

The rationale for economic evaluation in Europe: the case of EU Regional Policy*

Andrea Mairate

Directorate General for Regional Policy,
European Commission and Free University of Brussels

«The ideas of economists and political philosophers ... are more powerful than is commonly understood. Indeed the world is ruled by little else. Practical men ... are usually the slaves of some defunct economist. Madmen in authority ... are usually distilling their frenzy from some academic scribbler of a few years back» (J.M. Keynes, General Theory on Employment, Interest and Money, 1936).

Abstract

In an economic context characterised by scarce EU budgetary resources and strained public finances, cost-benefit analysis (CBA) plays a crucial role in informing public investment decisions. Drawing from the CBA experience under the Structural and Cohesion Funds, the paper reviews the main developments over the last decade. It points out the relevance of CBA in assisting the allocation of EU funds across projects. Particularly, it shows how the 'funding gap' method used to determine the level of Community assistance should prevent the crowding out of other sources of finance by increasing the leverage effect and creating incentives for attracting private capital. The paper discusses the main policy implications in terms of trade-offs and incentives. Finally, it highlights the role of the European Commission in institutionalising the practice of CBA in public decision making and explores possible developments in economic evaluation.

Keywords: cost-benefit analysis, project evaluation, structural funds, european regional policy.

JEL Classification: D61, H43, O22, R58.

Las ideas de los economistas y los filósofos de la política ... son más poderosas de lo que comúnmente se cree. De hecho, el mundo está gobernado por poco más. Los hombres prácticos ... son generalmente esclavos de algún economista difunto. Algunos gobernantes locos ... suelen basar sus grandes decisiones en las ideas de algún académico de hace años (J.M. Keynes, Teoría General del Empleo, el Interés y el Dinero, 1936).

Resumen

En un contexto económico caracterizado por los escasos recursos presupuestarios de la UE y restricciones en las finanzas públicas, el análisis coste-beneficio (ACB) juega un papel fundamental para ayudar a las decisiones de inversión pública. A partir de las experiencias de los Fondos Estructurales y de Cohesión, este artículo examina los principales avances del ACB en la última década, señalando la importancia que tiene para ayudar al reparto de los fondos comunitarios entre distintos proyectos. En concreto, se muestra cómo el método del «diferencial de financiación» que se utiliza para determinar el nivel de ayuda comunitaria debería evitar la expulsión de otras fuentes de financiación, al

* Paper prepared for the Madrid seminar on evaluation of transport projects (15-16 November 2010). The views expressed in this paper are those of the author and do not necessarily reflect those of the European Commission.

aumentar el efecto apalancamiento y generar incentivos para atraer capital privado. El trabajo analiza las principales implicaciones políticas en relación con los equilibrios necesarios y los incentivos. Por último, se destaca el papel de la Comisión Europea en la institucionalización de la práctica del ACB en la toma de decisiones públicas y se analizan posibles desarrollos futuros en la evaluación económica de proyectos.

Palabras clave: análisis coste-beneficio, evaluación de proyectos, fondos estructurales, política regional europea.

Clasificación JEL: D61, H43, O22, R58.

1. Introducción

Evaluation is about providing a judgement about the *value* of policies, programmes or projects. As a discipline it is driven by three interacting factors –theory, practice and learning (E. Stern, 2003). Ideally, it should build on most advanced theoretical developments; the analysis should be developed from a perspective that is informed by practice; eventually, it should promote learning from evidence gained.

The increasing awareness of and need for economic evaluations is now well recognized by researchers and practitioners undertaking them. However, it is also generally well known that the quality of economic evaluations is mixed, and therefore the value of such studies to decision makers is often questioned.

Governments have limited resources to spend on public investment projects. They need to conduct economic evaluations to select a limited set of projects in order to ensure that welfare gains are maximised. In order to achieve this, their value should be considered in the light of economic costs and opportunities not only for the investors but for the society as a whole.

The methods adopted by experts in conducting economic evaluations are many and varied, and reflect the particular question or hypothesis being examined. As such, there is no «gold standard», although a number of salient features should be in evidence when conducting economic evaluations. An ideal economic evaluation would be based on high-quality data, conform to stringent economic criteria, be internally valid; be externally valid, *i.e.* being capable of generalisation to other settings or countries.

The standard economic model is cost-benefit analysis (CBA), which was formalised in the 70s alongside the re-emergence of welfare economics. Originally, it was conceived as a tool for systematic valuation of factors, incomes and employment for planning purposes, especially for developing countries (Little Mirlees, 1974). A definitive statement was provided in the Drèze-Stern model (1987) which incorporates a range of policy variables (or signals) and side constraints and emphasises the joint determination of shadow prices and optimal policies. Cost-benefit analysis has been widely promoted in the 70s and the 80s by the World Bank and other international organisations. However, many criticisms have been raised, in particular because of its relatively narrow theoretical base (Picciotto, 1999; Pennisi-Scandiz-

zo, 2006). The lack of participatory approach, which characterizes more broadly the international trends in evaluation practice.

