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Samenvatting

Dit artikel bespreekt de resultaten van interviews met 29 Nederlandse politici (5 oud ministers/staatssecretarissen, 10 Kamerleden, 14 oud-Kamerleden) en 11 topambtenaren over de manier waarop politici de MKBA gebruiken. Politici gebruiken de MKBA voor verschillende doeleinden: 1) in het vormen van een wenselijkheidsoordeel over een project; 2) als politieke ammunitie (opportunistisch gebruik); 3) om ervoor te zorgen dat zijzelf en beslissingen rationeler lijken (symbolisch gebruik). Geen één politicus baseert haar oordeel volledig op de MKBA. Politici noemen zeven barrières voor het gebruik van de MKBA in hun wenselijkheidsoordeel: 1) Mijn standpunt is al duidelijk 2) Ik vorm mijn mening op basis van gesprekken, niet op basis van het lezen van rapporten. 3) Ik vertrouw de onpartijdigheid van de MKBA niet; 4) Ik ben het niet eens met de normatieve uitgangspunten van de MKBA; 5) Ik vind de verklarende kracht van de MKBA beperkt; 6) Ik ontvang de MKBA te laat; 7) Als er voldoende geld is dan is het maatschappelijk rendement van een project minder belangrijk. Kamerleden noemen barrières 3 en 6 als de belangrijkste barrières. Deze barrières worden door bewindspersonen niet genoemd. Het publiceren van de MKBA één of twee maanden voor een debat wordt als belangrijkste oplossing gezien door Kamerleden voor het opheffen van deze barrières. Dit biedt hen de mogelijkheid om de onpartijdigheid van de MKBA te laten controleren door een vertrouweling. Ook kunnen zij potentiële implicaties van de MKBA voor het standpunt nog bespreken binnen de partij. Een barrière voor de implementatie van deze oplossing is dat de meerderheid van de geïnterviewde topambtenaren en bewindspersonen het niet als hun verantwoordelijkheid zien om de MKBA zo snel mogelijk naar de Tweede Kamer te sturen. Een laatste interessante observatie is dat er geen barrières lijken te zijn voor het opportunistische- en symbolische gebruik van de MKBA door politici. Daardoor kan worden geconcludeerd dat politici de MKBA altijd voor deze twee doeleinden zullen gebruiken, maar dat politici de MKBA niet noodzakelijkerwijs zullen gebruiken in het vormen van mening, omdat er verschillende barrières zijn voor het gebruik van de MKBA voor dit doeleinde.

1. Introduction

Cost-Benefit Analysis (CBA) is a widely used economic appraisal method to support the decision-making process for transport projects in most western countries (e.g. Mackie et al. 2014; Naess et al. 2014). The widespread application of CBA explains the voluminous literature examining this method. The literature scrutinizes, amongst other things, substantive improvements of the CBA (e.g. Mackie and Preston, 1998; Mouter et al. 2013a), the attitudes of CBA analysts, civil servants and academics towards CBA (e.g. Beukers et al. 2012; Mouter et al., 2013b) and various studies concluded that there is no (strong) correlation between outcomes of CBAs and political decisions on transport projects (e.g. Eliasson and Lundberg, 2012; Eliasson et al. 2015). Despite this abundant literature there is relatively little empirical research scrutinizing the way politicians – the end users of CBA – use the information provided by CBAs, amongst other things, in evaluating the desirability of a transport project. Notable exceptions are Nyborg (1998) who analyzed how 16 Norwegian Members of Parliament (MPs) use CBA and Sager and Ravlum (2005) who interviewed Norwegian MPs in three consecutive parliamentary processes in 1995, 1997 and 2001. Nyborg (1998) concludes that most politicians found the benefit-cost ratio useful as a screening device to pick projects requiring closer political attention, but few seemed to actually use it to rank projects. Moreover, she found that politicians use CBA in an opportunistic way (only when the study supported their conclusions). Sager and Ravlum (2005) conclude that there are strong indications that Norwegian politicians make decisions first and look to the results of CBAs only afterwards. However, Sager and Ravlum (2005) argue that the institutionalization of CBA has symbolic value for politicians, since the search for and processing of information may itself send signals enhancing the status of the political body. The exhibition of information symbolizes the ability and legitimacy of decision makers and the political enterprise will be respected more by the people when politicians pretend to make decisions in a proper way by exhibiting expertise and use generally accepted information. Since the data analyzed in Nyborg (1998) and Sager and Ravlum (2005) was gathered twenty to fifteen years ago in one country (Norway) it is worthwhile to scrutinize how politicians use CBA in further research. This study analyzes how politicians use CBA in another context being the Netherlands by interviewing 29 politicians and 11 top-level civil servants. The remainder of this paper is organized as follows: section 2 provides a brief discussion of the knowledge utilization literature, section 3 outlines the methodology. Section 4 provides a brief description of the position of CBA in the Dutch planning process for infrastructure projects. Section 5 presents how politicians use CBA in forming their opinion. Section 6 discusses barriers hampering the use of CBA by politicians in forming their judgment. Section 7 outlines how politicians use CBA in interaction with other politicians and stakeholders. Section 8 discusses the symbolic use of CBA by politicians. Section 9 presents and discusses the solutions mentioned by politicians to enhance their use of CBA in forming their opinion. Sections 10 and 11 provide a discussion and conclusions.

2. Literature on the use of research in policy-making

Although there are little studies which analyze the way politicians use CBA, the literature on utilization of social science research in public organizations located outside the scholarly community is large. The main discussion in the knowledge utilization literature is centered around four types of knowledge use being instrumental use, conceptual use, opportunistic use and symbolic use (e.g. Beyer and Trice, 1982; Amara et al., 2004). Weiss (1977) notes that in the end of World War II program evaluators and university researchers were expecting that their findings would be used instrumentally which she

defines as a direct and immediate implementation of the recommendations emanating from a study in a demonstrable way. Several scholars (e.g. Feldman and March 1981; Knorr; 1977; Pelz 1978, Weiss, 1977) note that research is mainly used for other purposes than instrumental use. They observed that research is used for general enlightenment, to rethink comfortable assumptions and changes ways of thinking towards an issue (conceptual use). Conceptual use implies that research influences action, but in a less specific, more indirect way than instrumental use. Results of studies can gradually change the focus of the debate and/or accelerate changes in opinions. Moreover, the use of research as political ammunition was observed (opportunistic use) by several scholars (e.g. Albaek, 1995; Lindblom, 1965) and other scholars (e.g. Knorr, 1977) observed that knowledge was used to improve political reputation and to gain or maintain power (symbolic use).

3. Methodology

28 politicians who participated in the decision-making process around transport projects in the period 2003-2014 were interviewed for this study: 4 former ministers or undersecretaries of Transport¹ or Finance (from now on: executives), 10 Members of Parliaments (MPs), 12 former MPs and 2 Deputies of Transport of large provinces.² Moreover, 11 top-level civil servants of the ministries of Transport and Finance were interviewed (1 Secretary-General, 4 Director-Generals, 3 Directors and 3 political assistants). The main argument for interviewing the bureaucrats is that they witnessed how (several) executives used CBA in their decisions.

