citizens lack key public facilities
• Stock of decaying infrastructure
  • Power and water shortages, road and railway accidents, crowded hospitals, deteriorating HDI
• “Investment” fails to spark growth and improved social welfare
• Countercyclical expansion of investments is difficult
• And if investment is financed:
  • by debt – creates a liability
  • by taxes – burdens citizens and private sector
  • by finite natural resource extraction – reduces net wealth
• Macroeconomic instability
• Political instability
• Fiscal pressures and risk

Context Matters: Lack of Effective PIM Has Profound Consequences
Reconciling Top-Down & Bottom-up: Gatekeeping for Project Pipeline

Planning/PIP

Fiscal (Medium Term, Annual)

Pipeline of Sponsored/Sanctioned Proposals

Multi-Year Plans/Proposals → Annual Budgeting
Appraisal Function: Five Key Questions

1. Type of evaluation used and under which conditions applied
2. Project proposal, appraisal, and review sub-processes
3. Appraisal methodology
4. Transparency (project data and analysis)
5. Capacity development approaches

Two core enabling factors
- Legal framework
- Organizational structure and staffing

- Features of each characteristic
- Country examples
- Issues arising
National Public Investment Integrated Platform

**Plan Preparation**
- National Development Plan
- Sector Plans
- Territorial Plans

**Program Design**
- Program, sub program categories
- Performance framework

**Project Design**
- Identification
- Viability
- Standard projects
- Project banks

**Scheduling**
- MGMP
- B. Sealings
- Priorization
- Allocation

**Implementation**
- Budget modifications
- Extensions
- Executor changes
- Future validity

**FOLLOW-UP AND EVALUATION (Performance Framework – Value Chain)**
- Managerial follow-up (products and results of the value chain)
- Evaluations of policies, programs, and projects

**PREVENTIVE CONTROL**
- PGN, SGR, SGP

**CITIZEN PARTICIPATION AND TRANSPARENCY**
- Investment Map
- Dissemination and accountability
Integrated Gatekeeping & Appraisal: Colombia

**Formulation**
- Responsible public entity
- Formulates Investment Program or Project
- Indicates among others: Population that benefits Articulation with the PND Activities and schedule Financial scheme

**Evaluation**
- Responsible sectoral entity
- Viability Control
- Indicates among others: Consistency with sectoral public policy Prioritization Technical integrity

**Additional viability Control**
- NPD technical areas

**Registration in the BPIN**
- Indicates among others: Consistency with NDP Technical integrity Monitoring viability
City of Milwaukee Functional Categories in CIP

Economic Development
- Largest functional category - 37% of general city purpose capital funding in 2017
- Includes TID’s, Strong Neighborhood Program, Port of Milwaukee
- Relies primarily on self-supporting debt (TIF)

Surface Transportation
- Includes Street Reconstruction, Bridge Rehabilitation, ancillary infrastructure programs
- Primarily funded through G.O. Borrowing, Grant & Aid

General Government
- Includes DPW Facility projects, IT projects, Major Capital Equipment

Health and Safety
- Includes Police, Fire and Health Department

Environment
- Includes DPW Forestry, Brownfield Remediation

Culture and Recreation
- Includes Library construction and repair, MKE Plays

2017 Capital Improvements Budget by Function
General City Purpose Funding

- Economic Development 37.3%
- Surface Transportation 25.9%
- General Government 24.4%
- Environment 7.5%
- Health and Safety 2.8%
- Culture and Recreation 2.1%
Illustration of TIF Redevelopment Model

Value Growth and Tax Increments in TIF

<table>
<thead>
<tr>
<th>Property Value</th>
<th>County</th>
<th>Schools</th>
<th>Technical College</th>
<th>Municipal (City)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base Value</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Time (20-27 years): TID Terminated (Tax Increments used to recover costs.)
PPP Fiscal Risk Assessment Model (PFRAM “Heat map”)
Assesses fiscal risks from PPP projects