This paper aims to discuss the role of cost-benefit analysis in decision making in a multi-level government context characterised by a diversity of practice. In the light of the experience of structural and cohesion funds, it reviews the main developments over the last decade, highlighting the role played by the Commission in fostering a sound project appraisal culture in the member States. It also points out the relevance of CBA in assisting the allocation of EU funds across projects. Particularly, it shows how the new method used to determine the level of Community assistance should prevent the crowding out of other sources of finance by increasing the leverage effect and creating incentives for attracting private capital. Finally, the paper discusses the main policy implications in terms of trade-offs between equity and efficiency issues and draws some wider conclusions on the future of economic evaluation in Europe.

2. EU regional policy and cost-benefit analysis

The presence of market failures is usually considered, alongside with redistribution, as the main rationale for public sector involvement in the economy (Stiglitz 1988). For instance, whenever competition is imperfect, production or consumption generate externalities, non-excludability and non-rivalry make impossible or undesirable charging users for the provision of a good, then the government intervention can *in principle* result in a more efficient allocation of resources thereby potentially enhancing social welfare. When there is a case for public intervention, the costs and the benefits of the envisaged intervention should be carefully identified and compared in order to ascertain whether the latter are likely to outweigh the former. This is the main purpose of CBA as an evaluation tool to assist decision-makers to make rational choices about public resources allocation.

In the framework of EU regional policy, public sector intervention typically takes the form of a public investment project, with the occasional involvement of private investors (public-private partnerships, PPP). The Community assistance is in general given in the form of non-repayable grants, although there is an increasing trend to shift towards repayable grants, especially for SME support.

It should be considered that interventions under EU regional policy mainly perform an *allocative* function, *i.e.*, they aim to pursue efficiency goals such as increase in productivity and output growth. However, in many expenditure programmes, trade-offs exist between the objectives of efficiency and equity, and the EU regional policy is no exception. Indeed, there is some evidence of the Kuznets-Williamson hypothesis, *i.e.* convergence across member states in terms of GDP *per capita* may occur at the expense of increased regional disparities within countries. According to economic theory, this is generally explained by the agglomeration dynamics that typically accompanies the catching-up process. It may then be desirable that the

Funds also have a redistributive role in addressing inter-regional inequalities (Mairate, 2006)¹.

This is indeed the case, as it can be inferred from the way Community resources are channelled to the member States: assistance is both targeted to the lagging-behind countries (through the Cohesion Fund) and lagging-behind regions (Structural Funds). Yet, it should be borne in mind that the ultimate goal of the EU regional policy is to reduce income disparities between regions through growth-enhancing interventions within a specific institutional framework.

EU regional policy is mainly implemented in a context of multi-annual strategic planning which sets out the main objectives and priorities for investment over a period of seven years. It involves a range of actors with different roles and responsibilities throughout the different phases of the programming cycle. As a result of the application of the subsidiarity principle, member States are generally responsible for preparing, implementing, monitoring and evaluating the programmes. This is typically done in partnership with regional, local and urban authorities with the participation, where appropriate, of economic and social actors and other bodies representing civil society.

Therefore, the objectives of the EU cohesion policy are pursued in a complex multi-level government setting (Florio, 2006; Ferrara, 2010). At the start of a programming period, each country's financial allocation is determined on the basis of relative socio-economic conditions such as regional and national prosperity, unemployment rate and population (Figure 1). Now, we can assume that during the programming period a region has the following objectives:

- a) Maximising the absorption of the allocated Funds.
- b) Maximising the contribution of the Funds to the goals of EU cohesion policy, *i.e.* reducing disparities and increasing growth, competitiveness and employment.
- c) Maximising the financial allocation for the following programming period.

Objectives *b* and *c* can be seen as being mutually exclusive, so that we can assume that the country has to choose either one or the other. This is due to the fact that the initial funds allocation is made with reference to the relative prosperity: the poorer the region the higher the transfer of funds, *ceteris paribus*. Therefore, for instance, managing authorities may be tempted to spend the money recklessly in order to remain in the Convergence objective without risking having its financial allocation reduced in the future. The trade-off between objectives *b* and *c* will vary depending on the degree of overlapping between the Community programming cycle and the national policy cycles and the possibility for the regional planner to have a private agenda (Florio 2006).

¹ This is of course debatable in principle: for instance, if redistribution is assumed to be a normal good (*i.e.*, its consumption increases with income, other things equal) it may be better to maximise wealth first and then redistribute it to the most needy regions.

On the other hand, in its attempt to strengthen the Community's economic and social cohesion, the European Commission can clearly be assumed to pursue only objectives *a* and *b*. Therefore, the Commission's welfare function can be defined as a subset of the region's objectives.

The allocation of the Funds at the beginning of the programming period based on macroeconomic criteria entails the risk of an implicit reward for poorly targeted or ineffective programmes. How can the Commission then ensure that managing authorities actually pursue the right objectives? The negotiation of the National Strategic Reference Frameworks (NSRF) and operational programmes enables the Commission to assess that national (or regional) plans are in line with the broad objectives and priorities (the so-called Community Strategic Guidelines) relating to economic and social cohesion for the European Union as a whole. However, good programmes will not necessarily be implemented through sound projects as these will be selected by the managing authorities once programmes are approved by the Commission. Within an operational programme, member States are responsible for the selection and appraisal of the most suitable projects.

However, in the case of «major projects»², the Commission has a *regulatory* power, by deciding the appropriate level of assistance from the Funds. In this context, the need for a CBA has a two-fold justification³. On the one hand, it has to be demonstrated that the investment project is worth undertaking: a positive economic net present value signals the improvement in *allocative* efficiency⁴, thereby conveying key information about the economic desirability of the project.

