

THE METHOD OF QUANTIFYING THE BENEFITS AND COSTS GENERAL PROJECTS WITH EUROPEAN FUNDING

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Cost Benefit Analysis is typically used by governments to evaluate the desirability of a given intervention. The aim is to gauge the efficiency of the intervention relative to the status quo. The costs and benefits of the impacts of an intervention are evaluated in terms of the public's willingness to pay for them (benefits) or willingness to pay to avoid them (costs). Inputs are typically measured in terms of opportunity costs - the value in their best alternative use. The guiding principle is to list all of the parties affected by an intervention, and place a monetary value of the effect it has on their welfare as it would be valued by them. Cost-benefit analysis is mainly, but not exclusively, used to assess the value for money of very large private and public sector projects.

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The European Union is one of the most prosperous areas in the world economically and, potentially, one of the most competitive. Compared to Europe of 15, however, economic and social disparities between member states are twice as high in Europe of 25, now has 254 regions. Thus, while the Gross Domestic Product (GDP) of the 25 total increased only 5% compared to that of the 15, average GDP per capita of new Member States are below half of the current EU average. Regional disparities have increased significantly, with the integration of the 12 new Member States in May 2004 and January 2007. Thus, 10% of the population of the European Union living in the most dynamic, generating eight times more revenue in terms of Gross Domestic Product (GDP) than 10% of the population living in the least developed. Cohesion Policy of the European Union is intended to reduce these inequalities and economic difficulties that they generate in order to improve the functioning of the Single European Market. Cohesion Policy, in conjunction with policies of environmental protection and equal opportunities policy drive to promote sustainable development within the European Union. Reducing inequalities is important for all regions and social groups can contribute and benefit from the growth of the European Union. Any Member State or region whose GDP recorded a lower level than 75% of the average will receive allocations and will receive substantial funding under the Convergence objective of cohesion policy of the European Union for 2007-2013. This is regional policy which puts into practice the solidarity between the peoples of Europe mentioned in the preamble of the Treaty on European Union. One of the fundamental objectives of the European Union in this Treaty is to strengthen economic and social cohesion by reducing regional disparities. This objective has a great impact on regional competitiveness and standard of living of their inhabitants, and is done mainly through multi-financing of development programs. The role of regional policy is not confined only to the financial aspect. This policy not only aims at a simple redistribution of resources, but must create resources, investing in the potential of regions and their mass. In the current context in which Romania is a member of the European Union one of the most important issue is attracting European funds. Structural and cohesion funds are instruments through which finance policy of economic and social cohesion of the European Union. The corresponding policy is about 35% of the total European Union budget worth about 975 billion EUR for 2007-2013. To reduce the development gaps between regions of Romania

and the European Union, Romania in 2013 by receiving over 19 billion, amounts allocated by the specific structural policy instruments for economic and social.

The overall objective of Romania for the period 2007-2013

Reduce as soon as possible disparities of socio-economic development between Romania and the Member States of the European Union. Specific objectives: increasing competitiveness in the long run the Romanian economy, the development of European standards of basic infrastructure, improvement and better use of local human capital. National development priorities: increasing competitiveness and developing a knowledge-based economy, development and modernization of transport infrastructure, protect and improve the quality of the environment, human resource development, promoting employment and social inclusion and strengthening administrative capacity, development of rural economy and increase productivity agriculture, reducing development disparities between regions of the country.

Pre-accession funds

Year 2010 will be the terminal for the external grant funds for pre-accession, given that receiving funds PHARE, ISPA and SAPARD will cease after the full programs financed from these funds, depending on the hiring and payments agreed with the European Commission. For the period 2009-2012 are estimated funds with a decreasing rate due to the gradual completion of projects and payments within them. Funds for transitional facility as a temporary period from the accession to the end of 2007, given the role to continue the financial support offered by similar pre-accession instruments were forecasted in an upward trend for the years 2009 and 2010.

Funds post-accession

In order to implement the policy of Economic and Social Cohesion, European Commission created a series of financial instruments to reduce disparities between regions and promoting economic development and harmonious balance of the territory, increasing employment and protecting the environment. Thus, from 1 January 2007, Romania received non-reimbursable financial assistance from the EU objectives in the "Convergence" and "European territorial cooperation", and by the European Regional Development Fund (ERDF), European Social Fund (ESF) and Cohesion Fund (FC), known generically Structural Instruments. From the European Union are allocated to Romania for the period 2007-2013 amounts totalling 19,667.647 million euro of Structural Instruments.

Table 1.