**PROJECT A - Example**

<table>
<thead>
<tr>
<th>IDENTIFICATION OF RISKS</th>
<th>LIKELIHOOD</th>
<th>FISCAL IMPACT</th>
<th>RISK RATING</th>
<th>MITIGATION STRATEGY</th>
<th>PRIORITY ACTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Governance risks</td>
<td>High</td>
<td>High</td>
<td>Critical</td>
<td>NO</td>
<td>Critical</td>
</tr>
<tr>
<td>2 Construction risks</td>
<td>Medium</td>
<td>Medium</td>
<td>Medium</td>
<td>NO</td>
<td>High priority</td>
</tr>
<tr>
<td>3 Demand risks</td>
<td>High</td>
<td>High</td>
<td>Critical</td>
<td>NO</td>
<td>Critical</td>
</tr>
<tr>
<td>4 Operational and performance risks</td>
<td>High</td>
<td>High</td>
<td>Critical</td>
<td>NO</td>
<td>Critical</td>
</tr>
<tr>
<td>5 Financial risks</td>
<td>Low</td>
<td>Low</td>
<td>Irrelevant</td>
<td>YES</td>
<td>NO action required</td>
</tr>
<tr>
<td>6 Force majeure</td>
<td>Low</td>
<td>Low</td>
<td>Irrelevant</td>
<td>NO</td>
<td>NO action required</td>
</tr>
<tr>
<td>7 Material adverse government actions</td>
<td>Medium</td>
<td>Medium</td>
<td>Medium</td>
<td>NO</td>
<td>High priority</td>
</tr>
<tr>
<td>8 Change in law</td>
<td>High</td>
<td>Medium</td>
<td>High</td>
<td>NO</td>
<td>High priority</td>
</tr>
<tr>
<td>9 Rebalancing of financial equilibrium</td>
<td>Low</td>
<td>Low</td>
<td>Irrelevant</td>
<td>NO</td>
<td>NO action required</td>
</tr>
<tr>
<td>10 Renegotiation</td>
<td>High</td>
<td>Medium</td>
<td>High</td>
<td>NO</td>
<td>High priority</td>
</tr>
<tr>
<td>11 Contract termination</td>
<td>Low</td>
<td>Low</td>
<td>Irrelevant</td>
<td>NO</td>
<td>NO action required</td>
</tr>
</tbody>
</table>
The Case for a Unified Approach

PPPs are a form of implementing a public investment project

And..

- All Investment Project proposals should be screened for compatibility and consistency with national/city policies
- All Investment Projects must have common economic assessment
- All Investment Projects need to be technically and legally feasible environmentally compliant, socially sustainable, and economically viable
- All Investment Projects cost must be known and in line with fiscal priorities

Linking fiscal commitments due to PPPs and the budget constraint remains a central challenge for managing PPP fiscal risks
Investing to Invest

• Prioritize key bottlenecks and risks to delivery of resilience infrastructure
  • Capital budgeting
  • Public Investment Management

