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Attitudes towards the role of Cost–Benefit Analysis in the decision-making process for spatial-infrastructure projects: A Dutch case study



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ABSTRACT

This paper provides a systematic overview of the attitudes of key actors in the Dutch Cost–Benefit Analysis (CBA) practice towards the role of CBA in the decision-making process for spatial-infrastructure projects. The main aim of this paper is to scrutinize the extent to which there is agreement among these Dutch actors in regard to the role of the CBA in the decision-making process. A secondary goal is to provide possible explanations for agreements and controversies among key actors in the Dutch CBA practice. In this study two research methods are combined to study the key actors' attitudes. Firstly, 86 key actors (e.g. consultants, scientists, policy makers) were interviewed in-depth. Secondly, 74 of them completed a written questionnaire. The most important conclusion of this paper is that in the Dutch CBA practice there is agreement that CBA must have a role in the appraisal process of spatial-infrastructure projects. However, there is a lot of controversy among economists and spatial planners in the Dutch CBA practice concerning the value that is and should be assigned to CBA in the decision-making process. Economists predominantly believe that not enough value is assigned to the CBA in the decision-making process, whereas spatial planners predominantly think that too much value is assigned to the CBA. Both economists and spatial planners believe that this controversy is problematic as it results in debates about the pros and cons of CBA instead of the pros and cons of the spatial-infrastructure projects. This paper analyzes some solutions for this controversy.

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1. Introduction

The (Social) Cost–Benefit Analysis (CBA) is a widely used ex-ante evaluation tool used to support the decision-making process in transport in most western countries (e.g. [Grant-Muller et al., 2001](#); [Hayashi and Morisugi, 2000](#); [Odgaard et al., 2005](#); [Vickerman, 2007](#)). Despite its popularity, the role of CBA in decision-making processes for transport projects is a continuous topic of debate in countries and institutions where it is used (e.g. [Hamers et al., 2012](#); [Mackie, 2010](#); [Sager and Ravlum, 2005](#); [World Bank, 2010](#)). The topic of the role of CBA is often discussed in academic literature as well. For the purpose of this paper, we distinguish two categories of literature. One category aims to determine the actual influence of CBA on investment decisions with both quantitative and qualitative analysis (e.g. [Eliasson and Lundberg, 2012](#); [Grant-Muller et al., 2001](#); [Nellthorp and Mackie, 2000](#); [Nyborg, 1998](#); [Odeck, 1996, 2010](#)). The broad picture is that these studies show that planners'/politicians' rankings of investments are to some extent influenced by Benefit–Cost Ratios and CBAs are in some cases used for enhancing project alternatives and for evaluating alternative options (for the same project) but not for making a final decision.

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A second category of literature analyzes the disagreement about the usefulness of CBA as a decision-making support tool, reflects on the actual role of CBA or presents a view on the ideal role in the decision-making process (e.g. Frank, 2000; Lohmann, 1997; Mackie, 2010; Quinet, 2000; Sen, 2000; Shapiro, 2010; Sunstein, 2000; World Bank, 2010). Although this literature produces many useful recommendations for improved use of and the role of CBA in the decision-making process, it should be acknowledged that the analyses and recommendations are solely based on deep knowledge and the perceptions of the author(s).

Based on the literature, we conclude that CBA is used to some extent (in other words, plays some role) in actual decision-making processes in the world. The main aim of this paper is to add to the literature by systematically analyzing the attitudes of 86 key actors (e.g. consultants, scientists, policy makers) in the Dutch CBA practice towards the role of CBA in the decision-making process for spatial-infrastructure projects.¹ This paper also aims to give possible explanations for converging and diverging attitudes towards the role of CBA in a decision-making process based on the 86 actors' perceptions of advantages and disadvantages of CBA.

In our view, analyzing key actors' attitudes towards CBA's role is scientifically relevant in itself because, to the best of our knowledge, this focus on attitudes of actual CBA actors has never been carried out before. The societal contribution of this paper is that the results can lead to more productive and efficient discussions regarding the role of CBA in decision making, because actors with different backgrounds (e.g. economists and spatial planners) may understand each other better if their attitudes towards CBA's role (which may be very different) are made explicit. Additionally, we think that more insight into the converging and diverging attitudes of key actors in regard to the role of CBA can pave the way for more specific scientific research towards (understanding and enhancing) the role of the CBA in practice.

Section 2 presents the research methodology. Section 3 presents the results. Section 4 provides some possible explanations for the results. Finally, Section 5 provides conclusions and discusses the results.

2. Research methodology

We have chosen to select the Netherlands as a case study because we are Dutch researchers and we know the Dutch community and procedures better than those of other countries. In the Netherlands, a guideline for carrying out a CBA for infrastructure projects (the so-called OEI-Guideline, Eijgenraam et al., 2000) was constructed in the year 2000. Since then, a CBA that is in line with the OEI-Guideline has become compulsory in the decision-making process for all large infrastructure projects. Since 2007, it is also obligatory to assess spatial-infrastructure projects, (co-) funded by the Dutch national government, with a CBA (Ministry of transport and water management and Ministry of housing spatial planning and the environment, 2009). Besides a CBA, it is obligatory to carry out an Environmental Impact Assessment (EIA) which, amongst other things, scrutinizes the project alternative that is most favorable for the environment. Both the CBA and the EIA are presented to decision makers.

In the Netherlands, spatial-infrastructure plans are predominantly developed on a regional level. However, regions do have limited financial resources and frequently need to apply for funding by the national government. A positive Benefit–Cost Ratio (BCR) is not a formal requirement for approved funding. The official function of CBA is to provide transparent policy information for the preparation of infrastructure projects, and public administrators are not formally bound to the results of the studies. However, ministers who do not act in line with the results have some explaining to do (De Jong and Geerlings, 2003). In the Netherlands the national government applies the CBA in their decision about the extent to which funding is approved for the specific project. This 'individual approach' is in contrast to countries such as Sweden where CBA is applied to rank large numbers of investments against each other (see Eliasson and Lundberg, 2012). Because of the extensive use of CBA in the Netherlands over the last 13 years, we think that the Dutch CBA practice can be regarded as an interesting case study.

In this study, two research methods are combined – in-depth interviews and a written questionnaire – to study the key actors' attitudes towards the role of the CBA in the decision-making process. Because we did not have an a priori idea about which questions were paramount to ask in the written questionnaire in order to reveal key actors' attitudes towards the role of CBA in the decision-making process, we first interviewed them in-depth. In the interviews, we asked them about their attitude towards the role of CBA. Moreover, we asked them to mention the most important advantage and the most important disadvantage they experience when using CBA in the decision-making process and why they think this is an (dis)advantage. We asked specifically for their perceptions of advantages and disadvantages because we think it is likely that the actors' attitudes towards the role of the CBA in the decision-making process are mainly founded in their assessment of CBA advantages and CBA disadvantages.

2.1. Selection of respondents

In order to obtain a more or less complete overview of Dutch key actors' attitudes towards the role of CBA in the decision-making process for spatial-infrastructure projects, the aim of the research was to interview all the individuals that had an

¹ Because in the Netherlands ex-ante evaluation using CBA is obligatory for all spatial-infrastructure projects (and not only transport projects) applying for co-funding by the Dutch Government, we decided to adjust our aim to this obligation.

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