This has to be evaluated also in the light of the project's contribution to the EU regional policy objectives. On the other hand, the level of Community financing has to be determined based on the financial analysis' results so that the grant is modulated according to the project self-financing capacity and no over-financing occurs. Therefore, the regulatory requirement for a CBA ensures that managing authorities actually pursue objectives *a* and *b*. CBA is used to signal the quality of the project so that resources are allocated to the right projects, those expected to positively contribute to the goals of EU regional policy by stimulating growth, competitiveness and employment.

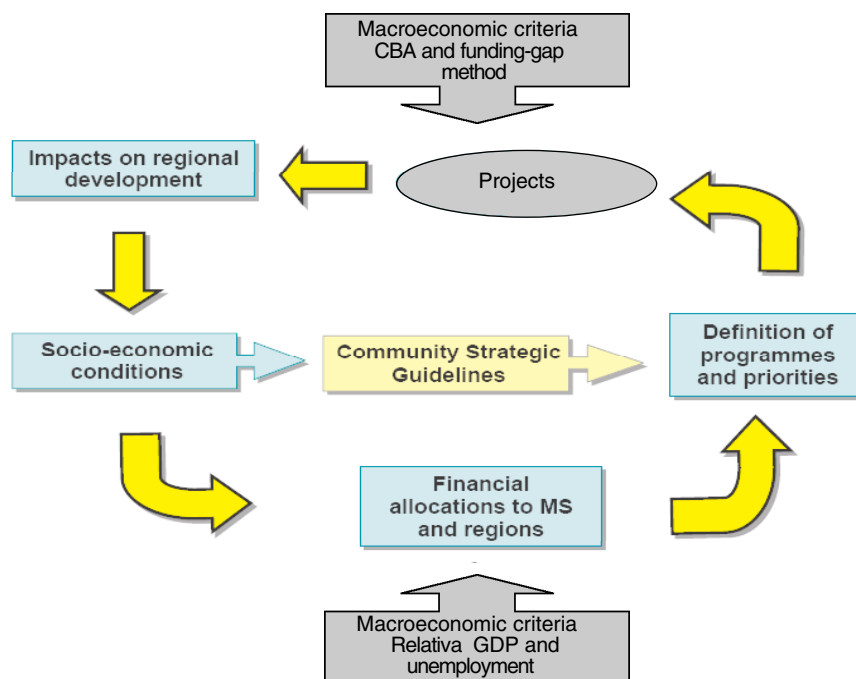
Moreover, it should be noted that the application of the funding-gap method is required for all projects (not just «major projects»): this prevents projects from

² The thresholds for «major project» qualification are set at €10 and 50 million respectively for Cohesion and Structural Funds. As from 2007 common thresholds will apply across Funds: €25 million in the case of environmental projects and €50 million in other fields.

³ The legal basis for the submission of a CBA is provided by article 26 of Regulation 1260/99 for the Structural Funds; for the Cohesion Fund see article 10 of Regulation 1164/94 and article 1 of Regulation 1265/99. For the 2007-2013 programming period, CBA requirements are laid down in article 40 of Regulation 1083/2006.

⁴ In economic terms, a positive economic net present value only signals a *potential* Pareto (*i.e.*, allocative efficiency) improvement, as some people may actually be worse-off because of the project. However, positive net benefits ensure that a set of transfers can potentially be organised so that at least one person is better-off without making anyone else worse-off (see for instance BOARDMAN *et al.*, 2001 for further details).

FIGURE 1
THE ALLOCATION OF RESOURCES THROUGH THE PROGRAMMING CYCLE



SOURCE: MAIRATE, ANGELINI (2007).

being granted more than strictly necessary to go ahead; in turn, ensuring an optimal absorption of funds has an additional impact and does not generate undue profits to the beneficiaries involved.

The nature of the governance system in which the Funds operate tends to create potential information asymmetries. Notwithstanding on-the-spot checks and ex-post evaluations, the Commission cannot fully observe whether the projects selected by the managing authorities during the implementation of programmes are actually meant to contribute to the goals of the EU cohesion policy. The use of microeconomic criteria (*i.e.*, CBA and «funding-gap» method) to allocate resources to projects can then signal the behaviour of the managing authorities and help prevent potential moral hazard in the context of the initial allocation of resources to regions/member States and regions decided on the basis of macroeconomic criteria.

By making the grant of Community financial resources conditional upon the results of the CBA for major projects, the managing authorities in the member states should ask the following questions: is the project worthwhile? Is this project the best alternative? What is the optimal level of public resources to be granted to the project? By addressing these issues, CBA can serve its role of supporting investment decisions and ensuring an efficient allocation of public resources. Of course, these are not always easy questions to be answered, particularly in the context of the lag-

ging behind states or regions with weak administrative capacity that most typically lack the necessary technical expertise. In this regard, there is a clear scope for the Commission to play an important role by stimulating the development of sound project appraisal culture through capacity building actions.