The politicians were asked to talk, amongst other things, about four topics: 1) How do politicians use CBA? 2) To which extent do politicians use CBA in forming their opinion? 3) What explains that politicians assign much (or little) value to CBA in forming their opinion? 4) What improvements can affect this use in a positive way? For each topic several clarifying questions were asked (e.g. Could you give an example? Could you elaborate on this topic and explain this a bit further?). Moreover, when respondents seemed to refer to any of the types of knowledge use discussed in section 2 this was verified by the respondents ("can I interpret this statement as opportunistic use?"). The option of full anonymity was offered to respondents, since some respondents were only willing to cooperate under this condition. To safeguard full anonymity all respondents are denoted as females (her or she). To avoid misunderstandings and interviewer bias a summary of the interview was sent to the politicians for approval. When changes and corrections were proposed these were incorporated into the final version of the material. To enhance the reliability and the tractability of the observations and conclusions of this study respondents were asked whether they would agree with a publication of the summary of their interview on an open-access website.³ Another academic verified the

¹ Between 2003-2010 this ministry was called the ministry of Transport, Public Works and Watermanagement and after 2010 this ministry was called the ministry of Infrastructure and the Environment. In this paper the ministry is labelled as the Ministry of Transport.

² All MPs who acted at least two times as spokesman in the annual debate around National Transport Infrastructure Projects were approached for an interview. Moreover, two other Members of the Standing Committee who did not fulfill this criterion, but were regarded by respondents as important members of this committee were approached. The distribution of politicians per party was as follows: seven Liberal and Christian-Democrats, five Labor, three social-liberal, two socialists and Christian Union, one Green party and populist-rightwing. Seven MPs rejected the request for an interview. It was especially regrettable that two members of the Green Party and the nationalistic party and one member of the Party of the Animals rejected the request for the interview, since this leads to an underrepresentation or non-representation of the use of CBA by these political parties in this research. From the eight (former) ministers or undersecretaries approached, four rejected the request or did not reply on the invitation.

³ Summaries of 26 interviews with politicians and 2 interviews with top-level civil servants were published on the website www.mkba-informatie.nl.

reliability of the findings derived from the 11 interviews which were not published on the website.

Although this study gives good insight in the use of CBA by Dutch politicians in the period 2003-2014, the sample is not large enough to draw any firm quantitative conclusions from this study like: 'more politicians stated that they use CBA for purpose A than purpose B, hence CBA is used more for purpose A than B'. Another reason why it is tricky to draw such conclusions is that certain topics were discussed at length with some respondents, while there was no time to discuss these issues with other respondents, since some interviews were interrupted by a respondent receiving an important phone call, amongst other things, and the duration of the interviews varied between 20 minutes and 120 minutes.⁴ Hence, this study should be regarded as an inventory of: 1) The way CBA is used by Dutch politicians; 2) The barriers which hamper politicians to weigh CBA in their desirability judgment; 3) Solutions for enhancing the use of CBA by politicians in their desirability judgment. Further research should reveal whether the results hold in a more general context.

4. Position of Cost-Benefit Analysis in the Dutch planning process

The aim of this section is providing the reader with some information about the position of CBA in the planning and decision-making process for infrastructure projects in the Netherlands which especially enables readers who are not familiar with the Dutch planning process to put the results of this study in the right perspective. For reasons of succinctness my aim is not to embark on an exhaustive discussion of the Dutch context. For further information regarding this topic, see de Jong and Geerlings (2003), Ministry of Infrastructure and the Environment (2010) and Mouter (2014). The first phase in the Dutch planning process for spatial-infrastructure projects in which the National Government is involved is the 'initiative phase'. In this phase ministers (assisted by civil servants) discuss with politicians from (five) regions which challenges should be tackled. If both the minister and the regional politicians agree that a challenge is of major importance they mutually decide that a project should proceed to the 'exploration phase'. In the first year of the 'exploration phase' a thorough problem analysis is carried out and solutions are generated by a project team of civil servant who are in close contact with stakeholders and citizens. At the end of the first year of the 'exploration phase', three potentially favorable alternatives are selected. Next, the effects of the three alternatives are evaluated in a CBA and an Environmental Impact Assessment (EIA). In the Netherlands, a lively review culture exists for CBAs that are carried out (Mouter, 2014). The extent to which CBAs have followed the standardized Guidelines (Romijn and Renes, 2013) is verified by institutes that are part of or affiliated with the Ministry of Infrastructure and the Environment and in some cases by the Netherlands Bureau for Economic Policy Analysis (Mouter, 2014). Informed by the studies the minister selects one 'preferred alternative' in consultation with the regional politicians. Subsequently, the project is included in the National Program for Transport Projects. The influence of civil servants on the political decisions varies by minister. From the interviews with top-level civil servants it follows that some executives are very open to ideas of civil servants, whereas other executives primarily expect that civil servants help them with realizing their goals. Finally, the Parliament is an important actor in the decision-making process for infrastructure projects. Parliament can select a different solution than the 'preferred alternative' of the minister or make a 'no go' decision, they can change priorities in National Budget for Transport Infrastructure and demand that the minister should reserve money for a project. It can be concluded that (the role of CBA in) the Dutch context differs from countries such as Sweden and Norway. In these countries CBA is

⁴ The interview started with various questions about the extent to which politicians use CBA in forming their opinion and on explanations for their high or low use of CBA. In many occasions there was only little or no time to talk about symbolic use of CBA. Hence, based on this study it cannot be concluded that politicians make more use of CBA in forming their opinion than for symbolic reasons or vice versa.

formally applied to rank large numbers of investments against each other (see Eliasson and Lundberg, 2012). Moreover, Eliasson et al. (2015) explain that the Swedish Transport Administration and the Norwegian Road Administration make a publically available proposal of projects that should be included in the National Plan for infrastructure projects. Hence, for these countries it is possible to make a clear distinction between civil servants' use of CBA and politicians' use of CBA, whereas it is difficult to identify how political decisions in the Netherlands are influenced by civil servants.

5. Politicians' use of CBA in forming their opinion

In the interviews politicians state that they use CBA in forming their opinion about: 1) the desirability of a specific transport project; 2) selecting the best alignment of a transport project; 3) prioritizing transport projects. It is noteworthy that there is both a group of politicians claiming that they use CBA predominantly for evaluating the desirability of a transport project (purpose 1) and a group who does not use CBA for this purpose, since they believe that the outcome of CBAs can easily shift from positive into negative and vice versa as a result of the inherent uncertainties in CBAs. The latter group of politicians predominantly uses CBA to assess the desirability of different alignments of a specific transport project (purpose 2). Respondents argue that CBA is rarely used to rank projects against each other. However, they mentioned an important exception. Several respondents confirmed that in 2010 during the major budget cutbacks in the Netherlands – also called 'the broad reconsiderations' – which were the result of the financial-economic crisis some projects were terminated based on their negative CBA score. Note that CBA was not used as a ranking tool (benefit-cost ratio of 1.5 is better than 1.2) but a positive CBA score was used as a threshold (projects with a benefit-cost ratio lower than 1.0 are in the danger zone). What explains the limited use of CBA for prioritizing projects? Respondents outline that political debates generally focus on specific projects. Do we want this project or not and if we want this project, what is the preferred alignment?

