

# Cost-Benefit Analysis in World Bank Projects

—Overview—



Copyright © 2010 The International Bank for Reconstruction and Development/The World Bank  
1818 H Street, N.W.  
Washington, D.C. 20433  
Telephone: 202-473-1000  
Internet: [www.worldbank.org](http://www.worldbank.org)  
E-mail: [feedback@worldbank.org](mailto:feedback@worldbank.org)

All rights reserved

1 2 3 4 13 12 11 10

This volume is a product of the staff of the International Bank for Reconstruction and Development / The World Bank. The findings, interpretations, and conclusions expressed in this volume do not necessarily reflect the views of the Executive Directors of The World Bank or the governments they represent. This volume does not support any general inferences beyond the scope of the evaluation, including any inferences about the World Bank Group's past, current, or prospective overall performance.

The World Bank Group does not guarantee the accuracy of the data included in this work. The boundaries, colors, denominations, and other information shown on any map in this work do not imply any judgment on the part of The World Bank concerning the legal status of any territory or the endorsement or acceptance of such boundaries.

#### **Rights and Permissions**

The material in this publication is copyrighted. Copying and/or transmitting portions or all of this work without permission may be a violation of applicable law. The International Bank for Reconstruction and Development / The World Bank encourages dissemination of its work and will normally grant permission to reproduce portions of the work promptly.

For permission to photocopy or reprint any part of this work, please send a request with complete information to the Copyright Clearance Center Inc., 222 Rosewood Drive, Danvers, MA 01923, USA; telephone: 978-750-8400; fax: 978-750-4470; Internet: [www.copyright.com](http://www.copyright.com).

All other queries on rights and licenses, including subsidiary rights, should be addressed to the Office of the Publisher, The World Bank, 1818 H Street NW, Washington, DC 20433, USA; fax: 202-522-2422; e-mail: [pubrights@worldbank.org](mailto:pubrights@worldbank.org).

Cover: Students in Bhutan. Photo by Curt Carnemark, courtesy of the World Bank Photo Library.

ISBN-10: 1-60244-158-8

ISBN-13: 978-1-60244-158-3

**Library of Congress Cataloging-in-Publication Data have been applied for.**

---

World Bank InfoShop  
E-mail: [pic@worldbank.org](mailto:pic@worldbank.org)  
Telephone: 202-458-5454  
Facsimile: 202-522-1500  
Printed on Recycled Paper

Independent Evaluation Group  
Communication, Strategy, and Learning  
E-mail: [eline@worldbank.org](mailto:eline@worldbank.org)  
Telephone: 202-458-4497  
Facsimile: 202-522-3125



Printed on Recycled Paper

This report has been prepared in the context of a major global effort in the past eight years to better measure results in development assistance. The agenda for this effort was articulated and refined in a series of international conferences, beginning with the International Conference on Financing for Development in Monterrey in 2002 and continuing through the Accra Agenda for Action in 2008. Cost-benefit analysis entails measuring results, valuing results, and comparing results with costs, and hence is highly relevant to the results agenda. Cost-benefit analysis can provide a comprehensive picture of the net impact of proj-

ects and help direct funds to where their development effectiveness is highest.

The key documents from the international conferences cited above rarely mention cost-benefit analysis. This situation is mirrored at the World Bank, where cost-benefit analysis is rarely mentioned in recent policy documents and where its application has been declining for the past three decades. The purpose of this report is to develop a better understanding of why this trend is occurring and whether the policies and practice of cost-benefit analysis require revision.



Vinod Thomas  
Director-General, Evaluation

## Executive Summary

Cost-benefit analysis used to be one of the World Bank's signature issues. It helped establish the World Bank's reputation as a knowledge bank and served to demonstrate its commitment to measuring results and ensuring accountability to taxpayers. Cost-benefit analysis 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 documents and Implementation Completion and Results Reports from recent fiscal years, and interviews with current staff at the Bank.

The percentage of Bank projects that are justified by cost-benefit analysis has been declining for several decades, owing to a decline in adherence to standards and to difficulty in applying cost-benefit analysis. Where cost-benefit analysis is applied to justify projects, the analysis is excellent in some cases, but in many cases there is 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 the decision to proceed with the project has been made.