3. The funding gap method and revenue generation

A key element of the Commission guidelines (EC 2006) is to establish a transparent and relatively standard procedure through which the level of grant to a particular project can be derived. Figure 2 depicts the conceptual framework under which major projects are appraised and granted financial support from the Funds. The first screening is done through the economic net present value (ENPV) criteria: if negative, the project will not in principle be offered Community financing as the region would likely see its *allocative* efficiency deteriorating with the envisaged intervention and would rather be better off without it⁵. Then, for the economically desirable operations, the financial profitability is assessed to determine whether the project actually needs to be co-financed and to what extent. The so-called «funding-gap method» is employed here: in the limits of the ceilings set by the regulations, the EU grant typically funds the portion of the investment cost which is not figuratively covered by the expected net revenues.

The funding gap-rate R is computed as follows:

$$R = \frac{DIC - DNR}{DIC} \quad [1]$$

where

DIC is the discounted investment cost

DNR is the discounted net revenue (*i.e.*, the difference between discounted revenues and discounted operating costs, including the discounted residual value where appropriate).

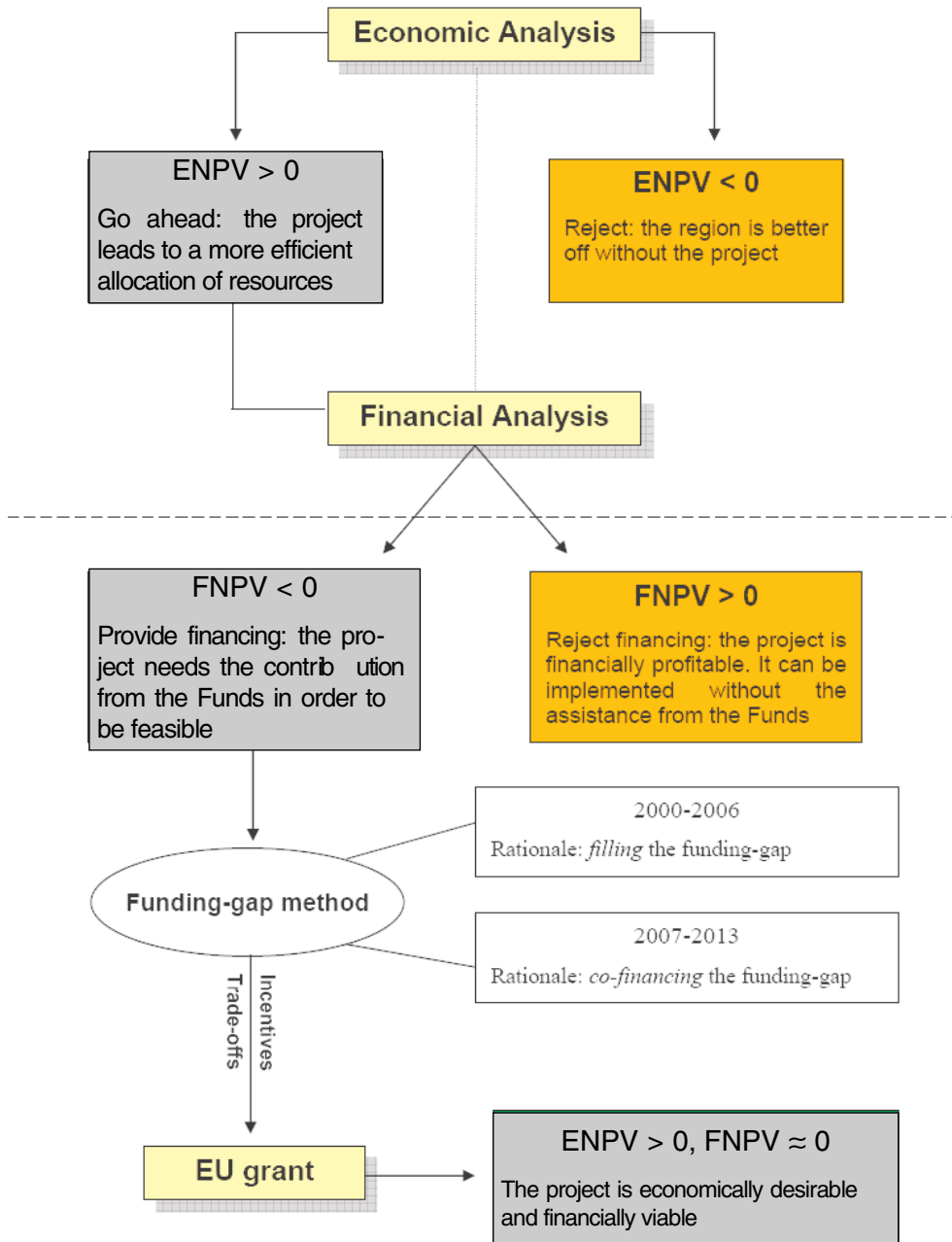
Then, the co-financing rate CR is generally found as the minimum between the funding-gap rate and the ceilings set by the regulations ($Max CR$):

$$CR = Min [R; Max CR] \quad [2]$$

Of course, projects exhibiting a positive financial net present value (FNPV) have no funding gap by definition and thus do not generally receive a grant from the Funds, with the exception of industrial investments subject to State aid rules. These are already viable on their own as they can borrow the necessary resources on the financial market.

⁵ Exceptions can be made on the basis of considerations on benefits non-directly quantifiable at project level (*e.g.*, environmental measures for the adoption of the *acquis communautaire*).