None of the politicians participating in this study argued that they base their judgment on a project's desirability exclusively on the results of CBAs. However, from the interviews with executives and top-level civil servants it follows that ministers of Finance often use CBA in an instrumental way ("the CBA is negative so we should not approve this project", "we should approve the alignment with the best CBA score"). Apart from the above mentioned broad reconsiderations it seems that when Executives of Transport and MPs use CBA in forming their opinion, they use it in a conceptual way. The CBA is at best one of the factors which influences their judgment. Some politicians state that they regard a very negative CBA as a warning signal that it is potentially foolish to support the project. Politicians also note that the results of a CBA can gradually change the way of thinking of the political enterprise towards the desirability of a project. One MP states that a negative CBA result can lead to a lot of questions, a decision to reconsider the political party's viewpoint when the questions are not answered in a satisfactory way, and in the end even to a change of viewpoint. Another MP argues that she decided to reconsider her viewpoint towards a transport project when several authoritative individuals in her network recommended her to reconsider her viewpoint because of a very negative CBA.

6. Barriers hampering the use of CBA by politicians in forming their judgments

The extent to which politicians use CBA in forming their judgment on the desirability of (alignments of) transport projects differs significantly between politicians. While some politicians do not use CBA at all in forming their opinions, others argue that CBA is a very important factor in their judgment. Moreover, it seems to be relatively easy for politicians to indicate whom of their colleagues assigns much (or little) value to CBA in forming their judgment. Politicians mention seven barriers which can hamper their use of the results of a CBA.

Barrier 1: The process of forming an opinion is trivial

Since politicians are very busy people they have to be highly selective with reading research reports. Hence, the probability is relatively low that they consult a CBA report for forming their judgment when they consider forming their opinion about a project a trivial task which for instance occurs when the merits of a project clearly (not) match the ideology of the political party. For instance, the probability is relatively low that the opinion of a member of the Green Party is influenced by a CBA when a transport project breaches a nature reserve, since the politician will oppose the project regardless the CBA outcome. Moreover, politicians explain that a decision task can be regarded as too trivial to consult a CBA in forming their opinion when their viewpoint is clear before the CBA is published which can occur for various reasons. One reason mentioned is the inclusion of a project in the coalition agreement. Several politicians argue that they do not even read the CBA report when their viewpoint with respect to a project is already established. One politician illustrates this as follows: *"why do your homework when you already know what you think about a project or what you should think about a project."*

Contrastingly, when the decision on a transport project is considered to be a 'hard case' the probability seems to be higher that politicians will weigh the results of a CBA. They argue that this, amongst other things, occurs when some of the consequences of the project are desirable and others undesirable from the perspective of the political party. Moreover, politicians characterize a state of affairs in which they supported a transport project during a campaign and think about reconsidering this promise after the elections as a 'hard case' in which probability is relatively high that they assign value to the results of CBAs in their decision to (not) change their view. Finally, politicians state that probability is relatively high that they regard projects involving an investment of a billion euros or more as 'hard cases' and thus assign weight to the CBA in forming their opinion.

One politician endorses that the difficulty of the decision on a transport project influences the extent to which a CBA will be used in her judgment, but that she also memorized a project in which a negative CBA score enhanced the difficulty of the decision on a project which she supported before the CBA was published. However, the politician regarded this as an exceptional case. Nevertheless, it can be concluded that the causality between 'the extent to which a CBA is used' and 'the difficulty of a decision' can work both ways.

Barrier 2: Politicians prefer forming their opinion based on conversations rather than on reading reports

Respondents remark that the personality of politicians influences the extent to which they use results of CBAs in their judgments. Some politicians like to gather information by reading reports about a topic before they make up their mind, whereas other politicians like to obtain information about a project's merits through conversations. Respondents make a distinction between 'readers' and 'listeners'. 'Readers' (some respondents also call these politicians 'file eaters' or 'technocrats') tend to use research reports such as CBAs in forming their opinion, but this does not imply that they uncritically follow the results of CBAs. 'Readers' are inclined to assess the assumptions made by the CBA analysts themselves. If they disagree with an assumption there is a chance that they disregard the information of the CBA. 'Listeners' tend to decide on the desirability of the project after conversations about the merits of the project with other politicians, stakeholders and experts. In these conversations they ask questions to elicit the pros and cons of a project, amongst other things. Based on the information they gathered in the conversations they make up their mind about the desirability of a project. One politician who characterizes herself as a 'listener' states that she admires the MPs who aim to read reports such as CBAs, but at the same time she regards being a 'reader' as very ineffective: *"As a MP you do not have the time to read CBAs and research reports for all infrastructure projects. If you do have the time the question is whether you can comprehend the methodology sufficiently and if you can comprehend it the question is whether you can trust the impartiality of the study. Hence, it is far more effective to build a network of experts around you who can inform you."* This quote illustrates that the

desirability judgments with respect to transport projects of MPs who are 'listeners' can be influenced by results of CBAs in an indirect way through conversations with people in their network who studied the reports. Executives who characterize themselves as 'listeners' emphasize that predominantly civil servants inform them based on the results of CBAs and other research reports. Hence, despite the fact that MPs and executives who are 'listeners' rarely read CBA reports, their opinion can be influenced by results of CBAs through conversations with people who did study the reports.

Finally, it was observed that all politicians who were trained as economists or were employed by institutes such as the Ministry of Finance before they became MP or executive can be classified as 'readers'. However, it should be noted that several non-economists characterized themselves as 'readers' as well. For instance, one MP explained that the mere reason why she read an extensive amount of reports to prepare herself for the debate on the National Program for Transport Projects was that she wasn't an excellent debater. She noticed that the result of being a 'reader' was that colleagues perceived her as 'a person who always knows where she was talking about' which enhanced her political influence.

Barrier 3: Politicians don't trust the impartiality of the CBA

Politicians who articulate that they assign an important value to CBA in evaluating the desirability of a transport project frequently state at the same time that they feel that CBAs are carried out in an impartial way. On the other hand, politicians who state that they do not assign much value to the results of CBAs are often the same politicians who argue that they distrust the impartiality of CBAs. In the interviews three levels of distrust are identified. Firstly, there is a group of politicians who are convinced that results of CBAs are deliberately manipulated. One politician illustrates this as follows: *"I am convinced that under the responsibility of the minister or possibly ordered by the minister CBA analysts have been dictated to provide (un)favorable outcomes for a project the minister (did not) pursued"*.

A second group of politicians has more trust in the impartiality of results of CBAs. However, these politicians believe that CBA analysts implicitly make political choices while carrying out a CBA which influences (the communication of) the results. Politicians mention, amongst other things, the following types of 'implicit influencing':

- The institution who orders the CBA (in most cases the ministry) is also responsible for delivering information which is used in CBAs. If this institution has a preference for a (alignment of a) transport project probability is high that the delivered information is positive about the project;
- All CBAs for large transport projects are supervised by a steering group in which civil servants of the institution which commissions the CBA participate. Important assumptions are made in an interplay between CBA analysts and the steering group. The steering group can influence assumptions and thus the outcomes of CBAs.

The third group of politicians barely distrusts the impartiality of CBAs. However, these politicians do not blindly trust CBAs. Some of the politicians argue that they verify the plausibility of the assumptions made in CBAs themselves or ask other people to verify the CBA for them.

