Issues from the Practical Application of CBA in Major Transport Projects

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The European Investment Bank (EIB)
Long-term Finance Promoting European Objectives

- Shareholders: 27 EU Member States
- Governance
  - Board of Governors – EU Finance Ministers
  - Board of Directors - Member States & European Commission
  - Management Committee – EIB’s executive body
  - Audit Committee – independent, non-resident
Breakdown of the EIB’s capital

- **German** (DE) 16.170%
- **France** (FR) 16.170%
- **Italy** (IT) 16.170%
- **United Kingdom** (GB) 16.170%
- **Spain** (ES) 9.702%
- **Belgium** (BE) 4.482%
- **Netherlands** (NL) 4.482%
- **Sweden** (SE) 2.974%
- **Denmark** (DK) 2.269%
- **Austria** (AT) 2.223%
- **Poland** (PL) 2.070%
- **Finland** (FI) 1.278%
- **Greece** (GR) 1.216%
- **Portugal** (PT) 0.784%
- **Czech Republic** (CZ) 0.764%
- **Hungary** (HU) 0.723%
- **Ireland** (IE) 0.567%
- **Romania** (RO) 0.524%
- **Slovak Republic** (SK) 0.260%
- **Slovenia** (SI) 0.241%
- **Bulgaria** (BG) 0.177%
- **Lithuania** (LT) 0.151%
- **Luxembourg** (LU) 0.113%
- **Cyprus** (CY) 0.111%
- **Latvia** (LV) 0.092%
- **Estonia** (EE) 0.071%
- **Malta** (MT) 0.042%
Eligibility

• Within the Union:
  – Cohesion and convergence
  – Small and medium enterprises
  – Environmental sustainability
  – Innovation 2010 Initiative (i2i)
  – Trans-European Networks (TENs)
  – Sustainable, competitive and secure energy

• External Mandates
EIB can provide loans, equity participation in Infrastructure Funds (Marguerite, InfraMed, ...), and guarantees (LGTT: Loan Guarantees for TEN-T).

EIB is also active in technical assistance and advisory roles.
Sustainability a multi-dimensional concept

- growth
- efficiency
- stability

**Economic**

- intra-generational equity
- basic needs/livelihoods

**Social**

- inter-generational equity
- values/culture

**Environmental**

- resilience/biodiversity
- natural resources
- pollution

Poverty
Equity
Sustainability
Climate Change
EIB is actively involved in developing all major sub sectors of the Transport Sector, intermodality, interoperability and telematics.
“All road projects should demonstrate appropriate economic returns. Projects with high economic value (such as rehabilitation of dilapidated roads and new roads in highly-congested settings) should be given priority. Road projects with weak economic value – notably projects with excessively large increases in capacity – should be avoided.”
Cooperation with EC and EU member states on economic appraisal methodologies

The case for harmonised socio-economic appraisal of transport projects

- Best practice for sound analyses
- Consensus within the EU
- EU financing (DGREGIO, DGTREN, EIB, bi-lateral development agencies, other IFIs)

EIB’s efforts coordinated with other stakeholders:

- RailPag
- Blue Book (Jaspers)
- DG REGIO Guide to Economic Appraisal
RailPag: Guiding the appraisal of transport projects:
- Competition in the system. Traffic forecasts
- Do-minimum alternatives
- Regulation and interoperability requirements
- Network effects
- Externalities
- Capacity
- Life span and residual values
- Effects and Stakeholders. SE cells
- Non-monetised effects
- The case for an SE Matrix
Figure 6. Cell expansion program.

**FARES USER SERVICE**

**STAKEHOLDER**

**PASSENGERS**

MAIL LINES - USERS

**DESCRIPTION:**

NPV of incremental fare that railway users have to pay. It is often necessary to divide it among existing, diverted, and generated users.

**CALCULATION:**

- Ideally, for each of the three types of passengers:
  1. Z (average fare / passenger/km) x Traffic (traffic / passenger/km)
  2. Consisting of different fares

- Alternatively:
  3. Average fare (passenger/km) x Traffic (passenger/km)

- The fare revenue is the average maximum generating traffic to be deducted.

**SOME VALUES:**

- 0.19 (conventional lines), 0.23 (high-speed lines) / passenger/km (data from Spanish case)

**CRITICAL ISSUES:**

Demand forecasting (see chapter “General Aspects”). Sophisticated traffic forecasting models are needed, in particular, under yield management.

**REMARKS:**

- It is recommended to use method of calculation (1) and consider distribution by class (business class, etc.) weight ticket & discount.
- Fares calculated here usually include transport and insurance, except where safety is a major issue (for projects, e.g., WAT), are considered separately.
- The total of additional fare paid by users (0.19 as a negative number) must be found as a positive value in the corresponding cell for additional revenue or operating cost.
CBA in the EIB’s decision processes

Why we care: EIB mission and statutes, sector policy

What we do: CBA for virtually all transport projects
- Analyze project information from external sources
- Produce CBA at different stages of the internal project cycle
- In some cases, advisory or technical assistance efforts on projects, programmes or policies

What we use: limited data, limited time, limited internal resources

What we try to produce:
- Simple
- Transparent
- Consistent
- Reliable
Critical Issues for CBA

CBA is perceived as limited in important ways
- Uncounted benefits (especially regional development, agglomeration benefits and network effects)
- Equity and distribution issues
- Easy to manipulate, black-box effect

Is that criticism fair?
- Importance of traffic analysis – but depth and quality will remain uneven
- Uncounted costs, too (eg severance)
- Would (sometimes costly) improvements change quality of decisions? Some bold assumptions
- Importance of developing stable/reliable teams of analysts, good communication and demonstrable track record (ex-post and monitoring)
- Examples of model validation (audits of assessment tools, benchmarking)
- Good performance in CBA often well correlated with other quality criteria
The “Value-Added” Framework

Many decision criteria need to be considered in an uncertain and complex environment.

EIB governance considers projects in all sectors.

A single overall assessment framework is being experimented:

- Three independent “pillars”: Alignment with EU objectives, Project quality and soundness, Financial Value of EIB intervention.

  - Economic efficiency a significant criterion within Pillar 2, measured by CBA wherever possible – scoring of EIRR dependent on sub-sector (case of rail, urban transport).

  - Thresholds on 3 pillars, thresholds on CBA, Ranking by overall score, and overall portfolio targets.

A way to steer upstream work and project sourcing? Or a way to make just about anything possible?
Some Orientations for the Future

Methodological improvements remain topical but should remain in tune with resources – in the meantime gross simplification is legitimate as long as it does not distort decisions

International consensus strengthens the position of CBA: role of international organizations in disseminating best practice – Example of HEATCO

More work is needed on explaining CBA to politicians and public at large

Get the incentives right to reduce manipulation of numbers

Combining CBA with multi-criteria approaches can help to illustrate terms of the decision and trade-offs
For more information…

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