FIGURE 2
THE ALLOCATION OF FUNDS TO THE PROJECTS: CBA AND THE FUNDING-GAP METHOD



SOURCE: MAIRATE, ANGELINI (2007).

In the general regulation⁶ for the 2007-2013 programming period, the «funding-gap» method is maintained as a key principle for allocating Community resources to projects. The rationale is to determine the project's self-financing margin so as to grant to the project the amount of money it needs to be implemented without risking over-funding. Under the programming period 2000-2006, the EU grant is generally determined in order to *cover* the funding gap (Mairate-Angelini, 2007)⁷. The method aims at guaranteeing a normal financial profitability through the Funds' intervention so that the project can be implemented⁸.

This new feature marks an important change in the rationale of the financing mechanism, which we could define an «enhanced» funding gap method: the EU grant will not *fill* the whole funding gap anymore but it will only *co-finance* it⁹.

Some changes have been introduced, however, to address potential risks and deficiencies.

First, in order to ensure a more consistent approach, a single method will apply to both Cohesion and Structural Funds, as well as to the new Instrument for Pre accession Assistance (IPA). Ceilings are fixed only at the level of operational programme and not at project level. Also, no distinction is made for project generating «substantial» net revenues. Hence, the Funds' contribution decreases fully linear with the funding gap.

Second, the main difference with respect to the previous system is that for the 2007-2013 programming period it is the project cost and not the co-financing rate that is modulated in order to take into account the project's self-financing capacity⁹. Fixed co-financing rates set at the priority-axis level are consistently applied. Third, it reduces the risk of crowding out of private finance as the funding gap covers only the part which is not paid back by future revenues which is therefore eligible for EU co-financing.

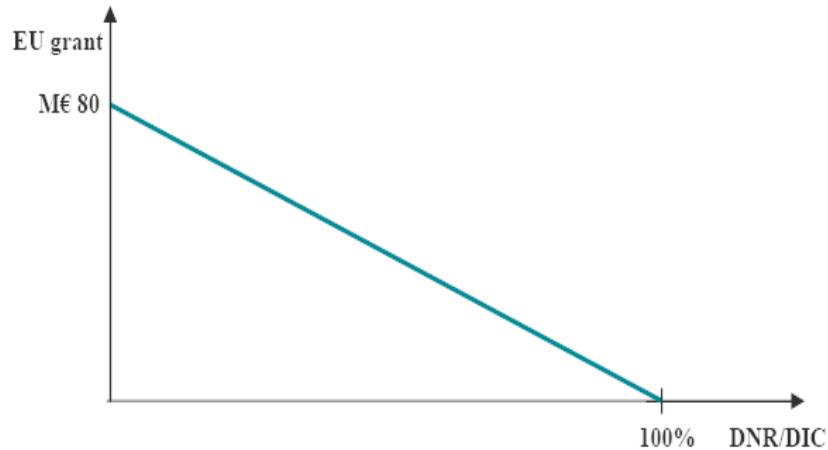
⁶ According to article 29 of the Structural Funds regulation 1260/99, the contribution from the Funds to revenue-generating projects «shall be determined in the light of their intrinsic characteristics, including the size of the gross self-financing margin which would normally be expected for the class of investments concerned [...]». As regards the Cohesion Fund, the co-financing rate «may be reduced to take account, in cooperation with the Member State concerned, of the estimated revenue generated by projects [...]».

⁷ The Commission working document on CBA methodology 2007-2013 provides qualitative indications on expected profitability and suitable financing structure for 17 different fields of intervention. Ideally, different benchmarks for the profitability normally expected should be employed for different project categories. However, given the high variability (both within and across countries) of available data on financial rate of returns, specific benchmarks at sector level have not been proposed so far.

⁸ It should be noted that, in principle, a 100% co-financing rate could possibly be set at priority level. Yet, this would entail a much lower co-financing rate on other priority axes in order to respect the ceilings fixed by the regulation at the level of operational programme

⁹ «Eligible expenditure on revenue-generating projects shall not exceed the current value of the investment cost less the current value of the net revenue from the investment over a specific reference period [...]» –Article 55(2) of Reg. 1083/2006

FIGURE 3
STRUCTURAL AND COHESION FUNDS 2007-2013



NOTE: EU grant as a function of the project's self-financing margin assuming a total eligible cost of €100 million and a priority axis' co-financing rate of 80%.

SOURCE: Own elaboration.

4. Incentives and trade-offs

The rationale for the revised funding gap method is to create appropriate incentives to maximise the use of public resources. The aim is therefore to enhance the leverage effect of the EU grant by taking better account of the financial profitability of the projects. Two important implications derive from this principle. First, on average, the EU co-financing at project level as a percentage of the total investment cost is likely to be reduced compared to the previous programming period, *ceteris paribus*. This should free EU resources to finance other projects. Secondly, as national public resources will increasingly have to be used to fill the funding-gap together with Community funds, a stronger incentive is created for the managing authorities to activate private sources of financing.

This incentive is likely to be even more effective in the current context of strained public finances, particularly in those countries which need to meet the Stability Pact criteria and undergo fiscal consolidation policies. In principle, the new co-financing method should induce project promoters to borrow the present value of expected net revenue on financial markets. However, the ultimate objective is to create an incentive for the formation of public-private partnerships as increased value for money can be obtained when private investors are involved in the projects not only for securing additional funds but also for providing their know-how and management skills.

