
FAST TRACK BRIEF

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*The IEG report “Cost-Benefit Analysis in World Bank Projects” was discussed
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Cost-Benefit Analysis in World Bank Projects

- ◆ Cost-benefit analysis used to be one of the World Bank’s signature issues. It helped establish its reputation as the knowledge Bank and served to demonstrate its commitment to measuring results and ensuring accountability to taxpayers. It was the Bank’s answer to the results agenda long before that term became popular. This report takes stock of what has happened to cost-benefit analysis at the Bank, based on analysis of four decades of project data, project appraisal and completion reports from recent fiscal years, and interviews with current Bank staff.
- ◆ The percentage of projects that are justified by cost-benefit analysis has been declining for several decades, due to both a decline in standards and difficulty in applying cost-benefit analysis. Where cost-benefit analysis is applied to justify projects, there are examples of excellent analysis but also examples of a lack of attention to fundamental analytical issues such as the public sector rationale and comparison of the chosen project against alternatives. Cost-benefit analysis of completed projects is hampered by the failure to collect relevant data, particularly for low-performing projects. The Bank’s use of cost-benefit analysis for decisions is limited because the analysis is usually prepared after making the decision to proceed with the project.
- ◆ This study draws two broad conclusions. First, the Bank needs to revisit the policy for cost-benefit analysis in a way that recognizes legitimate difficulties in quantifying benefits while preserving a high degree of rigor in justifying projects. Second, it needs to ensure that when cost-benefit analysis is done it is done with quality, rigor, and objectivity, as poor data and analysis misinform, and do not improve results. Reforms are required to project appraisal procedures to ensure objectivity, improve both the analysis and the use of evidence at appraisal, and ensure effective use of cost-benefit analysis in decision-making.

Current Bank policy states that cost-benefit analysis should be done for all projects at appraisal—with the single exception of projects for which benefits cannot be measured in monetary terms, in which case a cost-effectiveness analysis should be performed. Ultimately, the requirement to conduct cost-benefit analysis stems from the mandate in the Articles of Agreement that the Bank should strive to increase the standard of living in member countries. When countries borrow—and have to repay—funds for projects in which costs exceed benefits, the standard of living of the country declines.

Using the presence of an ex-ante economic rate of return estimate as an indicator of whether cost-benefit analysis was performed, the percentage of projects with such analysis dropped from 70 percent to 25 percent between 1970 and 2008. Further examination of project documents reveals this to be a reliable indicator of the presence of cost-benefit analysis. A little over half of this decline was due to an increase in projects in sectors at the Bank that tend not to apply a cost-benefit analysis to their projects. About half of the sectors, which have tended to decline as a share of activity in recent years, often apply cost-benefit screening to their projects, while the other half, the growing half, rarely do. In addition to this shift away from sectors that apply cost-benefit analysis, there has been a general decline in all sectors in the application of such analysis. Most of the improvement in project performance ratings that has occurred at the Bank in the past twenty years is in the five sectors that tend to apply cost-benefit analysis.

World Bank policy notwithstanding, many appraisal documents for new projects in recent years do not present cost-benefit analysis. How is this omission explained? How are the projects justified? Of the 93 investment projects that closed in 2008 without reporting cost-benefit information (either at appraisal or at closing), 60 provided no explanation or asserted that efficiency considerations were not applicable. Eighteen cited inadequate data. Nineteen projects provided some relevant information, but the information tended to be positive anecdotes, with no attempt to address potential selection bias. Twenty-four project documents invoked cost-effectiveness as the standard they were to be judged by, but of these, none actually applied cost-effectiveness analysis, which entails a comparison between specific alternatives on the basis of costs. One project claimed such an analysis had been done but did not show the results in the document.

Of projects that do provide cost-benefit analysis, there are several examples of excellent analysis, but often a lack of transparency. The most important data, the

quantitative cost and benefit flows, are rarely provided in a straightforward manner, such as a simple table. Such a table could be provided along with a discussion of the main assumptions or empirical evidence that lies behind the numbers. As was pointed out in a World Bank report 20 years ago, ex-ante project analysis at the Bank is usually based on the working assumption that everything will go as planned. This imparts an upward bias to the cost-benefit estimates because there are frequently disruptions along the way. An alternative—more in line with Bank policy to present the expected economic return—would be to employ the working assumption that new projects would achieve the average results measured in previous similar projects, unless changes are made to the project design that warrant revision.