This study draws two broad conclusions. First, the Bank needs to revisit its policy for cost-benefit analysis in a way that recognizes the legitimate difficulties in quantifying benefits while preserving a high degree of rigor in justifying projects. Second, the Bank needs to ensure that cost-benefit analysis is done with quality, rigor, and objectivity: 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—the single exception is for projects for which benefits cannot be measured in monetary terms, in which case a cost-effectiveness analysis should be performed. 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 a country borrows—and repays—funds for projects in which benefits fall short of costs, the standard of living of the country declines.

Using the presence of an economic rate of return estimate as an indicator of whether cost-benefit analysis was performed, this evaluation finds that the percentage of projects with such analysis dropped from 70 percent to 25 percent between the early 1970s and the early 2000s. Further examination of project documents reveals that the presence of an economic rate of return is a reliable indicator of the presence of cost-benefit analysis. A little more than 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 apply cost-benefit screening to many of their projects; 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. In addition, most of the improvement in project performance ratings that has occurred at the Bank in the past 20 years has been 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 include 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 projects cited inadequate data. Nineteen projects provided some relevant information, but the information tended to be in the form of positive anecdotes; no attempt was made to address potential selection bias. Twenty-four project documents invoked cost-effectiveness as the standard by which the projects were to be judged, but of these, none actually applied cost-effectiveness analysis, which entails a comparison between specific alternatives on the basis of cost. One project claimed such an analysis had been done but did not show the results in the document.

fication rarely includes a discussion of whether the project is producing a public good. If alternatives are considered, they tend to be minor ones, such as alternative funding mechanisms, rather than truly alternative projects. Counterfactual analysis tends to be good for projects in sectors such as transport, in which this analysis is hardwired into standard spreadsheets. 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. Cost-benefit analyses sometimes do not use shadow prices or other technical adjustments to capture social benefits and costs.

Projects that have identifiable beneficiaries, such as agricultural and community-based development projects, could provide better poverty analysis (at least after the project). 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 was found to be acceptable or good in 54 percent of the cases. This compares with 70 percent found by a rating exercise using the same methodology 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 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 the large rise in returns is growth-oriented reforms. Reforms—comprising both a retreat of antimarket approaches to projects and improvements

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, along with a discussion of the main assumptions or empirical evidence that lies behind the numbers, could be provided. As pointed out in a World Bank report 20 years ago, ex ante project analysis at the Bank is usually based on the assumption that everything will go as planned. This imparts an upward bias to the cost-benefit estimates because disruptions frequently occur along the way. An alternative—more in line with Bank policy to present the expected economic return—would be to assume that new projects would achieve the average cost-benefit results measured in previous similar projects, unless relevant revisions had been made to the project design.

The weak points in economic analysis of Bank projects are fundamental issues such as the public sector rationale, comparison against alternatives, and measurement of benefits against a without-project counterfactual. Project justi-



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 prereform 1970s and 1980s suggests that project execution was frequently frustrated by high transaction costs or unavailability of imported spare parts and was 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 improvement in growth 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 (World Bank 1992b) found many of the same short-

comings documented here. Yet that report's recommendations did not go far enough in confronting underlying causes: a decision-making process under which decisions are made before cost-benefit evidence is provided, and that provides 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.

# Management Response

## Overview of Management Comments

Management welcomes this Independent Evaluation Group (IEG) report. It is a timely input to ongoing work on investment lending reform (World Bank 2009a, 2009b). It also provides a number of valuable recommendations to improve the quality of cost-benefit analysis in projects. Management wishes to make three main points. First, management is committed to the application of all operational policies, including OP 10.04, Economic Evaluation of Investment Operations. Management believes that the degree of compliance with the policy today is significantly higher than that noted by IEG but agrees with IEG that a renewed emphasis on the economic analysis of projects is warranted. Second, management accepts IEG's recommendation to revise and update the policy to (i) reflect some of the lessons in economic development support and innovations in economic analysis since 1994 and (ii) clarify some of the elements around the difficulties in quantifying benefits noted in the evaluation. And finally, management agrees with the need to improve the quality of economic analysis in investment projects.

### Application of the Bank's Policy on the Economic Evaluation of Investment Operations

The IEG evaluation raises two important issues. The first is whether the policy was applied. The second is on the quality of the analysis.