Notwithstanding, it has to be pointed out that, even in its new specification, the funding-gap method will still have a drawback: due to the lack of a clear tariff policy at the EU level, the government authorities can be interested in keeping tariffs low in order to obtain a higher grant from EU funds. This practice is not desirable, particularly because the sustainability of operations may be jeopardised if the potential affordability of the good or the service provided is not fully exploited. However, the following aspects should be considered.

As Community grants at project level are likely to be lower *ceteris paribus*, national or regional authorities may in turn have an incentive to revise their charging systems, by making users pay for the good or service up to a level that is considered socially affordable. From a strictly financial point of view, the project promoters' attempt to maximise revenues before public contribution creates better conditions for the participation of private investors. Also, this would bring about desirable economic implications: to the extent that tariffs are brought in line with the (social) marginal cost of the service provision, gains can be expected in terms of *allocative* efficiency.

Furthermore, according to the general regulation (Art. 55), due account should be taken of «considerations of equity linked to the relative prosperity of the member state concerned» in the calculation of the eligible expenditure (*i.e.* the «funding gap»). This means that revenue generating projects should be assessed in the light of the users' potential ability to pay for the good or service provided.

With a view to ensuring transparency and consistency, the European Commission recommends that member States provide affordability ratios to be used in the project appraisal (EC, 2006). The next step would be to figuratively include some «shadow tariffs» to top up the potentially affordable tariff level where appropriate; this would then be considered in the determination of the funding gap. This calculation procedure would effectively tackle the trade-off effects since a national or regional authority would not receive extra EU funds if tariffs are seen below the affordable level. However, this method of «affordable shadow tariffs» has not been put forward yet by the Commission, as there is no clear Community legal basis to enforce it. In these circumstances, affordability ratios will only be used as «soft» benchmarks. Member States wishing to do so may however apply the method on a voluntary basis.

5. The CBA model and its practical limitations

In designing interventions, formal cost-benefit analysis is useful, especially for large projects. Proper evaluation requires that a number of conceptual issues be carefully considered. These include the correct understanding of costs, choice of valuation techniques, setting the time horizon, assessing distributional impacts and inter-temporal issues, and evaluating risk and uncertainty.

CBA studies prepared for large projects that were assessed over the last years were often unsatisfactory. The most frequently encountered problems are the following: errors are found in the application of the discounted cash-flow methodology (e.g., inclusion of depreciation or contingency reserves); the residual values are not properly computed; sensitivity and risk analyses are lacking or incomplete; inflation is not treated consistently; external impacts are not quantified. Likewise, within a given member State, CBA studies lack uniformity of approach.

Varying assumptions are also made about other key parameters such as the real discount rates despite guidelines in regard to the latter. In the United Kingdom, the discount rate is fixed at 3.5% (Green Book, 1997) whilst for instance in France the Commissariat General au Plan had a 8% discount rate which was subsequently revised in 2005. In fact, there are different views on whether the discount rate should be used to take account of time preference –with risk and uncertainty explicitly dealt with by undertaking appropriate sensitivity and scenario analyses– or whether it should be used to account for risk aversion (Gray, 1995). Despite the lack of theoretical consensus, the approach which is generally used in practice is to adopt the real interest rate on government gilts. This has the advantage of being readily available: the development of international capital markets and the removal of exchange controls means that such market rates should more accurately reflect social time preference rates, thereby avoiding the need to set a notional or shadow discount rate.

Furthermore, different assumptions are also made about the shadow price of labour, which is generally priced as 100 per cent of market wages, except where there is a clear case for a different approach. In any event, a minimum shadow wage of not less than 80% of the market wage should be applied. This is in line with international practice, although this needs to be reviewed in future cost-benefit analyses in the light of the structural changes in labour market, with increasing unemployment. With such uncertainty, a sensitivity analysis should be undertaken using different parameters.

The lack of uniformity of approach creates a great deal of latitude for those conducting the cost-benefits appraisal that results are not comparable across studies. Bodies commissioning such studies appear to be in most cases the sponsoring departments or agencies (for instance, a national road authority), which may be already be publicly committed to the project. There is thus a risk that those conducting these studies may feel inhibited in giving due weights to the negative features of projects.

We make here several suggestions which would enhance the value of cost-benefit appraisals. The first is that (except where a standard procedure exists, as in the case of road projects) they should be commissioned by a central evaluation unit, rather than by the sponsoring department or Agency. This would help to facilitate a greater consistency of approach. The second is that these studies should be undertaken prior to the adoption of the project in question by the Government, and eventually by the European Commission. If it is undertaken subsequently as is common practice in most cases, there is a risk that the cost-benefit analysis will come to be seen

as a tedious compliance requirement with EU rules, rather than as a dispassionate evaluation of costs and benefits, and as a tool for the rational structuring of priorities. Finally, there would be scope to undertake ex post CBA studies to confirm that the expected benefits outweigh the costs and therefore that projects have a real economic impact (EC, 2010).

6. The institutionalization of CBA

Since the inception of the Structural Funds, the Commission has provided detailed guidance to member States. In 2007, the Guide to Cost-Benefit Analysis was updated and provided more detailed guidance on different areas of intervention together with some indicative benchmarks on rates of return (EC, 2007).