Although it is not the purpose of this study to draw any quantitative conclusions it is interesting to observe that the second group of politicians is rather large compared to the first and third group. Relatively many politicians believe that the results of CBAs are implicitly influenced. Moreover, it is striking that three out of four politicians who had experience with the CBA or similar quantitative methods as academic or as consultant before they became MP or (national) executive can be classified in this second category of politicians. These 'former researchers' stated that as a result of their experiences with CBA and affiliated quantitative methods they assign relatively little value to the outcomes of CBAs in their political life, since they experienced that assumptions are implicitly influenced by the political beliefs of the analyst and/or the political interest of the commissioner of the study. One 'former researcher' experienced that especially the non-

monetized effect estimations which are the foundation of a CBA can be influenced by 'shifting the buttons in the model'. The respondent illustrates this with an example from her own experience in which she had to assess the effects of an infrastructure project. The first model run produced too low values. Subsequently, the analysts adjusted some assumptions and provided new model estimations. The second model run produced unrealistically high values. The outcomes were discussed with a group of civil servants and some decisions were taken. The respondent experienced that the decisions of this group depended on the travel experiences of the individuals: *"a person who travels by train makes a different choice than a car driver who detests public transport"*. This politician thinks it is a problem that citizens and stakeholders expect that a politician follows the outcomes of a study which is based on arbitrary – and politically loaded – choices made far out of a politicians' sight.

It is interesting to note that although politicians disagree on the extent to which results of CBA reports are manipulated there is wide consensus among politicians that it happens that the tone and the selection of the conclusions of the CBA is influenced by civil servants operating under the responsibility of the minister. For instance, one politician states that she experienced that the formulation of conclusions of a CBA are massaged until the interpretation is as favorable as possible for the minister. Favorable conclusions are highlighted in the executive summary, whereas controversial assumptions and unfavorable conclusions are concealed somewhere in the report. According to the politicians especially the steering group supervising the CBA reflects on the way conclusions are highlighted and phrased in the report.

Barrier 4: Politician contests the normative premises implicit in CBA

Some politicians argued that they assign a lower value to the results of a CBA in their judgment, since they do not endorse the fundamental principles of CBA methodology. Some of these politicians note that as a result of the discrepancy between the premises of CBA and their belief system projects which coincide with their own belief system score relatively poor in CBAs. One politician argues that using CBA when assessing transport projects implies that one steps into a neo-liberal frame in which one is only busy with questions like: 'can we cut in the costs?' and 'can we make more profit than we already do?' Contrastingly, her political view is that Government should strive for preserving a living standard when citizens derive well-being from their current living standard. To illustrate, she believes that the coherent Dutch rail network is valuable from a societal perspective, amongst other things, because people not possessing a car can easily travel from A to B. This should be an incentive for preserving the network in its current state even when some of the elements are not profitable from a consumer perspective. The politician states that she assigns relatively little value to CBA results compared to a liberal colleague who wants to scrutinize the social profitability of each element of the Dutch rail network and, subsequently, contest the necessity of each element with a negative CBA score.

Several politicians argue that in general transport projects in the urbanized Randstad perform better in CBAs than projects in the rural areas of the Netherlands, since more people benefit from transport projects in the Randstad. According to the politicians following CBA results would lead to investing severely in infrastructure projects in the Randstad and only marginally in the rural areas. One politician notes that it is the other way around for the siting of hazardous facilities. If one makes CBAs for power plants and CO₂ repositories the result will be that all hazardous facilities are shifted to the rural areas because they can do harm to more people in the urbanized Randstad. Several politicians think that for reasons of distributional equity also infrastructure projects – and other positive Government policies – should be implemented in the rural areas albeit low CBA scores and not all hazardous sites should be allocated to the rural areas despite relatively positive CBA scores: *"tax payers do not only live in the Randstad but also in the rural areas. Hence, people in the rural areas should also receive some beneficial projects in return for their taxes"*.

Barrier 5: Politicians think that the explanatory power of CBA is limited

Politicians mention the limited explanatory power of CBA as a reason why they assign relatively little value to results of CBAs. Some politicians are of the view that effects of infrastructure projects are difficult to predict, since it is hard to predict how human beings and companies respond to a transport project (especially in the longer run). Several respondents note that the consequence of the limited explanatory power is that CBA is a more useful instrument for assessing transport projects from which the majority of the effects can be estimated with considerable certainty than for assessing projects pursuing (uncertain) long term strategic effects like catalyzing economic development in a specific area. Politicians emphasizing the limited usefulness of CBA for assessing the latter type of projects in all cases mentioned several examples of projects which brought the Netherlands prosperity although this positive effect could not be assured beforehand. The essence of the politicians' argument is that the investment strategy of a country will be too conservative to compete with other European countries when one would systematically follow the results of CBAs. The politicians argue that when one aspires to beat the competition one should invest in conservative projects but also in 'high risk high pay off' projects despite poor CBA scores. One politician remarks that CBAs deny the benefits of proactive investment, since a standard conclusion of CBAs is that policy makers have to delay the construction of a transport project until transport problems are untenable, since this optimizes the benefits of the project. This politician seems to assign lower value to the CBA since – in her view – CBA neglects benefits of solving problems before they arise.

Several politicians believe that CBAs focus too much on the costs and benefits for the people who are directly affected by the transport project. These politicians claim that as a consequence of this narrow focus following the results of CBAs on a systematic basis results in overinvestment in the urbanized Randstad and underinvestment in the rural areas. Their line of reasoning is as follows: when one follows CBA results the consequence will be that one invests heavily in the Randstad and marginally in the rural areas; as a result the attractiveness of the Randstad enhances compared to the rural areas which leads to reallocation of people, amenities, economic activities and traffic from the rural areas to the Randstad; this will lead to more congestion in the Randstad and a need for more (expensive) infrastructure projects. According to the politicians this process will repeat itself and is a very costly strategy. The politicians believe that it is far more cost-effective to spread investments all over the country and safeguard that people have a reason to stay in the rural areas. The politicians believe that following CBA outcomes – which disregards these 'second-order effects' and thus has a limited explanatory power – in decision-making is a risky strategy. One politician articulates this as follows: *'the consequence of following results of CBAs is that congestion problems in the Randstad will only magnify and livability in the rural areas decreases which is not very CBA-proof in my opinion'*. Hence, these politicians think that investing intensively in the Randstad as a result of CBAs pointing in this direction is not only unfair (see barrier 4) but also inefficient.

Barrier 6: Politician receives CBA too late

Especially MPs state that it is difficult or even impossible to use the results of a CBA in forming their opinion about the desirability of a transport project when they receive the CBA only shortly before the debate in which decisions are made with respect to the transport project. When they receive the CBA long before a debate probability is higher that they use this information when determining their viewpoint. MPs mention two reasons why a CBA which is published shortly before a debate will have at best a marginal impact on their viewpoint.

Firstly, politicians state that they need time to verify the quality and the impartiality of the CBA. Politicians prefer minimizing the probability that they determine their viewpoint based on incorrect or colored information. MPs argue that they employ different strategies to verify the quality and impartiality of CBAs before they decide to weigh the results of a study in their viewpoint. The majority of politicians asks confidants

in their personal network or the research bureau of the Dutch Parliament⁵ to do a verification. One respondent claims that she assesses the credibility of CBAs through monitoring the public debate around a CBA in the media. Several politicians state that they want to ask substantive questions to the CBA analysts – directly or via the minister – to assess the merits of the CBA.

