

THE MAIN ASPECTS OF EVALUATING GOVERNMENT PROJECTS AND PROGRAMMES BY USING THE COST-BENEFIT ANALYSIS

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Abstract

In a world of finite public and private resources, it is very important to support effective management of public finances. Effective management focuses on the core areas of public financial management – public program and project appraisal. The essential theoretical foundations of CBA are: benefits are defined as increases in human wellbeing (utility) and costs are defined as reductions in human wellbeing. Cost-benefit analysis is an analytical tool that can be used to measure the economic and social impact of government action by reference to the "net social benefits" that action might be produced. As such, it can be a valuable aid to decision making. Its power as an analytical tool rests in two main features: 1) costs and benefits are each as far as possible appropriate expressed in terms of money and hence, are directly comparable with one another; 2) costs and benefits are valued in terms of the economy and society as a whole, so the perspective is "global".

Keywords: Public program and project appraisal, Cost-benefit analysis, Social costs and benefits

Introduction:

The government supports the community in an increasingly complex and challenging fiscal and economic environment. In order to provide the highest quality outcomes, government has to optimize value for money in its use of resources. So, it is very important to support effective management of public finances. The core area of public financial management is public project appraisal. The public sector developed the methods for evaluating projects and programs throughout the system which is characterized by comparability of costs and benefits. These methods are applied in the economic analysis - the main part of the public sector within the economy.

Cost-benefit analysis as an analytical tool has been discussed for a long time. Besides, who would have thought that the issue of cost-benefit analysis would cause debates among Aristotle, Hegel, Sophocles and John Dewey?! Or cause debate about the possibility of human cognition and rational thought?! Or "make" a quiet scholar "angry". Sen rejected the analysis of expenses and benefits, as a "dream,"¹⁸⁷ while another scholar - Henry Richardson called this method "stupid".¹⁸⁸

CBA history shows that its use began in France in XIX century for the purpose of evaluating infrastructure projects. The theory of welfare economics developed in microeconomics in the beginning of XIX century in parallel with "marginal" revolution. In 1920, it was followed by Pigou's Economics of Welfare which further formalised the notion

¹⁸⁷ Sen, Amartya K. (1963). "Distribution, Transitivity and Little's Welfare Criteria," *Economic Journal*, 73(292), p 1-78.

¹⁸⁸ The costs and benefits of cost-benefit analysis – Adam Wolfson - 2001 http://www.nationalaffairs.com/doclib/20080710_20011457thecostsandbenefitsofcostbenefitanalysismadamwolfson.pdf

of private and social costs and later, in 1930 - by the "new welfare economics" according to which the welfare economics was reconstructed according to benefits (utility theory).

Theory and practice are different, as the formal requirement came into force and in the USA it became necessary to compare costs and benefits in order to evaluate investments invested in public water-related projects. After World War II, the requirements for "efficiency in government" became especially stricter, i.e. the search for ways of effectively investing public funds was followed by the necessity of using the cost-benefit analysis. Since 1960, the cost-benefit analysis is a powerful analytical tool for the evaluation of public policies and projects.

The idea of economic accounting belongs to the French engineer J. Dupuit, whose article written in 1848 is still relevant today. British economist, Alfred Marshall formally established concepts that served as the base for the CBA. Practical, development of CBA started after the Federal Navigation Act of 1936 was enacted. The requirement of this Act was that U.S. troops would not be able to implement engineering projects without the cost-benefit calculation. At that time these calculations were made without the assistance of professional economists. Only 12 years later, in 1950, professional economists established thorough, consistent methods to calculate costs and benefits and to solve whether this project is worth financing. This analytical method was widely applied in Europe in 1960.¹⁸⁹ French scientists greatly contribution to applying the "costs and benefits" analysis for evaluating public projects.¹⁹⁰

The largest French project that was implemented using this method was the railway between Paris, Marseille, Lyon and London. Evaluating projects by the cost-benefit analysis is the characteristic feature of the French School –external benefits and costs, the benefits of change and the rate of return for economic and financial norms.¹⁹¹

In the UK, this method was mainly used to evaluate transport projects, such as road between Birmingham and London, the London Underground and reconstruction of the third London airport.¹⁹² The specificity of these projects is mainly related to changing market prices into shadow prices.

Today, the cost-benefit analysis methods are used in more and more countries, including developing countries; these methods are gradually being improved. The above mentioned is proved by the fact that the issue of distribution of income among participants, justification of the general and particular compensation scheme, was not paid attention and only the problem-solving efficiency was focused on.

Later the situation dramatically changed and the main problem became to analyze the distribution of income, particularly, within the scope of "the second best solution" approach.¹⁹³

Consequently, in the end of XX century, evaluation of projects within the scope of the cost-benefit analysis substantially expanded the use of "the second best solution" approach¹⁹⁴ which emphasizes the limited opportunities of the use of the cost-benefit method developed

¹⁸⁹ Financial and Economic Analysis of Development Projects. Luxembourg: Office for Official Publications of the European Communities, European Commission, 1997.

¹⁹⁰ Little I. M. D., Mirrless J. A. Project Appraisal and Planning for Developing Countries. L.: Heinemann, 1974. P. 28

¹⁹¹ Chervel M. L'évaluation économique des projets: Calcul économique publique et planification: les méthodes d'évaluation de projets, nuova edizione. P.: Publisud. 1995. Petit guide de l'évaluation des politiques publiques. P.: La Documentation Française, Conseil scientifique de l'évaluation, 1996.

¹⁹² Commission on Third Airport / 1991 Annual Review. L.: BAA, 1992.