#### *Policy requirement*

OP 10.04 on the economic analysis of investment operations calls for the calculation of the discounted expected net present value of project benefits and costs. As noted in the policy statement, management accepts an expected economic rate of return (ERR) in lieu of a benefit-cost calculation, and that is the standard practice. (An ERR calculation is the measure that IEG used in its evaluation as to whether or not the policy was implemented.) OP 10.04 allows for an alternative to calculating an ERR if the project is expected to generate benefits that cannot be measured in monetary terms. In that case, staff are instructed to provide economic analysis that (i) clearly defines and justifies the project objectives and (ii) shows that the project represents the least-cost way of attaining the objectives. In project documentation, staff are required to implement or explain in a mandatory section in Project Appraisal Documents (PADs) on economic analysis.

#### *Cost-benefit analysis today*

The IEG report notes that "using the presence of an ex ante ERR 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." Management believes that this conclusion may significantly understate the degree of policy compliance, may have created the erroneous impression that management is not committed to sound economic analysis of investment operations, and may see compliance with OP 10.04 as optional. Management has therefore reviewed all investment operations approved in the two and a half year period between July 1, 2007, and December 31, 2009, a total of 795 operations. It found that more than half included an ERR calculation. For the remainder, the review examined a random sample of 120 operations and found a range of alternatives used. Overall, the review concluded that at least 72 percent of all operations meet the strict requirement of OP 10.04 (that is, ERR, or clearly defined and justified project objectives, while showing that the project represents the least-cost way of attaining the objectives). For the remainder, the review concluded that an additional 12 percent included analysis that reviewers found substantively acceptable, but the analysis could have been strengthened and made



QEA1 CY97		QEA2 CY98		QEA3 CY99		QEA4 FY01		QEA5 FY02		QEA6 FY03		QEA7 FY04–05		QEA8 FY07–08	
No. rated	% satisfactory or better	No. rated	% satisfactory or better	No. rated	% satisfactory or better	No. rated	% satisfactory or better	No. rated	% satisfactory or better	No. rated	% satisfactory or better	No. rated	% satisfactory or better	No. rated	% satisfactory or better
97	79	95	72	76	82	72	73	33	93	60	85	103	96	92	96

**Source:** QAG.  
**Note:** Note that the original four-point scale (highly unsatisfactory, unsatisfactory, satisfactory, and highly satisfactory) was changed to a six-point scale (adding marginally unsatisfactory and marginally satisfactory) starting with QEA7 to match the IEG rating scale. QAG staff undertook due diligence to ensure that the hard line between unsatisfactory and satisfactory ratings did not change in that process.

more rigorous in accordance with OP 10.04. Implementation of OP 10.04 is highest for projects in the infrastructure sector. It was found to be lower in technical assistance, emergency, and GEF operations.

The conclusions of the reviews by IEG and management are not necessarily entirely inconsistent. For example, the IEG review was done by reference to the presence of ERR in each project, while the management review included alternatives that are permitted under OP 10.04. In addition, the IEG review looked at projects approved up to 10 years ago, while management looked at more recent project approvals, the population for which includes increased infrastructure lending, where the projects typically contain a higher proportion of rigorous economic evaluation.

In addition, the Quality Assurance Group (QAG) rated the quality and coherence of the economic rationale for projects—a related but not identical measure—in eight reviews during the period calendar year 1997 through fiscal year 2008. As reported to Executive Directors in their periodic updates, QAG found a major improvement in the quality of economic analysis during this period, with a rating of marginally satisfactory or better for 96 percent of projects in the last two reviews.

These findings cast a more positive light on the use of economic analysis in Bank-financed projects and suggest a higher application of OP 10.04. Nevertheless, they also suggest that there is a need to provide better and more granulated guidance to staff on the appropriate approach to the economic analysis of projects when an ERR is not calculated. They also indicate that enhanced oversight of project economic analysis is warranted, and management is taking steps to enhance the implementation of the policy as outlined below.

