Database on investment in infrastructure in Latin America and the Caribbean

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Until recently a major obstacle to effective policymaking in Latin America and the Caribbean has been the lack of data on how much is invested in infrastructure, how much is invested by the public and private sectors, respectively, and how this expenditure is shared between the different tiers of government.

In this connection, the paper by César Calderón and Luis Serven, Infrastructure in Latin America (World Bank policy research working paper No. 5317) (2010) has been of great use. It provided the first database on infrastructure investment in Latin America, covering six countries in the region from 1980 to 2006, and is currently the series whose data reaches the furthest back in time.
This line of research was taken by the Infrastructure Services Unit (ISU) of the Natural Resources and Infrastructure Division of ECLAC, as a permanent initiative to build a database on economic infrastructure investment.


Note: The following countries are included: Argentina, Brazil, Chile, Colombia, Mexico and Peru.
Data series can be disaggregated in transport, electricity, telecommunications and water and sanitation.


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INFRALATAM (http://en.infralatam.info/home): Its objective is to measure infrastructure investments in Latin American countries, disseminating results and promoting analyzing their impacts. (Officially released on August 30, 2016)
Data were compiled, registered, processed (by INFRALATAM [http://en.infralatam.info/home]) and validated (by the countries).
The initiative has infrastructure investment data for 15 countries from 2008 to 2013

![Image of infrastructure investment data](http://en.infralatam.info/home)
This is a dynamic project which seeks to increase its country and time coverage, as well as to enhance the quality of the data reported.

(http://en.infralatam.info/home)
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For public sector infrastructure investment:

ECLAC has produced a document that are intended to serve as a guidance tool for the appropriate compilation, recording, validation and processing of information on the basis of Government Finance, following a mechanism that facilitates the standarization of the data, and their comparison over time and across countries.

The methodology is based on:
- OECD, ITF, Glosario de estadísticas de transporte,
- Consultations with specialists.
- Others documents.
Some fundamental concepts

- **Defining the concepts of investment**

- From a macroeconomic statistical system, we have the Decomposition of Aggregate Demand and Supply:
  - (1) Total Aggregate Supply = $X = \text{Total Aggregate Demand}$
  - (2) $Y + T + M = X = C + I + G + E$

- Donde $Y$ es el Gross Domestic Product, $T$ taxes paid to the government, $M$ total imports, $C$ consumer spending, $I$ total investment, $G$ government spending, $E$ total exports.

- $I = \text{Private investment} + \text{Public investment}$
METHODOLOGY

• In the System of National Accounts we have the concepts of “investment” as “gross capital formation” (GCF).

• Gross capital formation (GCF) consists of gross fixed capital formation (GFCF), changes in inventories and acquisitions (DI) less disposals of valuables (V). By omitting the valuables (V), this relationship may be expressed as follows:

  – GCF = GFCF + DI - V
  – GCF = (NFCF + CFC) + DI

• **Changes in inventories (DI)** refer to construction or other work in progress as part of projects taking more than one year to be completed.

• Consumption of fixed capital (CFC) is the **depreciation** of fixed assets, as a consequence of:
  – Physical deterioration,
  – Normal obsolescence, or
  – Normal accidental damage.
• As **Gross Capital Formation (GCF)** we include projects whose lifespan exceeds a year and are subject to depreciation.

• We report the following type of projects:
  – New projects, improvement and expansion projects.
  – Replenishment Projects.
“Maintenance and repair of fixed assets” vrs. “major improvements” to fixed assets

- Maintenance and repair of fixed assets are not included in the database.

- The distinction between “Maintenance and repair of fixed assets” vrs. “major improvements” is not always obvious. Maintenance and repairs are distinguished by two features:
  - (a) they are activities that owners or users of fixed assets are obliged to undertake periodically in order to be able to utilize such assets over their expected service lives and
  - (b) they do not change the fixed asset or its performance or productivity, but simply maintain it in good working order or restore it to its previous condition in the event of a breakdown.
The public sector and its subsectors

- Public Sector
  - Public Corporations
    - Financial Public Corporations
    - Nonfinancial Public Corporations
  - General Government
    - Central Government
    - State Government and Local Government

http://infralatam.info/  http://infralatam.org
Time of recording: accrual basis

• The **accrual basis** provides the best estimation of the macroeconomic impact of government fiscal policy.