A second argument which is brought forward by politicians to underpin that probability is low that they assign weight to CBA results when they receive the study a few days before the debate is that they have to coordinate their viewpoints with members of their political party and sometimes also with other politicians. Although MPs emphasize that the process of forming opinions with respect to transport projects is a continuous process this process accelerates prior to the debate in which the National Program for Infrastructure Projects is discussed. At which point in time the preferences of the MPs which will be articulated in the debate are set in stone is not clear. However, a politician from a large party states that five weeks before the debate the MPs of his party which are part of the 'infrastructure committee' already try to reach consensus and make a proposal which will be discussed three weeks prior to the debate in their political party. This proposal also includes deals with other political parties ("if you vote for our project we will vote for your project"). After the consultation within the political party the preferences which will be articulated in the debate are ratified. Hence, in theory it is possible that the preferences of the political party are reconsidered when a CBA is published within three weeks before the debate, however in practice probability is negligible that preferences are reconsidered after the preferences are ratified in the political party. Hence, a CBA can have more impact on the viewpoints of MPs when the study is published before politicians start with forming their definite viewpoints. In the Dutch practice it happens regularly that CBAs are published very shortly before the debate. For instance, for the two major infrastructure projects which were decided upon in 2014 (Ruit Eindhoven, 700 million euros and Ring Utrecht, 1 billion euros) the CBAs were published one working day and three working days before the debate respectively. In contrast to the two 'bad examples' discussed above MPs also mentioned 'best practices' in their interviews. They experienced the timing of the CBA in the decision-making process around a high-speed rail to the North of the Netherlands (Zuiderzeelijn) as satisfying. MPs recalled that the CBA results were available in a conceptual phase of the decision-making process which made it possible that their thoughts about the project were challenged and enriched by the study. MPs clearly think that a CBA in the conceptual phase of the decision-making process (and updating the CBA along the way) is more useful than a CBA which is published a few days before the final debate about the (dis)approval of a (alignment of) a project.

Barrier 7: Politicians care less about the social profitability of a project when there is enough money

It is noteworthy that politicians who served as MP or national executive of Transport during or after the budget cutbacks which were the result of the financial-economic crisis (period 2010-2014) seemed to make more use of CBA results than their counterparts who served before the crisis (especially the period 2003-2007). Moreover, four top-level civil servants who worked close to Ministers of Transport in the period 2003-2014 endorsed this observation. One of these top-level civil servants started her interview spontaneously with remarking that CBA plays a larger role when budgets are under pressure because it is necessary to make sharp choices. According to this civil servant there is more room to 'play a little bit with the money' when there is enough money.

Discussion of seven barriers

To give the reader an indication of which barriers are considered to be most important by politicians it is useful to remark that MPs especially identify barriers 3 and 6 as decisive barriers. When MPs don't trust the impartiality of a CBA and/or receive the information of

⁵ The Research Bureau for Government Spending is a research institution with twelve persons which works for the Parliament.

the CBA too late probability is negligible that they will use the results of the CBA in their judgment. Contrastingly, barriers 3 and 6 were not mentioned as key barriers hampering the use of CBA by executives. One civil servant states that it happens frequently that executives take decisions already months before the completion of the CBA. However, since executives can receive (a draft of) a CBA report (verified by their civil servants) well in advance if they would like to assign weight to the CBA in their judgment, the timing of the CBA does not seem to be a barrier for use. Barriers 1, 2, 4, 5 and 7 were all mentioned as 'very important' by one or more interviewed national executives or top-level civil servants reflecting on the use of CBA by their superior(s). Hence, it is difficult to pinpoint the barriers that is decisive for explaining the (non) use of CBA by executives.

7. Use of CBA in interaction with other politicians, stakeholders and citizens

In the interviews politicians argued that they use CBA not only to form their own opinion, but also as an argument in discussions with other politicians, stakeholders and citizens. This section first discusses the use of CBA in political debates and, subsequently, the use of CBA in political bargaining processes behind the scenes.

7.1 The use of CBA in political debates

Many politicians interviewed for this study argue that they use the results of CBAs in an opportunistic way in political debates. When the CBA does not support their opinion they will criticize the impartiality, quality and validity of the study. However, they emphasize the importance of CBA when the results support their opinion even when they did not use CBA in forming their own opinion. The late publication of the CBA and lack of trust in the impartiality are not considered as barriers for using CBA as political ammunition. The CBA is regarded as a very powerful tool which can be used by executives for rationalizing decisions and to 'kill' the political debate. In these occasions the executive reasons as follows: 1) All effects which are brought forward by the political opposition are analyzed in the CBA; 2) The CBA is positive (negative) about the project; 3) Hence, we approve (reject) this project. From the interviews it follows that the political opposition predominantly uses the CBA in their argumentation when the decision of a national executive is not in line with the CBA. Especially executives explain in their interview that a negative CBA for a project they have to defend in Parliament implies that preparing their argumentation takes more effort. One executive notes that the result of a negative CBA is that you have to come up with other arguments to underpin why you want a certain project. Two executives argued that they coordinated their argumentation with the argumentation of the MPs representing the political coalition when the CBA of a project they wanted to approve was negative, since they anticipated that the political opposition would heavily attack the approval of the project during the debate. Although there are some politicians who argue that executives have to put more effort in defending a project with a negative CBA, there are also respondents who experience that CBA eases the life of executives. According to these respondents executives can use CBA as a single argument when the study supports their opinion and executives can use some standard arguments to defend the approval of a project despite a negative CBA (e.g. "if we used CBA in the past we would have never build prosperous projects such as The New Waterway and the Erasmusbridge", "politicians uncritically following CBAs care about numbers, but I care about people", "everybody in this region sees that we have to approve this project to relieve the 6th city of the Netherlands from congestion, except some economists who only sit behind their computer" etc. etc.).

7.2 The use of CBA in bargaining processes behind the scenes

In the interviews politicians and civil servants argued that CBA is also used in bargaining processes behind the scenes. A positive CBA strengthens the position of advocates of a project in bargaining processes and vice versa the position of a project's antagonists is strengthened by a negative CBA. This section discusses five bargaining settings in which CBA is used.

Firstly, the minister of Finance uses a negative CBA to kill a project proposed by the Minister of Transport and vice versa the Minister of Transport tries to convince the

Minister of Finance with positive CBAs. It should be noted that in the Netherlands the Minister of Finance is not involved in the decision-making process for all infrastructure projects. The Minister is only involved in projects which are decided upon at the Cabinet level. There is consensus among the respondents that there are no clear criteria to determine whether the Cabinet should decide on the project or the Minister of Transport is able to decide upon a project without coordinating this in an intensive way with the other ministers. However, respondents argue that it is very likely that projects which are politically controversial, projects with high costs (one billion euro or more) and projects which are considered to be unwise by civil servants of the Ministry of Finance will have the attention of the Minister of Finance and can ultimately be discussed in the Cabinet. One former Minister of Finance interviewed for this study states that she aimed to kill all large infrastructure projects with a negative CBA. Moreover, this former minister recalled that in her term no projects with a negative CBA ratio which were discussed in the Cabinet were approved. One top-level civil servant observed that this attitude of the Minister of Finance also assured that the Minister of Transport took the results of CBAs seriously.