**Mandatory reporting to Executive Directors on the application of economic analysis**

To implement OP 10.04, teams are required to report what they have done in terms of economic analysis in a

mandatory section in every PAD (that is, the estimated ERR, or explain why they undertook an alternative). This is part of the process of providing Executive Directors with the information they need to decide on project approval. The analysis is disseminated to the public once Executive Directors approve the project. The same is true at project closing. All Implementation Completion and Results Reports (ICRs) prepared when projects close include an annex on financial and economic analysis, and the ICR, as well as the annexes, are disclosed. IEG then reviews the ex post economic analysis as part of every ICR Review for investment projects. IEG reports on its findings with regard to the economic analysis in the “efficiency” section of its ICR reviews.

**Going Forward**

Management accepts the two broad conclusions of the IEG study. These are (i) to revisit the policy in a way that recognizes legitimate difficulties in quantifying benefits while preserving a high degree of rigor in justifying projects and (ii) to ensure that cost-benefit analysis is done with quality, rigor, and objectivity. Management will implement an action plan to address the issues that IEG found in the evaluation. It involves two steps. The first is a set of immediate actions. The second is to finish its work on revising the operational policy for investment lending, including project economic analysis.

**Actions to improve the implementation of the existing policy**

Management is committed to improving the quality of economic analysis in investment projects. Management has drawn the results of IEG’s evaluation to the attention of Regions and networks, underscoring the importance of quality economic evaluation in all operations, and implementation of OP 10.04. Operations Policy and Country Services will work with both groups to provide support and guidance and to enhance implementation in the near term.



### *New policy and guidance framework*

As part of investment lending reform, management is working on a new policy framework for investment lending. The substantive analytic work done by Bank staff to underpin project decisions has expanded greatly since OP 10.04 was introduced, and the challenge is to ensure that the standard to be complied with keeps pace with these substantive changes. Management will come to the Board in the fall of 2010 with a proposal on how to consolidate the policy framework for investment lending, which will incorporate economic analysis. Work in preparing the economic analysis component of the policy will draw on expertise across the Bank—DEC, the Bank's regional and network chief economists, and other experts, including IEG—and results experts outside of the Bank. The goal is to come up with guidance on the best

approach to economic analysis across the range of projects that the Bank supports in client countries. Management will prepare a map of the suite of analytic underpinnings for projects that will help clarify the overall direction of the updated policy and share this map with the Executive Directors.

---

### *References*

- World Bank. 2009a. "Investment Lending Reform: Concept Note." January. Board Report No. 47251, World Bank, Washington, DC.
- . 2009b. "Moving Ahead on Investment Lending Reform: Risk Framework and Implementation Support." January. Board Report No. 50285, World Bank, Washington, DC.

# Chairperson's Summary: Committee on Development Effectiveness (CODE)

On July 21, 2010, the Committee on Development Effectiveness (CODE) considered *Cost-Benefit Analysis in World Bank Projects*, prepared by the Independent Evaluation Group (IEG) and the draft Management Comments

## Summary

The Committee welcomed the timely discussion of the reports, noting their relevance to the ongoing work on investment lending (IL) reform. Members commended IEG for its informative report, which a few speakers regretted was not a full evaluation report with formal recommendations. They also expressed appreciation for management's forthcoming and forward-looking oral response addressing the main IEG findings.

Comments by management on the rigid and prescriptive nature of traditional cost-benefit analysis (CBA) (that is, expected economic rates of return [ERR]) and the Bank's operational policy OP 10.04 were noted. However, there was broad concern raised about accountability and lack of action to address the noncompliance with OP 10.04, given the apparent decline in application of traditional CBA over the years. Comments were made on why actions were not taken to change or review the current policy, given the difficulties of applying traditional CBA. In this context, management's plan to, as part of the IL reform efforts, incorporate changes in the economic analysis and review all operational policies concerning IL was welcomed. A few members expressed sympathy for the move away from applying traditional CBA, but it was also observed that ERR may still be applied for certain projects. Noting that staffs are using a range of tools for economic analysis, interest was expressed in a "map" of economic analysis tools from management. While cognizant of the issues of political economy and client ownership in project decisions, the importance of systematic economic analysis before going ahead with a project was emphasized. Remarks were also made on the need to ensure appropriate staff incentives, standardization of CBA presentation in Board papers, clarity among staff on the use of economic analysis tools for CBA including ERR, and internal communication with respect to Bank policies.