• With the use of **accrual basis** the effects of economic events are recorded in the period in which they occur, irrespective of whether cash was received or paid, or was due to be received or paid.
Using the **form**

- Instructions
- General data.
- Institutional coverage (may vary over time). This includes the three levels of government.
- Special Funds (if there is another different source). The most commonly used sources of information are:
  - Central Government: National Budget execution / Special Accounts
  - Subnational governments: transfers from the national budget execution, provincial, regional or local budgets execution, special funds, etc.
Infrastructure sectors can be classified by government functions.

| 7 | Total outlays          | 70433  | Nuclear fuels          |
|   | General public services | 70434  | Other fuels            |
|   |                         | 70435  | Electricity            |
|   |                         | 70436  | Nonelectric energy     |
|   | 7044                     | Mining, manufacturing, and construction |
|   | 70441                    | Mining of mineral resources other than mineral fuels |
|   | 70442                     | Manufacturing |
|   | 70443                     | Construction |
|   | 7045                     | Transport |
|   | 70451                     | Road transport |
|   | 70452                     | Water transport |
|   | 70453                     | Railway transport |
|   | 70454                     | Air transport |
|   | 70455                     | Pipeline and other transport |
|   | 7046                     | Communication |
|   | 7047                     | Other industries |
|   | 70471                     | Distributive trades, storage, and warehousing |
|   | 70472                     | Hotels and restaurants |
|   | 70473                     | Tourism |
|   | 70474                     | Multipurpose development projects |
|   | 7048                     | R&D Economic affairs |
|   | 70481                     | R&D General economic, commercial, and labor affairs |
|   | 70482                     | R&D Agriculture, forestry, fishing, and hunting |
|   | 70483                     | R&D Fuel and energy |
|   | 70484                     | R&D Mining, manufacturing, and construction |
|   | 70485                     | R&D Transport |
|   | 70486                     | R&D Communication |
|   | 70487                     | R&D Other industries |
|   | 70489                     | Economic affairs n.e.c. |
|   | 705                      | Environmental protection |
|   | 7051                     | Waste management |
|   | 7052                     | Waste water management |
|   | 7053                     | Pollution abatement |
|   | 7054                     | Protection of biodiversity and landscape |
|   | 7055                     | R&D Environmental protection |
|   | 7056                     | Environmental protection n.e.c. |
|   | 706                      | Housing and community amenities |
|   | 7061                     | Housing development |
|   | 7062                     | Community development |
|   | 7063                     | Water supply |
|   | 7064                     | Street lighting |
|   | 7065                     | R&D Housing and community amenities |
|   | 7066                     | Housing and community amenities n.e.c. |

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**Major challenges and next steps**

1. Increase data disaggregation (for example, inland navigation and maritime transport are reported as a total (not disaggregated)).
2. Standardization of data (in order to obtain comparability with macroeconomic accounts and international comparisons).
3. Improve the registration of State Government and Local Government data.
4. Recording and processing private investment in infrastructure (we are using the World Bank database for PPI projects).
5. Recording and processing maintenance and repair of fixed assets.
6. Other challenges (currently in progress):
   - Measurement of infrastructure gap
   - Measurement of capital stocks
   - Expand country coverage:
     - At the moment, we have 15 countries: Argentina, Bolivia (Estado Plurinacional de), Brasil, Chile, Colombia, Costa Rica, El Salvador, Guatemala, Honduras, México, Nicaragua, Panamá, Paraguay, Perú and Uruguay.
     - We are expanding the coverage to seven more countries: Belice, Cuba, Guyana, Jamaica, República Dominicana, Suriname, Trinidad y Tobago.
     - And updating data until 2015 or 2016.
Thanks a lot.

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