

Guide to Cost-Benefit Analysis of Major Projects

In the context of EC Regional Policy
1997 edition

Table of contents

Introduction	3
Structure of the guide	4
SECTION ONE	
Major projects in the framework of the Structural Funds and the Cohesion Fund	5
1.1. Scope and objectives	6
1.2. Definition of major projects	7
1.3. Responsibility for prior appraisal	9
1.4. Information required	11
1.5. Reports and publicity	12
SECTION TWO	
An agenda for the project examiner	15
Overview	16
2.1. Project identification	16
2.2. Objectives	17
2.3. Feasibility and option analysis	19
2.4. Financial analysis	20
2.5. Socio-economic costs	21
2.6. Socio-economic benefits	25
2.7. Discounting	28
2.8. Economic rate of return	28
2.9. Other evaluation criteria	30
2.10. Sensitivity and risk	31
SECTION THREE	
Outlines of project analysis by sector	33
Overview	34
3.1. Energy transport and distribution	34
3.2. Energy production	36
3.3. Roads and highways	39
3.4. Surface and underground railways	41
3.5. Ports, airports and infrastructure networks	44
3.6. Water supply, transport and distribution	46
3.7. Sewers and depurators	49
3.8. Refuse and waste treatment	51
3.9. Training infrastructures	54
3.10. Museums and archaeological parks	56
3.11. Hospitals and other health infrastructures	59
3.12. Forests and parks	61
3.13. Telecommunications infrastructures	64
3.14. Industrial estates and technological parks	67
3.15. Industries and other productive investments	69

APPENDICES

A. Outline of an Appraisal Report	74
A.1 Summary	74
A.2 Socio-economic environment	74
A.3 Demand and supply of the project's outputs	75
A.4 Technology options and production plan	75
A.5 Human Resources	76
A.6 Location	76
A.7 Implementation	77
A.8 Financial analysis	77
A.9 Socio-economic Cost-Benefit Analysis	78
A.10 Risk analysis	78
B. Glossary	79
C. Reference by main sectors	81
1. General	81
2. Experience	81
3. Energy	81
4. Transport (General)	82
5. Roads	82
6. Railways	82
7. Ports	82
8. Airports	82
9. Water	83
10. Environment	83
11. Education	83
12. Tourism	83
13. Health	83
14. Forestry and agriculture	84
15. Telecommunications	84
16. Industrial projects	84

Acronyms

CBA	Cost Benefit Analysis	ESF	European Social Fund
CF	Cohesion Fund	EU	European Union
CIF	Cost, Insurance, Freight	FIFG	Financial Instrument of Fisheries Guidance
CSF	Community Support Framework	FNPV	Financial Net Present Value
DG	Directorate General	FOB	Free on Board
EAGGF	European Agriculture Guidance and Guarantee Fund	FRR	Financial Rate of Return
EC	European Commission	GDP	Gross Domestic Product
EIB	European Investment Bank	IRR	Internal Rate of Return
ENPV	Economic Net Present Value	SF	Structural Funds
ERDF	European Regional Development Fund	VAT	Value Added Tax
ERR	Economic Rate of Return		

Introduction

The analysis of the socio-economic costs and benefits of major projects is explicitly requested by the new EC Regulations governing Structural Funds (SF). Such an analysis is also required by the Cohesion Fund (CF) Regulation, regardless of the size of the project co-financed. In the expectation that Member States will take the responsibility for prior appraisal and provide the Commission with the relevant information, the Commission itself should in turn carefully assess the quality of such an appraisal.

This guide

This guide offers Commission officials, external consultants and any other interested parties, an agenda for the process of checking the appraisal of major projects under SF financing, including FIFG (Financial Instrument of Fisheries Guidance) and CF. The text is specifically designed for Commission officials, who are not specialists in **Cost-Benefit Analysis (CBA)**. At the same time, the text gives some indications to external experts, who may need to understand the Commission's specific needs for information on costs and benefits of proposed projects.

Cost-Benefit Analysis. A procedure for evaluating the desirability of a project by weighting benefits against costs. Results may be expressed in different ways, including internal rate of return, net present value and benefit-cost ratio.

A relatively short text such as this cannot cover all the aspects of CBA that a project examiner has to deal with.

There are important differences between investments in infrastructure and in productive sectors; there are great disparities among regions and countries, leading to differences in crucial aspects of project appraisal; there are different theories, styles and shortcuts behind a number of practical approaches to CBA, as used by government and private bodies.

Nevertheless, most major projects share some common key-issues and their analyses should be expressed in a common language.

While this document does not provide strict guidelines about the preparation and the evaluation of major projects, it may help Commission officials in discussing with their counterparts in Member States ways of reducing costs and of improving the socio-economic benefits of the projects. In some cases, Commission officials may use this agenda to suggest a revision of the project analysis. This revision work may lead to a new project design or even to its abandonment in favour of other more promising projects.

Checking for costs and benefits is a vehicle for dialogue among partners, between the Member States and the Commission, between project proposers, officials and consultants: an instrument for collective decision-making.

In this respect, the guide is more about how to establish good communications than about technicalities. Some technical issues may require some training or further reading as suggested in Annex C.

Cost-Benefit Analysis. A procedure for evaluating the desirability of a project by weighting benefits against costs. Results may be expressed in different ways, including internal rate of return, net present value and benefit-cost ratio.

Structure of the guide

The guide is in Three Sections. The First Section gives an overview of the appraisal of major projects under SF assistance and of projects financed by the CF.

The Second Section is a structured path leading to the assessment of the quality of CBA. No pretence is made of providing a systematic introductory text, nor is this possible in such a short space. However, the guide offers a presentation of the key-issues in the project appraisal.

The Third Section offers some useful material concerning major projects in specific sectors of relevance for EC regional and cohesion policies.

Each chapter in this section is about a crucial item on the agenda of a project examiner, and we recommend seeing it as a sequence of checks and controls to be tried, rather than as chapters of a manual to be read. References to appropriate text-books are provided for some technical aspects of CBA.

Appendix A contains some additional tools that may help practical work. This includes a comprehensive check-list for a typical Project Appraisal Report.

Appendix B is a Glossary which may help the reader who is less familiar with the jargon of project appraisal. For the reader's convenience, Glossary items and examples are also to be found in boxes in the main text.

Appendix C is a structured bibliography by sector (transport, agriculture, energy, etc.) and it gives a very selective list of state-of-the-art manuals and other reading material that may set a standard of quality for CBA of major projects under SF financing.

A reference text for Structural Funds and Cohesion Fund is:

European Commission, *Structural Funds and Cohesion Fund 1994-99*, Regulations and Commentary, Brussels, 1996.

A series of seven handbooks on methods for evaluating actions of a structural nature have been prepared by the Centre for European Evaluation Expertise (Lyon) in the context of Means programme, on behalf of European Commission DG XVII/G2, Coordination of Evaluation.

A broad assessment of the impact of European Regional Policies is: European Commission, first report on Economic and Social Cohesion, preliminary edition, Brussels, 1996