The weak points in economic analysis of projects are fundamental issues such as the public sector rationale, comparison against alternatives, and measurement of benefits against a without-project counterfactual. Project justification rarely includes a discussion of whether the project is producing a public good, and if alternatives are considered, they tend to be minor alternatives, such as alternative funding mechanisms, rather than truly alternative projects. Counterfactual analysis tends to be good for projects in sectors in which this analysis is hardwired into standard spreadsheets, such as transport. Impact evaluations, which are designed to address the counterfactual issue and thus are a natural complement to cost-benefit analysis, have rarely been used in the past, though their use is now growing in some sectors. There is low usage in cost-benefit analysis of shadow prices and other technical adjustments to capture some of the social benefits and costs.

Projects that have easy-to-identify beneficiaries, such as agriculture and community-based development projects (albeit ex-post), could provide better poverty analysis. This often requires a special baseline household survey. Lack of baseline data is a key weakness undermining ex-post cost-benefit analysis in many projects. Overall, the economic analysis in appraisal documents in 2007-08 is found to be acceptable or good in 54 percent of the cases. This compares with 70 percent found by a similar rating exercise in the 1990s.

This report also examines whether there is evidence of bias in the economic rates of return that are reported. It finds that the “everything goes according to plan” scenario is still the working assumption underlying cost-benefit analysis at appraisal. The report also finds that the likelihood that the economic rate of return is

recalculated at the close of projects is lower for projects with low outcome ratings. Moreover, interviews with staff indicate that project cost-benefit analysis is conducted after the decision to go ahead with the projects, which puts the analysis under considerable pressure to reach conclusions consistent with the decisions already taken.

The lack of attention to cost-benefit information is surprising given the positive story that emerges on trends in the reported rates of return in the declining subset of projects that apply this approach: reported economic rates of return have doubled in 20 years, from a median of 12 percent in the late 1980s to 24 percent in 2008. If reflective of the larger group of projects, this could signal a large rise in the effectiveness of these development projects.

Some discount this rise, believing that it indicates nothing more than an *increase* since 1987 in the upward bias in the measurement of economic returns. The available evidence does not confirm this belief, but it cannot be dismissed because the evidence is thin.

Another possible explanation for this large rise in returns is growth-oriented reforms. Reforms -- comprising both a retreat of anti-market approaches to projects and improvements in investments and institutional support in the economic environment -- could account for some of the rise in economic returns for this subset of projects. A review of project documents from the pre-reform 1970s and 1980s suggests that project execution was frequently frustrated by high transactions costs or unavailability of imported spare parts and hampered by unresponsive state entities. Examination of 47 countries where the available data permit the impact of such factors to be tested reveals that 43 had higher economic returns in projects after reforms.

External factors could also be responsible. Economic conditions facing countries have improved in Bank client countries, and project returns correlate with growth rates. But much of the growth improvement occurred rather late in the 1987-2008 period, and thus is not sufficient to account for the sustained rise in returns during the entire period.

A review of economic analysis at the World Bank 20 years ago found many of the same shortcomings documented here in economic analysis in the Bank. Yet that report's recommendations did not go far enough in confronting underlying causes: a decision-making process that often makes decisions before adequate

evidence is provided, and few institutional checks to counteract the influence of advocacy for projects that undermines rigor in project appraisal, including cost-benefit analysis.

The Bank needs reforms to ensure objectivity and address conflicts of interest in ex-ante project analysis. It needs to use cost-benefit analysis evidence to improve decisions in a context where decisions are increasingly driven by borrowing countries.

The policy for cost-benefit analysis needs to be defined in a way that recognizes legitimate difficulties in quantifying benefits in some types of projects while preserving a high degree of rigor in justifying projects. This report closes with suggestions on how the Bank can address these institutional issues.

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