• Rank barriers to improving public investment program delivery
  • City-level
  • National
  • Time-horizons (short, medium, long-term) for Action Plans
<table>
<thead>
<tr>
<th>Phase/Institution</th>
<th>Institutional Strength</th>
<th>Effectiveness</th>
<th>Reforms Priorities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A. Planning</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 Fiscal rules</td>
<td>Debt rule: 20% domestic, 20% external, and 40% of GDP. Expenditure 30% of GDP. Capex to recur 30/70 ratio.</td>
<td>Debt principle observed, but expenditure principle breached three times during crisis. 30/70 ratio not observed in general.</td>
<td>Low: No debt sustainability concerns. Public debt 15.6 percent of GDP.</td>
</tr>
<tr>
<td>2 National and sectoral planning</td>
<td>Detailed planning process for NDP including 3-year PPP estimates. Limited monitoring of outputs/outcomes.</td>
<td>The TEC of projects are included in the NDP, which provides a tangible link to the budget and execution processes.</td>
<td>Low: Planning process broadly comply with good practices.</td>
</tr>
<tr>
<td>3 Central-local coordination</td>
<td>Overdrafts limited to 1/5 of previous revenue excluding grants. All borrowing approved by the MFED and MLG but the MoF does not monitor debt. Detailed estimates per LG in budget book.</td>
<td>No monitoring of debt—but borrowing levels insignificant. Transfers published late in fiscal year.</td>
<td>Low: Local governments investment accounts for less than 10 percent of total public investment.</td>
</tr>
<tr>
<td>4 Public-private partnerships</td>
<td>PPP capital stock 0.5 percent of GDP in 2015. No legal framework in place. PPP unit not always consulted. No dedicated lawyers.</td>
<td>High: Several PPP projects in the pipeline, with weak MFED oversight and capacity.</td>
<td></td>
</tr>
<tr>
<td>5 Regulation of infrastructure companies</td>
<td>Only telecoms sector is regulated. Energy and water in the future. The Public Enterprises Evaluation and Privatization Agency (PEEPA) report includes some SOEs.</td>
<td>Many loss-making SOEs require transfers, so more competitive essential. SOE reporting inadequate.</td>
<td>Medium: Growing transfers to SOEs. Many off-track investment projects are managed by SOEs.</td>
</tr>
<tr>
<td>6 Multiyear budgeting</td>
<td>Budget contains the TEC for multiyear projects in aggregate.</td>
<td>Budget estimates do not show multi-year indicative allocations for projects.</td>
<td>High: Large implications from inappropriate project appraisal.</td>
</tr>
<tr>
<td><strong>B. Allocation</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7 Budget comprehensiveness</td>
<td>Most capital spending is undertaken through the budget, including donor financing.</td>
<td>PPP transactions are only partially reported in the budget and are difficult to identify.</td>
<td>Medium: Budget implications of rising number of PPP projects currently unknown.</td>
</tr>
<tr>
<td>8 Budget unity</td>
<td>Capital and recurrent budgets are prepared separately and the CoA does not make a clear distinction between capital and recurrent budgets.</td>
<td>Planned recurrent estimates are based on rule of thumb. Economic classification not applied to development budget.</td>
<td>High: Significant risks of underfunding maintenance. Difficulty to measure capital stock.</td>
</tr>
<tr>
<td>9 Project appraisal</td>
<td>Planning manual contains appraisal guidelines, includes a methodology, and currently being updated.</td>
<td>Guidelines are not uniformly applied and no detailed risk analysis are conducted.</td>
<td>High: Cost estimates unreliable. Aggregate cost increase 60% higher than plan estimates. Large implications for multi-year budgeting.</td>
</tr>
<tr>
<td>10 Project selection</td>
<td>Line ministries prepare a project pipeline as part of the NDP process.</td>
<td>There are no guidelines for project selection.</td>
<td>High: Need to ensure that large projects are appraised properly before selected for budget funding.</td>
</tr>
<tr>
<td><strong>C. Implementation</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 Protection of investment</td>
<td>No virement between development and recurrent budget, and between projects in development budget.</td>
<td>Virements within the ministries' budgets mean some projects are not implemented on time.</td>
<td>Medium: Poor costing results in reallocation to priority projects, squeezing funding for other projects.</td>
</tr>
<tr>
<td>12 Availability of funding</td>
<td>Cash is released timely and external funding passes through TSA.</td>
<td>The system works well and no cash shortages have been experienced as the Pula Fund provides long-term savings to fund spending.</td>
<td>Low: Cash management is effective.</td>
</tr>
<tr>
<td>13 Transparency of execution</td>
<td>PPPD Act requires transparent procurement for ministries and LGs. SOEs' own policies aligned to the Act.</td>
<td>Some ex-post monitoring by the Office of the Auditor General (OAG) and PPA RB, but not consistent across all projects.</td>
<td>Low: Procurement framework complies with good practices.</td>
</tr>
<tr>
<td>14 Project management</td>
<td>PPADB Regulation 95 deals with project adjustments and the agency requires end of activity reports.</td>
<td>Project amendment rules not consistently followed. End of activity reports not comprehensive. Project managers not involved from inception phase.</td>
<td>High: Accountability very low in practice undermines project implementation. Cost overruns and project delays not quantified.</td>
</tr>
<tr>
<td>15 Assets accounting</td>
<td>Asset register currently being phased in but not complete. Non-financial assets and depreciation not reported.</td>
<td>Integrated fixed assets registry (IFAR) is being rolled out to prepare for accrual accounting.</td>
<td>Low: Accounting reform is underway.</td>
</tr>
</tbody>
</table>
Ireland

When Ireland was badly hit by the economic crisis, the government took new over-arching strategy for expenditure policy impacting on current and capital expenditure, leading to the PIM reform. Main PIM reforms include:


• **Fiscal Advisory Council** created to independently assess whether government is meeting targets and objectives (2011).