Allocation of amounts allocated to Romania under the EU cohesion policy, for the period 2009-2012 (million EUR, current prices)

	2009	2010	2011	2012
Structural Funds (ERDF, ESF) Cohesion Fund (CF)	1717,8	2061,8	2221,0	2387,7
TOTAL, of which	858,5	1030,2	1109,5	1192,6
	2576,3	3092,0	3330,5	3580,3
Convergence objective (ERDF, ESF, CF) - European Territorial Cooperation Objective	2513,4	3027,2	3263,7	3511,8
	63,0	64,8	66,7	68,5

Cost Analysis - Benefits of Investment Projects (European Regional Development Fund, Cohesion Fund and ISPA)

Cost-benefit analysis is a tool of great utility for the decision on allocation of resources for investment financed from public funds. In Romania, in the decades ahead will require very large investments in order to cover the difference between the existing infrastructures in the country and that meets in the European Union member states. Cost-Benefit Analysis can help identify public governor projects that will maximize net social benefits and thus to determine the order of priorities that will make the infrastructure work.

Recommendations on developing cost-benefit analysis

These recommendations are based on Working Paper No. 4 European Commission (Directorate General for Regional Policy), which is a guideline for developing cost benefit analysis for projects to be co-financed by the ERDF or Cohesion Fund during the period 2007-2013. ACB objectives will be:

- To determine the extent to which the project contributes to regional development policy (the POR) and in particular to the objectives of priority axis in which the requested funds;
- To determine the extent to which the project needs co-financing from ERDF to be financially viable.

To estimate the economic, social and environmental project is operating with assumptions, which introduces a number of uncertainties. Therefore a risk analysis should be included in the ACB. In the risk analysis will be outlined and measures to minimize the negative impact of certain risks. These measures may introduce additional items of expenditure, which means a return to design. Once identified needs and target groups need to project is the establishment of clear objectives. Different variants of solutions will be evaluated according to the extent that may contribute to the objectives. You proved that the solution selected and developed in the project is best suited to achieve the objectives. It is necessary that the objectives are more clearly defined and appropriate indicators such as better quantified, because they are elements of the analysis.

Financial Analysis (Cost-benefit analysis accounts)

Will be produced and included in the Feasibility Study, for all projects, regardless of the amount thereof. The main objective of financial analysis (cost-benefit analysis accounts) is to calculate financial performance indicators of the project (to profitability). This analysis is developed, usually in terms of the owner (administrator or legal) infrastructure. There are cases in which the owner and operator of infrastructure are not the same entity (delegated management). In these cases will be developed a consolidated financial analysis (as the same entity). The method used in developing financial ACB is the "net cash flow updated. In this method non-monetary flows such as depreciation and provisions are not taken into consideration. Unforeseen expenses in the general estimate of costs will not be taken into account only insofar as they are contained in the eligible project costs. They will not be taken into account in determining the necessary financing, as long as they do not constitute an actual expense, but only a measure to mitigate certain risks. Horizon of analysis recommended for projects funded through this area of intervention POR is 20 years. Rate recommended in the updated financial analysis is 5%.

In the analysis will use the incremental method. When it is difficult or even impossible to determine costs and revenues in the "without project", European Commission recommended that scenario without the project to be considered that "no infrastructure", if revenues and costs of operation and maintenance should be considered for all infrastructure, not only for the portion rehabilitated, modernized, by design. Financial Analysis will assess in particular:

- Profitability of financial investment and their contribution invested in the project determined indicators VNAF / C (updated net income calculated in total investment value) and RIRF / C (the internal rate of return calculated on the total investment value).
- Optimal amount of intervention from the Structural Funds.

Economic analysis (cost-benefit analysis economic)

Will be produced and included in the Feasibility Study, only projects with a total value of more than 17,000,000 lei. Economic analysis measured the impact of economic, social and environmental project and evaluate the project in terms of society. Not always a project is necessary and desirable. Therefore, where economic analysis will be accompanied by a study on the availability of target groups (people) to pay for services provided by infrastructure built / rehabilitated / upgraded by the project. Be considered, where appropriate, elements of nature supportability rate for people or environmental costs (applying the "polluter pays"). Basis for the development of economic analysis is the financial analysis tables. To determine economic

performance, social and environmental project should be made a series of corrections, both for costs and income.

Analysis of risk and sensitivity

Will be produced and included in the Feasibility Study, for all projects, regardless of the amount thereof. In accordance with Article 40 (e) of Regulation 1083/2006, cost-benefit analysis must include a risk assessment. This will be done in two steps:

- *Sensitive analysis:* variables identified will be critical, it will analyze the financial and economic performance of the project when their values vary more or less, 1%. What we are trying to determine those values that influence the stability of our project: under what conditions the net current reaches zero! (in other words: what is the sensible, which is calculated for VNAF and for VNAE).

- *Analysis of risk:* it will take into account the probability that the critical variable to evolve as we estimated in the sensitivity analysis. Will be used different statistical methods and will determine the probabilistic distribution of financial or economic indicators. Can not always determine the likelihood of change with a certain percentage of the value of critical variables. So we can not always develop a risk analysis based on sensitivity analysis. In these cases will be a qualitative risk analysis (qualitative assessment of risks presented narrative).

Other criteria

Environmental analysis. National and Community require environmental impact assessments for most investments in the transport sector, particularly for developing new infrastructure. In these cases, reference should be made to the methods of assessment have been recommended. However, even if the law provides, it is advisable to consider the environmental impact from a general point of view, identifying the impact that it can project alternatives (if possible) and present a quantitative assessment based on impact and locating them in order to make a comparison between alternatives and to identify any mitigation measures and compensation.