## Recommendations and Next Steps

As requested by the Committee, the draft management comments would be revised to take into consideration the comments made at the meeting, including to elaborate on the issues of decline in the use of CBA and noncompliance with OP 10.04, and to provide a timeline for substantial remedy as part of the IL reform. The revised management comments would be circulated to the Committee on an absence-of-objection basis. There was a request for IEG to circulate to the Committee on an absence-of-objection basis a short informal reaction to the revised management comments; suggested length was half a page.

Management committed, in the context of IL reform, to come to the Board in the fall (forum to be determined) to seek guidance on its initial thinking to consolidate the policy framework for IL, including the role of CBA and, depending on the outcome of that discussion, also to come back with a policy note on economic analysis in the second quarter of fiscal 2011.

The Committee Chair noted that the concerns of non-compliance of OP 10.04 and seeming lack of accountability in this regard will be brought to the attention of other committee chairpersons and the President. Management will also prepare for the Executive Directors (EDs) a map of the suite of analytic underpinnings for projects.

## Main Issues Discussed

### *Use of CBA*

While acknowledging management's comments on the limitations of traditional CBA and the shift toward more programmatic and country-focused approaches, emphasis was made on the importance of ex ante analysis of costs and benefits, both as an accountability tool and as a project selection criterion. Noting management comments on the range of economic analysis done leading up to project decision and clarification that impact evaluations are one way

to measure benefits, some speakers sought a “map” of tools to enable better understanding of their use. In addition, the need for support and training for staff on use of economic analysis tools for CBA including ERR, which was still considered a valuable tool, was stressed. While observing that other factors may contribute to project decisions, including the need to ensure country ownership and coordinate with other donor assistance, the need to assure that resources be used in a cost effective way and the key role of the Bank to help country clients understand the cost and benefits of projects upfront were underlined. In this regard, the importance of the dialogue on the country assistance strategy was noted. Moreover, as a knowledge institution and in the context of the Results Agenda, the Bank was urged to continue to take technical lead on how costs and benefits may be measured. The need to ensure high-quality and objective economic analysis was underlined.

#### **Operational Policy OP 10.04**

Serious concerns were expressed regarding the noncompliance of OP 10.04 and accountability issues in this regard. Noting that the decline in the use of traditional CBA started in 1989–90, members questioned why management had not identified and acted on this trend earlier, including to consider updating OP 10.04. They considered it unacceptable that Bank operational policies are simply disregarded and also raised the issue of the Board’s fiduciary responsibility. The need for clear policies for staff and both negative and positive staff incentives to fol-

low the operational policies were noted. Management underlined its commitment to the application of Bank operational policies. It elaborated on the substantive analytic work carried out by staff to underpin project decisions, which has expanded greatly since OP 10.04 was introduced. Management also concurred that there are ways to strengthen the standards and application of economic analysis. Management said it is moving to update and modernize a range of operational policies (approximately 30 policies) as part of the IL reform program, as mentioned in an earlier update to EDs on the IL reform. Management confirmed that it would come to the Board in the fall with a proposal on how to consolidate the policy framework for IL, which would also incorporate CBA. This would include more clarity on the principle-based approach to policies in the next phase of IL reform. A few speakers cautioned against a principle-based approach, favoring the introduction of a map of different evaluation tools to be applied where traditional CBA is not feasible. While noting that the IEG report is not a full evaluation report, the Committee called for an action plan by management, including time frame, to address the main findings of the IEG report, particularly on the policy issue. IEG underscored the benefits from having a framework to review both the costs and benefits, especially in the context of the Results Agenda.

---

Giovanni Majnoni, *Chairman*

# Contents of the Complete Volume

Abbreviations

Acknowledgments

Foreword

Executive Summary

Management Response

Chairperson's Summary: Committee on Development Effectiveness (CODE)

1. World Bank Policy
2. The Decline in Cost-Benefit Practice
  - Sectoral Differences in the Calculation of ERRs
  - Summary
3. The Scope for Cost-Benefit Analysis
  - Reasons for Nonreporting of ERRs
  - Cost-Effectiveness Analysis as an Alternative to Cost-Benefit Analysis
  - Analysis of Reasons for Not Applying Cost-Benefit Analysis
  - Uncertain Future for Cost-Benefit Analysis in Bank Projects
  - Observations on the Scope of Cost-Benefit Analysis
4. Evaluating the Quality of Cost-Benefit Analysis
  - Expected Values
  - Counterfactual
  - Alternatives
  - Risk
  - Poverty Reduction
  - Externalities
  - Other Criteria
5. Accuracy in Cost-Benefit Calculations
6. Use of Cost-Benefit Analysis for Decision Making
7. The Rise in Rates of Return
  - Trends in ERRs
  - Trends in IEG Performance Ratings
  - Possible Explanations for the Rise in ERRs<sup>39</sup>
  - Summary