Secondly, the CBA is used by the Minister of Transport and regional politicians to convince each other. In the Netherlands, the Minister of Transport has two meetings each year with regional politicians in which they discuss the mutual ambitions in a region. The minister – or top-level civil servants who act on her behalf – regularly uses a negative CBA as an argument for not funding a project in the region during these negotiations. It is interesting to note that several respondents stated that a benefit-cost ratio (BCR) of 0.5 is the threshold for rail projects. According to respondents the rationale is that rail projects rarely have a BCR higher than 1 and using a threshold of $BCR > 1$ would imply that no rail projects will be build which is regarded as undesirable. A low BCR can also be used as an argument by a minister to order the region to optimize the project in terms of societal costs and benefits. Moreover, regional politicians use positive CBAs to persuade the minister to invest in a project in their region.

Thirdly, the Minister of Transport and MPs use the CBA to convince each other. When the Minister tries to find a majority in Parliament for a project she favors a positive CBA can be an appealing argument.

Fourthly, the MPs which are spokesman for infrastructure use a positive CBA to convince MPs from their own party to allow them to advocate for this project during a debate. Also MPs use a positive CBA as an argument to convince MPs from other parties.

Fifthly, Especially MPs use the CBA results for verifying claims of stakeholders. When one stakeholder argues that the effects of a project are very positive and another stakeholder states that the effect is marginal, politicians hope that the CBA might help them in finding out which of the two claims is more plausible. One politician states that she uses CBA to verify the correctness of arguments brought forward by lobbyists. This politician experiences that some 'lobby projects' will stay on the political agenda until they are built. According to this politician a negative CBA can provide her with arguments to prevent or delay such projects. Another politician argues that a CBA can help with justifying to citizens and stakeholders why tax payers' money is (not) invested in a project. However, several politicians experienced that it is difficult to convince citizens with the results of a CBA. One politician experienced that you run the risk of offending citizens when you communicate to them that the negative effects of a project they will experience are (only) worth X amount of euros. The agitated reaction of a citizen will be "*Who decides that this is worth X euros?*" According to this politician it is far more effective to communicate to citizens the non-monetized effects of a project and tell to them that you think that the positive non-monetized effects (such as accessibility) weigh higher than the negative non-monetized effects (such as noise pollution).

8. Symbolic use of CBA

Politicians also argue that they use CBA for symbolic purposes. One politician states that Dutch citizens like technocratic politicians which was an incentive for her to emphasize that she favored decisions in line with CBAs.

From the interviews with top-level civil servants it follows that one executive uses CBA as a means for depoliticizing the political debate. A top-level civil servant explains that one of her tasks was generating a set of rational arguments which support the – in her words – irrational wishes of the executive. The CBA was one of the arguments included in this 'set of rational arguments'. The civil servant explains that politicians generally have an a priori positive or negative attitude towards certain projects. The challenge is to produce a set of rational arguments which supports all preferred decisions of the executive in a consistent way which makes it difficult for the political opposition to challenge the consistency of the executive's decisions during a debate. *"it is inconsistent that the minister approves project X using arguments A and B and does not approve project Y, since arguments A and B equally support projects X and Y"*. The civil servant argues that inconsistencies in argumentation can force an executive from revealing her real (irrational) argument for (not) supporting a project which is undesirable since, in general, rational arguments are more convincing than emotional arguments and an unconvincing argumentation can – in the worst case – lead to political hassle. Interestingly, one civil servant notes that this symbolic use of CBA can lead to instrumental use. When CBA is included in the 'rational set of arguments' probability is higher that a project alternative with the best CBA score is selected. Moreover, it is interesting to note that civil servants observed that preferences towards consistency in arguments vary between executives. Some executives have no problem with approving a project based on a CBA in one case and not following the CBA in a similar case. These politicians rely much more on emotional arguments and rhetoric capacities to keep Parliament at arm's length.

A third type of symbolic use of CBA identified in this study is that government with carrying out CBAs can signal that they seriously intend to pursue stated goals and indicate to the population affected by a transport project that their problems and concerns are taken seriously. Three respondents (two politicians and one civil servant) state that if government wanted to construct a road in the 1960s and 1970s, they constructed a road without taking complaints of citizens seriously. People were not sufficiently aware of their rights and the possibility to influence the decision-making process through protests, amongst other things. However, in the 1970s the a priori authority of public institutions crumbled away. Citizens demanded public institutions to justify their actions. According to the three respondents instruments such as the CBA and the Environmental Impact Assessment do not necessarily lead to different decisions, but lead to more satisfaction for citizens, since it appears that government scrutinized how the project will affect them and take this into consideration. Hence, CBA may increase the credibility and acceptability of political decisions among the population.

9. Solutions for enhancing the use of CBA in forming an opinion

In the interviews politicians were asked to mention solutions to enhance the extent to which they use CBA in forming judgments. Since, MPs mentioned predominantly solutions for rectifying the two most important barriers for their use of CBA being 'late publication of CBA reports' and 'lack of trust in the impartiality of the study' these solutions will be discussed at length in this section. For barrier 1 'the process of forming an opinion is trivial', barrier 2: 'Politicians prefer forming their opinion based on conversations rather than on reading reports' and barrier 7: 'Politicians care less about the social profitability of a project when there is enough money' no solutions were discussed, because politicians did not seem to regard this as barriers that should or even could be rectified at all.

9.1. Safeguard the early publication of CBA reports

The solution for the late publication mentioned by respondents is relatively straightforward at first glance: 'just publish the CBA one or two months before the debate'. However, executives and top civil servants mention four reasons why it is difficult to prevent a late publication. The first reason for late publication is that no consensus is reached yet with respect to the quality of (effect estimations in) the CBA or the way results of a CBA should be interpreted among civil servants and/or executives. A

controversy around the (interpretation of the) study can delay its publication. A second cause for a delayed publication is that the Cabinet did not decide upon the project yet. As explained, some projects are decided upon at the Cabinet level and when it is still uncertain whether the Cabinet approves or rejects the project, the CBA – which will be used in the underpinning of the Cabinet’s decision – will not be published. According to one top-level civil servant a CBA which is published before the Cabinet reached consensus can be an unguided missile, since MPs and journalists can ask the minister for a response on the CBA, but it is difficult for the minister to give an answer when there is not yet a consensus in the Cabinet. This civil servant states that: *‘if you like a controlled decision-making process you never send a CBA before a Cabinet decision, if you like an uncontrolled decision-making process you send the CBA to Parliament before the Cabinet reached consensus’*. Thirdly, executives can have an interest in the late publication of CBA reports when the results of the CBA reports are not (sufficiently) supporting their decision on a project. If executives want to approve a project and the CBA is negative or neutral a late publication safeguards that MPs, stakeholders opposing the project and journalists do not have the time to read the report carefully (and criticize it) which is at the advantage of executives. A civil servant notes that it was almost a habit of one of the executives she served to delay the publication of reports with unwelcome results. According to the civil servant the executive could get away with this behavior, because she always called the spokesmen of the incumbent parties with an excuse prior to the debate. A fourth cause is time pressure in the process of constructing the CBA. CBA is an end-of-pipe analysis which implies that its completion depends on the completion of input studies (e.g. cost estimations, estimations of transport effects and environmental effects). The publication of the CBA will be delayed when an input study suffers from a delay.