The impact on economic development. This is one of the most controversial aspects of economic evaluation of transport projects in terms of theoretical and empirical. However, it is important to keep in mind that the impact on economic development can be both positive and negative. This means that in this market distortions, increased accessibility of a suburban area or region can be an advantage but also a loss of competitiveness if the industry is less efficient than central regions. In this case, the increased accessibility of the local industry can get on the market. It is therefore necessary to proceed carefully when the project is awarded such benefits, and in any case, it is advisable that they be excluded from the calculation of indicators of profitability.

Conclusions :

Cost Analysis - Benefit is a great utility tool for deciding resource allocation for investment financed from public funds. In Romania, in the decades ahead will require very large investments in order to cover the difference between the existing infrastructures in the country and that meets the EU countries. Cost Analysis - Benefits governor can help the public to identify projects that will maximize net social benefits and thus determine the order of priorities that will make the infrastructure work. Purpose of the request a cost-benefit analysis for major projects has two aspects. First, it must be demonstrated that the project is desirable from an economic point of view and contribute to the goals of EU regional policy. Secondly, it must be evidence that the contribution of the Funds is required for the project to be viable financially. This is the basis for determining the appropriate level of assistance. ACB is an essential tool to estimate the economic benefits of projects. In principle, to assess the impact of projects from all points of view: financial, economic, social, environmental, etc.. ACB objective is to identify and quantify (to give a monetary value) all possible impacts to determine the costs and benefits of the project, then gather the results (net benefit) and concludes that the project is timely and deserves to be

implemented. Costs and benefits should be assessed on a differential basis, taking into account the difference between project and baseline scenario alternative to the project.

The impact is assessed according to certain predetermined goals. By evaluating a project according to the microeconomic indicators, ACB can assess the degree of compliance with specific macroeconomic targets. In the context of regional policy, ACB is used to estimate the importance of an investment project for the EU regional policy. The analysis used in the ACB must be defined in relation to the project company has a relevant impact. Costs and benefits may be gained and at different geographical levels, so as to impose a decision on the costs and benefits to be taken into account. Typically, this depends on the size and scope of the project. Can consider the impacts at local, regional, national and even EU level. In estimating the possible impacts of a project, analysts are always confronted with uncertainty. This should be considered and treated adequately ACB. The exercise of risk assessment is an essential part of a comprehensive review, because it enables the developer to better understand how the estimated impacts may change if certain key variables of the project prove to be different from those expected. A detailed analysis of the risk the basis for a proper risk management, which in turn is reflected in the project. From the analysis carried out is a series of risks which require the adoption of solutions.

Major risks and solutions

risks	solutions
Failure in accessing funds available (quality questionable applications for funding)	Contracting of professional consulting services Human resources specialized in the administration of EU funds
Difficulties in financing projects	Contracting of professional consulting services Collaboration with banks that have funding programs for funds

This approach will bring substantial benefits and therefore will contribute to accelerate decision-making procedures for complex projects. It will also result in capacity building in terms of the programming period 2007-2013.

References:

1. Aghion, Phillippe and Olivier Blanchard (1994), "On the Speed of Transition in Central Europe", National Bureau for Economic Research Macroeconomics Annual: 283-319;
2. Baldwin, Richard and Charles Wyplosz, *The Economics of European Integration*, 2000, <http://heiwwww.unige.ch/~baldwin/papers.htm>;
3. Bojan Dimitrijević, *Comparative Analysis of Costs and Benefits of European Union Accession in the selected countries*, Policy and Legal Advice Centre - An EU-funded project managed by European Agency for Reconstruction, November 2002
http://www.placyu.org/Downloads/1.1.2ComparativeAnalysisOfCostsAndBenefits_eng.pdf;
4. Fritz Breuss/Mikulas Luptacik/ Bernhard Mahlberg, *How far away are the CEECs from the EU economic standards?* IEF Working Paper Nr. 35, University of Economics and Business Administration Vienna, 2002;
- . Inotai, Andras, *Benefits and Costs of EU Enlargement for Present Members, First- Round Candidates and Other Associated Countries*. Paris, June 1999, <http://www.worldbank.org>;
5. Kawecka-Wyrzykowska, Elzbieta (1998): "Measurement of Costs and Benefits of Accession to the European Union for Selected CEECs. Country Report Poland", WIIW, <http://www.wiiw.ac.at>;

6. Keuschnigg, Christian et al., Eastern Enlargement to the EU: Economic Costs and Benefits for the EU Present Member States? Germany. Final Report on Study XIX/B1/9801, EU, September 1999, <http://europa.eu.int>;
7. Kwiecinski, Andrej (1995): "Structural Funds in the European Union. Possible Benefits for Poland", in Kawecka-Wyrzykowska (1998): "Measurement of Costs and Benefits of Accession to the European Union for Selected CEECs."