¹⁹³ R.G. Lipsey & Kelvin Lancaster (1956-1957). "The General Theory of Second Best". The Review of Economic Studies, 24(1), pp. 11–32. Reprinted in Robert E. Kuenne, ed. (2000), Readings in Social Welfare: Theory and Policy, pp.48-72

¹⁹⁴ Handbook of comparative public budgeting and financial management / ed. by T. D24. Hammerle N. Private choices, social costs, and public policy: an economic analysis of public health issues. Westport, Conn.: Praeger, 1992.

according to “the first best” theory in the real world, where commodity and factor markets are imperfect and family farms are characterized by various consumer preferences.

The three major problems and the basic directions of the cost-benefit analysis are: 1. Changes of net release and the amount of costs and benefits; 2. Selection of adequate methods for determining the shadow price 3. Putting in appropriate condition cost and benefit time by using social rate of discounting.

1. From the standpoint of economic evaluation, the approach developed by the U.S. National Institute of Standards and Technology is very important. The approach implies the necessity of using private and state return separately.¹⁹⁵ Meanwhile, the return on the positive net economic benefits of the project extend beyond the direct revenue. Distinction between private and public evaluations is considered as the difference between the initial impact, which is equal to the revenue from commercial activities, and further exposure to the recipient, which is consistent with the redistribution effect.
2. One of the important characteristic features of the cost-benefit analysis is that it can be measured in monetary units. The project resulted in a net income will not guarantee that it will increase each participant's net income; so, the measure is applied to the principle of pareto efficiency, but the principle is the potential pareto efficiency, according to which the project is realized as a "benefit" to compensate for their "lost" participants in the loss.¹⁹⁶

Prices for goods that are for sale in an imperfect market, essentially cannot represent the marginal social costs.¹⁹⁷ The shadow price of the product is basis of its social marginal cost. Despite the fact that shadow prices are differs from the goods market price on the imperfect markets, in some cases the market price is used for calculating the shadow price. In any case, the basic idea is that the shadow price depends on how the economy reacts to the State intervention.

Various methods are offered for evaluating costs and benefits. For example: a) Utilizing market prices if they do not differ from the social marginal expenditures; b) Shadow prices which allow adjustment of market prices completing the deviation from social marginal expenditures that exists because of the market imperfection; c) The value of such goods which cannot be sold and is determined based on an individual's behavior. In particular, calculation of the benefit derived as a result of time-saving and evaluation of the benefit derived as a result of decreasing the death rate.¹⁹⁸

There are other approaches as well, based on which trade goods is measured at the border or with the help of world prices, while non-trading goods - the equivalent amount of transportation means (in terms of the international exchange).¹⁹⁹ The World Bank projects are often used to evaluate the marginal pricing method which is a significant advantage is its relative simplicity.

3. During the cost-benefit analysis, putting in appropriate condition cost and benefit time by using social rate of discounting is a very important issue, which is defined in terms of social, state or shadow rate. It shows the alternative costs of the best use of resources on private as well as public sector level. In the of costand benefit analysis of

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¹⁹⁶ Greenward, Bruce. Stiglitz, Joseph E (1986). "Externalities in economies with imperfect information and incomplete markets". Quarterly Journal of Economics 101 (2): 229–264.

¹⁹⁷ Boardman A, D Greenberg, A Vining, D Weimer, 1996. *Cost-Benefit Analysis: Concepts and Practice*, Prentice Hall, Upper Saddle River, USA.

¹⁹⁸ Harvey S. Rosen, Ted Gayer. Public finance. 2009 Edition: 9th. P173.

¹⁹⁹ Little I. M. D., Mirrless J. A. Project Appraisal and Planning for Developing Countries. L.: Heinemann, 1974.

public projects, there are two approaches for determining the appropriate discount rate.

There are three possible criteria while carrying out analysis in the public sector: the private rate of return before tax, weighted average rate of return before tax and the taxation of the private and social discounting rate. The choice is made depending on which sector is oppressed (investment or expenditure?) and what are the preferences of the society and the private markets.

Until 1968, there was an assumption that in the public sector the first approach could be used as the discounting rate for evaluating investments.

Risk factors are making the biggest impact to determine the discounting rate for developing and transitional countries. There is an assumption that it is possible to evaluate projects in the private and public sectors using a single discounting rate.

We agree with the opinion that the current value is to be calculated using different discounting rates, as a result what will be determined whether the current value is positive in case of any rational value of discounting. If the current value is positive, it will be clear that the response is not sensitive to the discounting rate. The sensitivity analysis is an important part of the cost-benefit analysis, after using of which it becomes clear how one parameter of the model changes as a result of the changes of other parameters.²⁰⁰

The research proves that there is no common opinion about certain issues of the cost-benefit analysis; therefore, it can definitely be said that it is widely used for calculating proceeds from socially significant projects and represents successful calculation (felicific calculus) of J. Bentham's utilitarianism²⁰¹. It is also important that it makes possible to compare individual rationality and public (state) sector.

Conclusion:

Thus, for ensuring effective management of limited financial resources in our country, it will be very important to implement world approved methods for evaluating programs and projects. The cost-benefit analysis (CBA) can be used to evaluate economic and social activities of the state. Its power as an analytical tool rests in two main features: costs and benefits are each as far as it is possible and appropriate are expressed in terms of money and hence, are directly comparable with one another; costs and benefits are valued in terms of the economy and society as a whole, so the perspective is "global".

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²⁰¹ Bentham, Jeremy (1789), *An Introduction to the Principles of Morals and Legislation*, London: T. Payne, retrieved 2012-12-12

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