

Cost-benefit analysis (CBA) aims to inform decision makers on the economic feasibility of projects, programmes, policies or regulatory initiatives. Its main purpose is to compare the costs associated with a policy or investment with the benefits of its implementation. The focus of this section is on CBA as a tool for the evaluation of investment projects. The content and methodology of CBA varies across countries. Nonetheless, a standard structure in the LAC region may consist of a description of the socio-economic and political context, definition of objectives, identification of the project, technical feasibility, environmental sustainability, financial analysis, economic analysis and risk assessment.

An outcome of CBA is the suggestion of the best project alternative among other options; consequently, the timing of the analysis may influence the efficiency of the decision-making process. The stage of the project in which CBA is carried out differs according to a country's methodology. The majority of LAC countries (58%) including Guatemala, Honduras and Paraguay, run this analysis during the pre-feasibility stage when several project alternatives are being assessed. A third of the countries prepare CBA at an earlier stage and update it during the whole preparation phase. Argentina is the only country in the region that prepares CBA in the feasibility phase, after the preferred alternative has already been chosen.

None of the 12 surveyed LAC countries run CBA that incorporates systematically the assessment of the direct effect of projects on regional development. Such effects would be relevant as part of the economic analysis. For instance, the improvement of a railroad can boost socio-economic conditions in a region by generating new jobs and changing the mix of skills required, developing local businesses, increasing community activity and boosting tourism; thereby having a direct impact on regional development by contributing to closing the socio-economic gap across regions. Only Argentina, Honduras, Paraguay, Peru and Dominican Republic reported measuring the effects of projects on regional development in some occasions.

Some of the elements included in CBA are often similar among different countries and regions. The net present value (NPV) and economic rate of return (ERR) are computed in all LAC countries with available information and in 85% of OECD countries. Similarly, economic analysis with the calculation of cost-benefit ratio and financial analysis to verify project sustainability and profitability are used in 92% of LAC countries and in over 80% of

OECD countries. Additionally, sensitivity analysis is used in 75% of countries in both groups. Nonetheless, a few CBA components are not included in LAC countries. For example, 42% of countries, including Guatemala, Panama and Uruguay, do not include a scenario analysis or the quantification of environmental externalities in their CBA. Mexico is the only country in the LAC region that includes a fiscal impact analysis, regularly used by two-thirds of OECD countries.

Methodology and definitions

NPV is the present value of the cash flow at the rate of return of the project compared to the initial investment. ERR considers economic factors such as price controls, subsidies and tax rates to calculate the cost of a project.

The cost-benefit ratio is calculated by dividing the total present value of benefits by the total present value of costs of the project. If the ratio is greater than 1, there is a positive return on the investment project.

A sensitivity analysis determines the sensitivity of the outcomes to changes in parameters. If a small change in a parameter results in relatively large changes in the outcomes, the outcomes are said to be sensitive to that parameter.

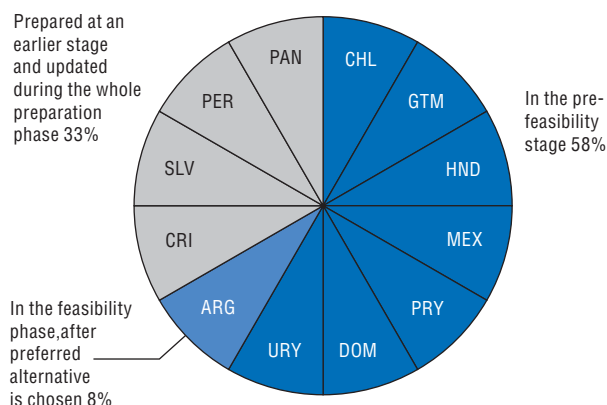
Data from the three figures come from the 2015 OECD-IDB Survey on Challenges and Applications of Cost-Benefit Analysis for the Preliminary Feasibility Study of Capital Investments. The survey collected responses from 12 LAC countries. Respondents were predominantly country representatives in charge of public investment units or departments, within ministries of finance or equivalent departments with investment assessment and decision-making roles.

Further reading

Florio, M. (2014), *The Use of Cost-Benefit Analysis for Capital Investment Planning in OECD Countries*, OECD Publishing, Paris.

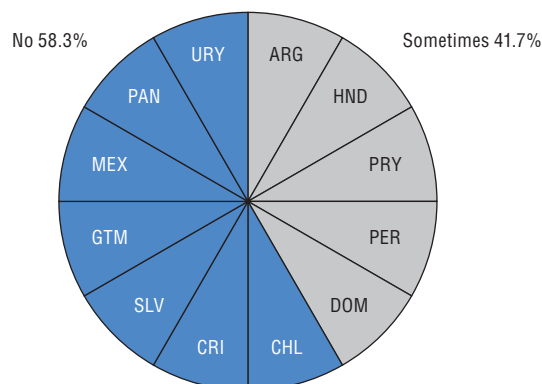
European Commission (2014), *Guide to Cost-Benefit Analysis of Investment Projects: Economic appraisal tool for Cohesion Policy 2014-20*, Directorate General and Urban Policy, European Commission, Brussels.

2.24. Stage of the project in which the CBA is prepared, 2015



Source: OECD (2015), Survey on Cost-Benefit Analysis.
StatLink <http://dx.doi.org/10.1787/888933431082>

2.25. Does CBA incorporates elements to assess regional development, 2015



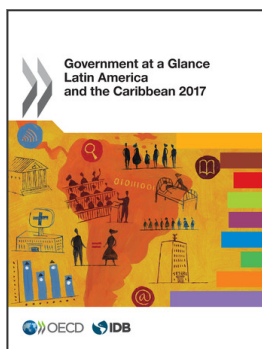
Source: OECD (2015), Survey on Cost-Benefit Analysis.
StatLink <http://dx.doi.org/10.1787/888933431099>

2.26. Elements typically included in the CBA, 2015

Country	Demand analysis	Fiscal impact analysis	Financial analysis to verify project sustainability and profitability	Economic analysis with calculation of cost/benefit (C/B) ratio	Net present value (NPV)	Economic rate of return	Quantification of environmental externalities	Sensitivity analysis	Scenario analysis	Contingent valuation
Argentina	●	○	●	●	●	●	○	●	○	●
Chile	●	○	●	●	●	●	●	●	●	●
Costa Rica	●	○	●	●	●	●	○	●	●	○
El Salvador	●	○	○	●	●	●	●	●	○	○
Guatemala	●	○	●	○	●	●	○	○	○	○
Honduras	○	○	●	●	●	●	○	○	○	○
Mexico	●	●	●	●	●	●	●	●	●	..
Panama	●	○	●	●	●	●	○	○	○	○
Paraguay	●	○	●	●	●	●	○	●	●	○
Peru	●	○	●	●	●	●	●	●	○	●
Dominican Republic	●	○	●	●	●	●	●	●	●	○
Uruguay	●	○	●	●	●	●	○	●	○	●
Total LAC12										
● Yes	11	1	11	11	12	12	5	9	5	4
○ No	1	11	1	1	0	0	7	3	7	7
.. Not available										1
Total OECD										
● Yes	13	13	16	17	17	17	10	15	10	
○ No	7	7	4	3	3	3	10	5	10	
.. Not available										20

Source: OECD (2015), Survey on Cost-Benefit Analysis.

StatLink <http://dx.doi.org/10.1787/888933431609>



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