Member States are responsible for applying the provisions laid down in the regulations, especially for projects below the threshold of 50 million euro. For major projects, the Commission takes the decision and sets the contribution from the funds on the basis of the information contained in the application for funding. In order to increase the responsibility of member States, the Commission has encouraged the development of national CBA frameworks, which are meant to provide common working rules to be used by national project promoters. Such methodological documents were elaborated by the Czech Republic, Slovakia (for water sector projects), Estonia, Ireland (both a general and water projects' specific guidelines), Italy (a general framework and two recent working documents setting methodologies for the evaluation of employment and environmental impacts of major projects), Lithuania and Poland (for transport projects). As a whole, there is more detailed and specific guidance on CBA developed by experts, in particular in the transport sector (De Rus, 2010).

Where available, national CBA frameworks contributed to speed up the appraisal of major projects, as project promoters do not have to define specified and parameters for each CBA study. Duplication of unnecessary work is avoided and greater consistency is ensured, at least between projects within the same country. These guidelines can also be used by the bodies commissioning CBA studies as well as by the Commission services for reviewing their quality. Only a minority of member States have so far developed CBA frameworks and in some cases these are not operational enough. This should help facilitate a greater consistency of approach at least within a single State.

The Commission has provided guidance on the methodology to be used in carrying out cost benefit analyses which includes a set of working rules for project applicants (EC, 2006). In particular, the Commission's working document recommends a financial discount rate of 5% in real terms as a benchmark for the appraisal of public sector funded projects under Structural and Cohesion Funds interventions. This proposal has raised several issues relating to the choice of the financial discount rate as well as the need to differentiate social discount rates according to

different target regions¹⁰ (Florio, 2006a). For public-private partnerships projects, the Commission's working document suggests that the financial discount rate may be increased to reflect a higher opportunity cost of capital to the private investor¹¹.

As regards the use of the shadow wage, the Commission suggests that this should be determined at national or regional level on the basis of specific labour market conditions (EC, 2006). Another issue, which is partly linked to the enlargement of the Union is the lack of maturity of large scale infrastructure projects. As a result, decision making procedures tend to be longer than for member States which have more experience in preparing and designing similar projects. In order to speed up these procedures, a new initiative has been launched to assist member States in the preparation of their projects: JASPERS (Joint Assistance for Preparing Projects in European Regions)¹². In this context, operational support is being provided for carrying out CBA studies in line with the Commission's guidelines. The overall assessment is positive so far as it has contributed to improvement of the quality of projects which potentially should lead to better socio-economic impacts.

7. The future of economic evaluation

The paper has highlighted the main underlying challenges to a rigorous application of CBA in the context of the EU cohesion policy. Capacity-building actions for the member states need to be further strengthened, especially in the context of the enlargement to other countries, namely Romania and Bulgaria. On the one hand, there is still need to increase assistance to member States with weak administrative capacity to perform their tasks, especially through technical assistance facilities such as JASPERS. On the other hand, it is essential to agree common rules for project applications and ensure proper application of EU guidance to national contexts. This approach will bring substantial benefits in terms of simplification both for the Commission and member States, and thereby contribute to increase efficiency, in terms of speeding up decision making procedures for major projects. It will also have an important capacity building effect with a view to enhancing accountability and transparency.

The current legal basis for EU regional policy provides a coherent framework for project appraisal and decision making in which CBA plays a crucial role. However,

¹⁰ The Commission has proposed a real social discount of 5.5% for cohesion countries, *i.e.* countries with a GNP *per capita* below 90% of the EU average and 3% for the other member States to be used in all cost-benefit appraisals (EC, 2007); for a theoretical discussion see FERRARA, 2010.

¹¹ For a discussion on this point see GROUT (2005) and HAMMAMI *et al.* (2006).

¹² This is a joint technical assistance initiative between the Commission (DG for Regional Policy) the European Investment Bank (EIB) and the European Bank for Reconstruction and Development (EBRD). The aim is to assist the 12 Central and Eastern EU Member States in the preparation of major projects to be submitted for grant financing under the Structural and Cohesion Funds.

there are still difficult issues arising from the strict application of the funding-gap method, especially as regards affordability and sustainability issues. The co-financing rules are likely to create incentives for project promoters to charge the users up to the affordable level. This should in turn favour the participation of private investors and contribute to the financial sustainability of projects in the longer term. Considering the crucial importance of these issues, it will be necessary to undertake further analytical work, with the help of academics and practitioners, in order to avoid potential adverse effects and to maximise economic efficiency through investment projects.

In times of crisis, uncertainty prevails in economic decisions. Policy makers should avoid non economic and ‘bureaucratic’ evaluations to justify their demands for EU funding and should provide the right incentives for sound evaluation (Florio, Vignetti, 2003). Given the scarcity of public resources for investment, their decisions should be guided not only by economic rationality, but also by social choice (Sen, 2000). The issue is not only to know whether the investment projects are *right* but also why they are the right things to do from the point of view of the society. In this regard, there is an urgent need to bridge the gap between projects, programmes and policies within a renewed evaluation framework which combines the foundational principles of CBA with other techniques involving a plurality of stakeholders in public decision making. Undoubtedly, this would have the advantage to address some criticisms to the standard CBA model which applies essentially to projects rather than policies.