9.2 Enhance the trust in impartiality of CBA

Politicians mention several solutions for enhancing their trust in the impartiality of CBAs. Firstly, early publication of CBAs (see section 8.1) safeguards that politicians (or their confidants) can verify the impartiality of the CBA. One interviewed MP argues that a late publication of a CBA leads to automatic suspicion since MPs cannot determine whether there are benevolent reasons for a late publication of a CBA or that it was strategy of the executive. According to this respondent the only solution is eliminating the possibility of strategic late publication from the system and make a rule that the National Program for Infrastructure Projects will be delayed when the CBA is not published one month in advance. Another group of politicians advocates enhancing the power and capacity of the Research Bureau for Government Spending – which is the small research agency of the Parliament (12 employees) – to verify the impartiality and quality of research reports and also carry out own analyses. However, other politicians contest this solution, since they fear that magnifying the power and capacity of this agency will lead to an arms race with the ministry which they regard as undesirable. These politicians prefer an early publication which gives their confidants and civil society the chance to verify the report. One respondent advocates a middle position which is giving the Research Bureau for Government Spending the same mandate as the US Congressional Budget Office enabling the Bureau to return research reports to the ministries when the timing, quality and impartiality of the report is questionable. Other politicians think that an institution which has no direct interest in CBA results should be the commissioner of CBAs. The ministry just transfers enough money for completing a CBA to this institution. At the same time one politician thinks that this solution is highly unrealistic, since the ministry will think twice before they waive their opportunity to influence the results or the tone of the conclusions. Other politicians emphasize that all the underlying calculations of a CBA should be publicized to enhance the verifiability of the results. Several respondents state that their trust in the impartiality of the results enhances when analysts also communicate prominently which subjective/normative choices they have made in the CBA and to which extent these choices influence the results. This solution aims to iron out both barrier 3 (low trust in impartiality) and barrier 4 (contest normative premises). Moreover, a politician states that the certification of CBA analysts will enhance her trust

in CBAs. Finally, one respondent notes that her trust in the impartiality of CBAs improves when she feels while reading the report that there was space for the analysts to bring in own observations, new alternatives and reflections on the problem definition etc.

9.3 General reflections on the feasibility of the solutions

In the interviews executives and civil servants were asked how they assessed the feasibility of the solutions discussed in section 8.1 and 8.2, since without their support it is difficult to rectify the barriers. However, the majority of the executives and civil servants did not see it as their duty to rectify the barriers. The ultimate goal seemed to be sending a letter to Parliament with properly underpinned decisions about infrastructure projects before the debate about the National Program for Infrastructure Projects starts. Executives and civil servants did not seem to feel a responsibility to inform MPs about outcomes of research projects as early as possible to optimize the possibility that they will use this information in their desirability judgments. They regard Parliament primarily as an institution which controls the (underpinning of the) proposals of the executives.⁶ Executives and civil servants acknowledge that in contemporary politics MPs can act as co-decision makers,⁷ but they believe that it's MPs' own responsibility to search for knowledge when they aspire to form their opinion. Several civil servants put the too late publication of CBAs in perspective by arguing that there is a long period of time between the political decision on a project in the debate on the National Program for Transport Projects and the project's point of no return. According to these civil servants MPs can still reject the project after the political decision to include the project in the National Program.

Moreover, some executives and civil servants argued that it is Parliament's own fault that they decide to proceed with the debate when they feel that there was not enough time to read, process and verify all relevant information referring to the right of the Parliament to delay a debate. Why do MPs not use this right and delay the debate? Interviewed MPs clarify that a debate can only be delayed when a majority in Parliament supports a delay and the MPs from the incumbent parties generally will prevent a delay when they – or the executives – prefer to make decisions during the debate. Moreover, one MP states that the person responsible for delaying the National Program of Transport Projects at the very last moment will not make friends, since people all over the country scheduled this day in their agenda.

An interesting result from this study is that politicians on the one hand endorse that the late publication of CBA significantly affects the extent to which the results of CBA can be used in forming an opinion, but on the other hand make statements which contradict that late publication is a problem which should be solved. Several executives and civil servants qualified the strategic timing of the publication of research reports as 'part of the game' and 'clever tactics'.⁸ It is even more interesting that some MPs who complain about the strategic timing of the publication of research reports at the same time argue that this is something MPs should accept and that people who 'can't deal with it' should look for a different job. Moreover, both executives and MPs defend the legitimacy of the practice that executives deliberately delay publication by arguing that MPs also try to surprise the executives with publishing reports shortly before a debate. One executive claims that MPs who complain about the delayed publication are hypocrites, since they would do the same thing in their role as executive. Influencing the formulation of the conclusions can be considered as 'grey area'. Some civil servants and national executives qualify this as 'within the rules', others state that civil servants should only give feedback on incomprehensible text passages in a report.

⁶ Note that it is questionable whether Parliament can fulfil its controlling function when a CBA report is send to Parliament one working day before the debate.

⁷ In the Dutch practice party leaders of incumbent parties and executives are in close contact. Generally they have a meeting every Thursday.

⁸ It is interesting to note that one civil servant explicitly criticized the strategic timing of the publication of research reports. This respondent agreed that the executive will give the political opposition more room to criticize her. However, she believed that sending research reports on time to Parliament will also improve the attitude of the Parliament towards the executives.

10. Discussion

One key observation of this study is that no barriers for the opportunistic and symbolic use of CBA by politicians were identified. Hence, it can be concluded that it is highly likely that when politicians receive CBAs concerning transport projects they will use it for these purposes. Contrastingly, it can be concluded that politicians will not necessarily use CBA in forming their opinion, since there are various barriers for such use. It is likely that the barriers identified in this study help to explain results of previous studies (e.g. Eliasson and Lundberg, 2012; Nyborg, 1998, Sager and Ravlum, 2005) who found no clear evidence that results of CBAs affect politicians' opinions, but did find evidence for opportunistic and symbolic use of CBA. Hence, the identification of the seven barriers is probably the most important contribution of this study to the existing literature.⁹ It goes without saying that it is interesting to scrutinize the generalizability of these results to other countries applying CBA in further research. Are the identified barriers a 'Dutch disease' or are these barriers also experienced in other practices? And, if the barriers are not experienced in other practices, how did these practices rectified the barriers? Moreover, it is worthwhile to scrutinize the merits of the proposed solutions by politicians for enhancing their trust in the impartiality of CBAs in further research and probably also compare them with other solutions proposed in the literature (e.g. van Wee, 2015 proposes to develop a code of conduct of clients of CBAs to enhance the trust in CBAs).

A practical recommendation resulting from this study for researchers and policymakers who aspire enhancing the extent to which politicians use CBA in forming their opinion – and face similar barriers as identified in this study – is finding solutions for improving the institutional design of CBA to safeguard the early publication of CBA and the trust in the impartiality of CBAs instead of allocating resources to research areas which are widely studied at present (e.g. Value of Time, Value of Statistical Life, improvement of transport models). None of the politicians argued that they would assign more value to CBA when, for example, the Value of Time would be calculated in a more sophisticated way.

The observation of this study that many MPs distrust the impartiality of CBAs or think that the results are implicitly influenced seems to contradict with the lively review culture of CBAs in the Netherlands. Apparently, for many MPs it is more important that a confidant endorses the impartiality of a CBA, whereas it is important for executives that the CBA is reviewed by a second opinion of the Netherlands Bureau for Economic Policy Analysis or an institution affiliated with the Ministry of Infrastructure and the Environment.