## 8. Conclusions

Findings of a 1992 Report

Key Principles

Summary

## Appendixes

- A. World Bank Projects by Sector Board
- B. Relation between IEG Project Ratings and Economic Rates of Return
- C. Market-Oriented and Institutional Reform Dates
- D. Operational Procedure 10.04: Economic Evaluation of Investment Operations

## Endnotes

## Bibliography

## Boxes

- 3.1 The Costs and Benefits of Cost-Benefit Analysis
- 3.2 Who Should Perform the Cost-Benefit Analysis?
- 4.1 Cost-Benefit Analysis and the Results Agenda
- 5.1 The Problem of Fragile Estimates
- 7.1 The Difference between a 12 Percent and a 24 Percent ERR—Example from Agriculture
- 8.1 Recommendations of a 1992 Review of Cost-Benefit Analysis in the World Bank

## Figures

- 2.1 Percentage of Bank Investment Projects with Estimates of the ERR in the Appraisal Document, by Year of Project Approval
- 2.2 Percentage of Bank Investment Projects with Estimates of the ERR in the Final Completion Report, by Year of Project Closing
- 2.3 Percentage of Investment Projects in the Five High-CBA Sectors with ERRs in the Appraisal Report, by Year of Project Closing
- 2.4 Shift toward Low-CBA Sectors
- 5.1 Convergence of Before-Project and After-Project ERRs
- 5.2 Forecasting Bias in Predicted ERRs—Road Projects
- 5.3 Probability of Recalculation of ERRs at Closing—High-CBA Sectors, 1993–2007
- 5.4 Probability of Recalculation of ERRs at Closing—Low-CBA Sectors, 1993–2007
- 5.5 Probability of Calculating a Final ERR When an Initial ERR Was Calculated, All World Bank Projects, 1972–2008
- 7.1 Median ERRs, All World Bank Projects, 1972–2008
- 7.2 Median ERRs in the Agriculture and Rural Development Sector
- 7.3 Median ERRs in the Energy and Mining Sector
- 7.4 Median ERRs in the Transport Sector

- 7.5 Median ERRs in the Water and the Urban Development Sectors
- 7.6 Median ERRs in All Other Sectors Combined
- 7.7 Average IEG Performance Ratings—High-CBA Sectors—and Trend over Time
- 7.8 Average IEG Performance Ratings—Low-CBA Sectors—and Trend over Time
- 7.9 Average Economic Growth Rates during World Bank Project Implementation
- 7.10 Median ERRs in Bank Projects, IDA and Non-IDA Countries
- 7.11 Percentage of Projects Completed in Countries That Implemented Market-Oriented Policy Changes, 1974–2007
- 7.12 Median Economic Returns in Projects Correlate with Average Economic Growth, Controlling for Reform Condition
- 7.13 Median Economic Returns in Projects Correlate Strongly with the Fraction Executed under Economic Reform Conditions, Controlling for Growth

## Tables

---

- 2.1 Trends in Sector Composition and Proportion of Projects Reporting ERRs, by Sector
- 2.2 The Shift from High-CBA Sectors to Low-CBA Sectors at the World Bank
- 2.3 Sources of the Decline in ERR Reporting
  - 3.1 Number of Projects Reporting ERRs at the Beginning or at the Close of Projects, Fiscal 2008
  - 3.2 Reporting of Economic Rates of Return, Fiscal 2008, by Sector
  - 3.3 Reasons Offered in Project Completion Documents for Lack of Cost-Benefit Estimates, Projects That Closed in Fiscal 2008
- 7.1 Trends in IEG Project Performance Ratings by Sector, 1993–2008
- 7.2 Tests of the Impact of Economic Reforms on Project Economic Returns in 20 Selected Countries
- 7.3 Correlation between the Rise in Economic Returns in Projects and the Rise in Market Orientation and Growth in Client Countries, 1974–2007