• **Strengthening of Department of Finance (creation of Department of Public Expenditure and Reform since 2011)** for both project appraisal and monitoring of implementation

• **Issuance of clear guidelines**: *Public Spending Code* contains detailed appraisal guidance

• **Strengthening of Central Expenditure Evaluation Unit to review CBAs and CEAs of spending agencies** and provide analytical and research support

• **Capacity building across government in appraisal**
Ireland’s Integrated Annual Budget Cycle

- April: Stability Programme Update
- July: Macro-fiscal update
- October: White Paper on Receipts and Expenditure
- Revised taxation and expenditure forecasts
- Economic forecasts endorsed by IFAC
- Revised taxation and expenditure forecasts
- Draft Budget presented to Dáil and Draft Budgetary Plan (DBP) forwarded to the European Commission
- Budgetary Measures
- Assessment of Draft Budgetary Plan by Commission
- Assessment by Commission including Country Specific Recommendations
Colombia’s Integrated Macro-Fiscal Framework

- **National Development Plan, NDP**
  - Document presented at the beginning of each Government. Prioritizes investment by sectors to achieve economic and social goals.

- **Medium Term Fiscal Framework, MFMP**
  - Document submitted to Congress by June 15th each year. Contains:
    - Multi-year fiscal plan for the following 10 years, fiscal balance targets for the following fiscal year, quantification of fiscal impact of tax benefits and laws approved, assessment and valuation of main fiscal contingencies.

- **Financial Plan, PF**
  - Financial Plan that contains projections of revenue, expenditure, fiscal balance, Central Government financing and debt for the following term. It covers the Central Government, the decentralized public sector and non-financial public sector entities. It must be consistent with MFMP. It requires approval CONFIS and CONPES.

- **Medium Term Expenditure Plan, MGMP**
  - It contains projections for a 4-year period of sectoral expenditure caps, distributed by sectors and type of expenditure. Expenditure ceilings are consistent with the MFMP. It requires approval CONFIS and CONPES.

- **Public Investment Programming, POAI**
  - Contains investment projects with technical approval by sectors and that will be included in the budget bill. It must be consistent with MFMP, MGMP and Financial Plan Financiero. Requires approval of CONFIS y CONPES.

- **Budget Bill**
  - Must be consistent with MFMP, PF, MGMP y POAI. Requires Congress approval.
Integrating Institutional Linkages
# Strengthening Capital Budgeting Practices

## Incentives
- Do key political or bureaucratic leaders have sufficient motivation to strengthen capital budgeting practices?
- All project proponents do not have incentives to put projects “off-budget”.
- Mechanisms are in place to incentivize projects with inter-regional planning/economic benefits.
- Project sponsors/sanctioning authorizes effectively “price” fiscal risks and forward returns versus liabilities in project selection.

## Integration
- Incorporate all major capital investment projects, including PPPs with any budget linkages, into budgeting process.
- Reflect adequate operations & maintenance expenses.
- Coordinate sectoral and territorial/spatial dimensions of public investment prioritization.
- Ensure gate-keeping is in place for all projects.

## Information
- Provide adequate decision making basis for project selection.
- Ensure accounting standards are adequate to reflect balance sheet of capital investment sponsors.
- Capital forward commitments of existing are adequately costed.
- The fiscal position of notably sub-national project owners is adequately measures.
- Absence of information likely implies absence of interest, raising some questions about incentives & integration!
Information: Basic On-line Financial & Physical Program Tracking
Better & Bankable Projects
Top Down: Gaps?

Bottom-up: Gaps?
Takeaways

• Better & bankable projects require strategic rather than only opportunistic approach

• Capital budgeting is a set of interlocking tools

• Opportunities may be within or beyond the realm of city’s actions
Q & A
Varying Institutional & Incentive Arrangements

1. Strong central oversight function vs. autonomous spending units
   • Who should appraise projects, sponsoring spending ministries (Chile, UK) or a central unit (Korea)?
     • Where spending units prepare the appraisal, how robust should the review function be?
   • Who should prepare sectoral methodologies, central unit (Chile, Korea) or spending units (UK, Ireland)?

2. Methodological choices
   • Which methodology – cost-benefit analysis (Chile, UK, Ireland) or multi-criteria analysis (Korea) – is most appropriate? If CBA, which methodological approach? If MCA, which criteria should be used and how should they be weighted?
   • How far should social (economic) pricing go? How far should sectoral methodologies be adopted, in terms of breadth and depth?

3. Political vs. technical: accommodation vs. purity in system design
   • To what extent should conduits for political influence be built into the appraisal process? Different designs: “protect the core” (Chile) vs. “coopt the politics” (Korea) vs. “guidance on the margin” (UK, Ireland)?
Selected References