An alternative route to an extended CBA approach would be to link microeconomic evaluation to a wider macroeconomic framework insofar CBA studies can provide useful information to estimate the externalities associated with major infrastructure projects and build these parameters into a macro model to measure the wider impacts of the EU regional policy. This should in turn lead to rethink some basic assumptions on which CBA is conducted, for instance the choice of discount rate which should reflect economic conditions in EU countries, e.g. levels of income per capita, interest rates, etc.

The main purpose is not a radical rethinking of CBA, but rather to make further advances building on current practice to give a new impulse to the economic evaluation of projects and policies.

References

- [1] BOARDMAN, A.; DAVID, E.; GREENBERG, H.; AIDAN, R.; VINING and DAVID L. WEIMER (2001): *Cost-Benefit Analysis – Concepts and Practice*, 2nd edition, Prentice Hall.
- [2] BRADLEY, J.; UNDTIEDT, G., and MITZE, T. (2007): *Analysis of the Impact of Cohesion Policy – A note explaining the Hermin based simulations*, Report for the European Commission, Brussels available at http://ec.europa.eu/regional_policy/sources/docgener/evaluation/pdf/hermin07.pdf.

- [3] DE RUS, G. (2004): *Análisis Coste-Beneficio- Evaluación económica de políticas y proyectos de inversión*, Editorial Ariel, Barcelona
- [4] DE RUS, G. (2010): *Evaluación Económica de Proyectos de Transporte*, Ministerio de Fomento, Madrid (to be published)
- [5] DREZE, J., and STERN, N. (1987): The Theory of cost-benefit analysis, in *Handbook of Public Economics*, Chapter14, volume 2, pages 909-989, Elsevier.
- [6] EUROPEAN COMMISSION (2008): 'Guide to cost-benefit analysis of investment projects' 5th edition, Directorate General for Regional Policy, Brussels available at http://ec.europa.eu/regional_policy/sources/docgener/guides/cost/guide2008_en.pdf.
- [7] EUROPEAN COMMISSION (2006): 'Guidance on the methodology for carrying out cost-benefit analysis', *Working Document* number 4, Directorate General for Regional Policy, available at http://ec.europa.eu/regional_policy/index_en.htm.
- [8] EUROPEAN COMMISSION (2010): Revised Guidance on Revenue Generating Projects, Directorate General for Regional Policy, Brussels.
- [9] EUROPEAN COMMISSION (2010): *Ex post evaluation of cohesion policy interventions 2000-2006 financed by the Cohesion Fund – Cost-benefit analysis of selected transport projects* (to be published).
- [10] FERRARA, A. (2010): *Cost-benefit analysis of Multi-Level Government – the case of EU Cohesion Policy and of US Federal Investment Policies*, Routledge Studies.
- [11] FLORIO, M. and VIGNETTI, S. (2003): 'Cost-Benefit Analysis of infrastructure projects in an enlarged European Union: an incentive oriented approach', *University of Milan – Department of Economics, Working Paper* number13, forthcoming in *Economic Change and Restructuring*.
- [12] FLORIO, M. (2006): 'Cost-benefit analysis and incentives in infrastructure planning and evaluation: a research agenda for the EU cohesion policy', Paper prepared for the V Milan European Economy Workshop, University of Milan, 26-27 May.
- [13] FLORIO, M. (2006a): 'Cost-Benefit Analysis and the European Union Cohesion Fund: on the social cost of capital and labour', *Regional Studies*, 40 (2).
- [14] GRAY, A.W. (1995): *EU Structural Funds and Other public Sector Investments – A Guide to Evaluation Methods*, Gill & Macmillan, Dublin.
- [15] HAMMAMI, M.; RUHASHYANIKIKO, J. F. and YEHOUE, E. B. (2006): 'Determinants of Public- Private Partnerships in Infrastructure', *IMF Working Paper* 06/99.
- [16] GROUT, P. A. (2005): 'Value-for-money measurements in public-private partnerships', *EIB Papers*, 10 (2).
- [17] HM TREASURY: '*The Green Book*': *Appraisal and Evaluation in Central Government*, HMSO, 1997.
- [18] LITTLE, I. M. D. and MIRRLEES, J. A. (1974): *Project appraisal and planning for developing countries* (Heinemann, London).
- [19] MAIRATE, A. (2006): 'Does cohesion help economic growth?', *University of Milan - Department of Economics, Working Paper* number 6.
- [20] MAIRATE, A. and ANGELINI, F. (2007): Cost-benefit analysis and EU regional policy, in Florio, M. (ed), *Cost-benefit Analysis and Incentives in Evaluation- the Structural Funds of the European Union*, Edward Elgar, 2007.
- [21] PENNISI, G., and SCANDIZZO, P. (2006): Economic evaluation in an age of uncertainty, *Evaluation*, vol.12 (1): pages 77-94.
- [22] PICCIOTTO, R. (1999): Towards an Economics of Evaluation' *Evaluation* 5 (1): 7-22.

- [23] SEN, A. (2000): 'The Discipline of Cost-benefit Analysis', *Journal of Legal Studies*, 29 (2): pages 931-52
- [24] STERN, E. (2003): The Rationale and challenges of Evaluation of Public Policies, Paper presented at the 5° Conference on Evaluation of the Structural Funds.
- [25] STIGLITZ, J. E. (1988): *Economics of the Public sector*, Norton & Company 2nd Ed. New York-London.