

Validity and Reliability of Social Cost Benefit Analysis Results

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Content

- I. Social Cost-Benefit Analysis as a valuation framework and method
- II. Potential Biases
- III. Raise of applications and remaining barriers
- IV. Final notes and practical recommendation

Social Cost-Benefit Analysis (SCBA) as a Valuation Framework

- Why to evaluate? To make the decision process more rational and hence to make the allocation of scarce resources in economy (society) more efficient.
- SCBA: Theoretical and methodological framework for evaluation of projects, programmes and policies.
- SCBA: Analyst ideally forecasts, classifies and quantifies all consequences and values them in monetary units reflecting preferences of relevant society.

Social Cost-Benefit Analysis - Basic Methodological Steps

1. Specify the set of alternative projects
2. Determine society
3. Classify consequences and select measurement indicators
4. Predict the consequences over the life-span of the project
5. Monetize (attachment of EUR values to) all the consequences
6. Discount the consequences in monetary units by Social Discount Rate
7. Compute chosen criteria (e.g. Economic Net Present Value, ...)
8. Perform risk analysis
9. Make a recommendation based on results

Social Cost-Benefit Analysis (SCBA) – comparison with alternative methods

- Typical alternative methods:
 - Cost Minimum Analysis (CMA)
 - Cost Effectiveness Analysis (CEA)
 - Cost Utility Analysis (CUA)
 - Multi Criteria Analysis (MCA)
 - Discounted Financial Cash Flow based Valuation (DCF)
- Does the Social Cost-Benefit Analysis dominate the alternatives and in which cases?

How to value effects in monetary terms? -

Concepts

- Effects – changes of inputs (resources or intermediate goods) or outputs (their consumption affects society members utility)
- Value of outputs – concepts of “**Willingness To Pay (WTP)**” or “Willingness To Accept (WTA)”.
- Value of inputs – concept of “Social Opportunity Costs (SOC).

How to value effects in monetary terms? – Overview of Guidelines

- Valuation of effects marketed in efficient markets – market prices based
- Valuation of effects marketed in inefficient markets – adjusted market prices based
- **Valuation of effects, when markets are not-existed** - typical problem of many **safety effects (Lives, Injuries,...)** or **environmental effects (NO_x, CO₂, Noise,...)**
 - a. Methods based on revealed preferences
 - b. Methods based on stated preferences

Non-Market Goods Valuation – Methods (revealed preferences) x Biases

- a. Simple Valuation methods (Trade-off method, Intermediate Good method, Asset Valuation method...)
 - The omitted variable problem
 - Self-selection bias
- b. Hedonic Regression** (more data demanding):
 - Multicollinearity
 - Are consumers well informed about the implication of the externality or public good?
 - Correctly measured variables x more obtainable but incorrect proxies
- c. Travel Costs method
- d. Defensive Expenditures Method

Non-Market Goods Valuation – Methods (stated preferences) x Biases

Contingent Valuation Method or Choice Modeling and related techniques.

The biggest problem is that we can just interpret statements about preferences but not real observations.

- Biases linked to surveys:
 - Strategic Behaviour,
 - Anchor Bias,
 - Yes saying, No saying, etc....
- Good guide is NOAA guide, or Bateman's Guide..

SCBA Errors and potential biases – What we may find out in study ?

1. Unclear or missing defining of Society
2. Unclear, missing or not consistent defining or do something and do nothing alternative
3. Omission errors – or omitting of relevant consequence or multiple counting of one consequence
4. Forecasting differences – wrong qualitative or quantitative forecast of consequences
5. Valuation and Estimation/Measurement differences

Raise of applications and remaining barriers – CBA in practice

Practical Guides:

- OECD Manual (1968)
- Metodologie UNIDO (1972)
- I.M.D. Little and J.A. Mirrlees (1974)
- Squire and Van Der Tak (1976)
 - > Shadow Pricing and LMST
- Massimo Florio – European Commission Guide to CBA (1999)

Institutions: OECD, UNIDO, World Bank, EC

Why the applications increased as much in 70s and 80s and what are remaining barriers?

Final notes and practical recommendation - Barriers of good application in practice

- Unwillingness /motives of relevant decision makers for clarification of their choices results/
- Insufficient Ability:
 - /Personal Qualification and Education of Analysts, decision makers and checking officers/
 - Methods and methodological guidelines attainability
 - Data needed attainability
 - > All these factor for should not be more expensive then it's a value of its contribution

Final notes and practical recommendation -

How we can solve the problem?

- **Willingness:** Problem of political system itself+ Public Sphere Governance (Management, Legal framework, **Auditing – EUROSAI role!**)
- **Ability could be systematically improving** by:
 - **Application research > improving “plug-in” values database:** interdisciplinary research on effects forecasting and modeling, non-market effects valuation, conversion factors for market prices adjustments, inter-temporal preferences (Social Discount Rate)
 - Up to date **CBA Guides** on the level of theoretical knowledge and Cases publishing.
 - **Courses for applicants and ongoing education** of analysts as well as e.g. auditors + **personal policy** in public sphere (and audit)

Final notes and practical recommendation

– Natural Limits

- **Future will be always uncertain:** Natural Uncertainty about the future scenarios and their probabilities
- **Evaluation itself consume resources:** Problem of attainability of highly skilled evaluators (auditors), problem of valuation plug-in data and problem of effects forecasts.