Moreover, an interesting result of this study is that executives and civil servants claim that it's Parliament's duty to control the decisions of ministers and they do not feel a responsibility to send CBAs as early as possible to Parliament. The opinion of executives and civil servants that Parliament should restrict itself to its controlling function is supported by classical theorists such as John Stuart Mill (1861) and Max Weber (1919).¹⁰ The essence of Mill's argument for restricting the involvement of Parliament in the executive's affairs is that both the executive power and the controlling assembly perform in the best way when the latter gives the former space to govern. A too extensive involvement of Parliament would distract the assembly from its controlling function. Moreover, according to Mill an extensive involvement of Parliament can deprive executives from governing a country in a responsible way based on competence and shifts the mindset purely to safeguarding that decisions can be easily justified in Parliament. Although theorists support the claim of several executives and civil servants that it is not their responsibility to provide Parliament with information to form their own opinion, there is no support of the phenomenon that CBAs are send to Parliament a few days before a debate. Mill, amongst other things, believes that Parliament should be fully empowered to control the decisions of executives and it is needless to say that Parliament cannot fulfil its controlling function satisfactorily when a CBA report is

⁹ Note that Nyborg (1988) and Sager and Ravlum (2005) also touched upon the barriers 'when there is plenty of money politicians care less about a project's social profitability', 'politicians contest the normative premises' and politicians think that CBA's explanatory power is limited.

¹⁰ One respondent even invokes the work of Max Weber.

published a few days before the debate. Hence, a logical recommendation is sending CBAs sufficiently early to MPs to enable them to control the underpinning of the executive's decision properly. It is difficult to determine how long before a debate MPs should be provided with a CBA to optimally fulfill their controlling function. Based on the interviews a month before the debate on the National Program for Infrastructure Projects seems reasonable. However, when one considers the results of this study that several MPs use CBA in a conceptual instead of an instrumental way – and that various politicians are notified by the results of a CBA through conversations with people who studied the report – it can be argued that MPs need more time to grasp the (interpretation of the) results of a CBA. Since it is observed in this study that politicians apply creative strategies as long as their behavior is 'within the rules' probably the most effective way to realize this goal is by changing the rules and, for instance, demand that the debate on the National Program for Infrastructure Projects should be delayed when the CBA is not available one month before the debate or – to be less ambitious – introducing the rule that 25% of the Parliament can delay the debate when CBA is not available one month before the debate.

Another noteworthy observation of this study is that politicians did not seem to think that three barriers for the use of CBA in forming politicians' opinion should be ironed out through scientific research being 'the process of forming an opinion is trivial', 'politicians prefer to form their opinion based on conversations rather than on reading reports' and 'when there is plenty of money politicians care less about a project's social profitability'. Politicians did not mention any solutions for ironing out the barrier 'the explanatory power of CBA is limited'. Probably 'ex-post analyses' is an effective method to assess and enhance the explanatory power of CBA (for an overview, see Nicolaisen and Driscoll, 2014).

Regarding the barrier: 'politicians contest CBA's normative premises' politicians mentioned as a solution that analysts should communicate prominently which subjective/normative choices were made in the CBA and to which extent these choices influence the results.¹¹ These statements imply that politicians are aware of the fact that CBA is not a neutral, objective or value-free instrument which is well-established in the academic literature (e.g. Bromley, 1990; Driesen, 2006; Nyborg, 2014; van Wee, 2012). Moreover, it can be argued that for these politicians it is not even desirable that they use CBA in forming their opinion, since it brings them further away from (dis)approving projects which (not) coincide with their worldview. From a democratic perspective it can be argued that it is desirable to provide politicians rejecting the normative premises of CBA with alternative information to give politicians with diverging ethical views the same opportunities to make a well-founded judgment about the desirability of policy options. Partly, it is possible to democratize CBA through what can be called 'moral sensitivity analyses'. More specifically, when the heterogeneity in politicians' attitudes towards normative premises in CBA-methodology is established¹² one can identify the extent to which diverging sets of normative preferences lead to different CBA scores. Although moral sensitivity analyses would definitely enhance the usefulness of CBA in a democracy¹³ it is still possible that politicians assign value to other ethical considerations which are excluded in a CBA (see van Wee, 2012 for an overview).

11. Conclusion

Dutch politicians and top-level civil servants were interviewed about the way politicians use Cost-Benefit Analysis (CBA). Various types of use were identified. Politicians use CBA: 1) In forming their opinion about the desirability of transport projects; 2) As political ammunition (opportunistic use); 3) To make themselves and their decisions look

¹¹ As discussed politicians state that a side benefit of this solution is that it enhances their trust in CBA.

¹² Examples of normative parameters in CBA are the rate at which well-being of future generations should be traded off against the well-being of present generations (social discount rate), the dimensions on which the Value of Time should be differentiated (e.g. regions and income groups) and the shape of the social welfare function.

¹³ Note that, in theory, moral sensitivity analyses are useless when a country is ruled by a dictator. Only the social welfare function of the despot is relevant in the appraisal of government policies.

more rational (symbolic use). None of the politicians stated that they solely base their judgment on CBAs. Politicians state that they use CBA predominantly in forming their opinion about the desirability of (the best alignment of) specific transport projects and only in rare occasions to rank projects against each other. They also use CBA as an argument in discussions with other politicians and stakeholders. Especially the Minister of Finance uses a negative CBA in discussions with the Minister of Transport as an argument to kill a transport project. Politicians mention seven barriers hampering the use of CBA in forming their opinion: 1) The process of forming an opinion is trivial; 2) Politicians prefer to form their opinion based on conversations rather than on reading reports; 3) Politicians don't trust the impartiality of CBAs; 4) Politicians contest CBA's normative premises; 5) Politicians think that CBA's explanatory power is limited; 6) Politicians receive CBAs too late; 7) When there is plenty of money politicians care less about a project's social profitability. Members of Parliament identified barriers 3 and 6 as the most important barriers. Contrastingly, barriers 3 and 6 were not mentioned as key barriers hampering the use of CBA by executives. MPs regard publishing CBAs one or two months before a debate as the most auspicious solution for rectifying these barriers. This safeguards that they have the time to: 1) Verify the impartiality of the CBA, for instance by asking a confidant in their network to verify the impartiality of the study; 2) Discuss potential implications of the results of a CBA for the political party's viewpoint. Politicians also mention other solutions to enhance the trust in the impartiality of CBAs like allocating the role of the client of a CBA to an institution with no interests in the results. A problem with the implementation of the early publication of CBAs is that the majority of the interviewed ministers and top-level civil servants did not see it as their duty to inform Members of Parliament about outcomes of research projects as early as possible to optimize the possibility that they will use this information in their desirability judgments. They regard Parliament primarily as an institution which controls the (underpinning of the) proposals of the executives. Some executives and top-level civil servants even qualified the strategic timing of the publication of research reports and influencing the tone of the research report (e.g. which conclusions are emphasized and de-emphasized) as 'part of the game' and 'clever tactics'. A final interesting observation is that no barriers for the opportunistic and symbolic use of CBA by politicians were identified. Hence, it can be concluded that it is highly likely that when politicians receive CBAs concerning transport projects they will use it in an opportunistic and symbolic way, but politicians will not necessarily use CBA in forming their opinion, since there are various barriers for such use.

11. References

- Albaek, E. 1995. Between Knowledge and Power: Utilization of social science in public policy making. *Policy Sciences*. Vol. 28. pp. 79-100.
- Amara, N., M. Ouimet and R. Landry, 2004. New Evidence on instrumental, conceptual, and symbolic utilization of university research in governmental agencies," *Science Communication*. Vol. 26 (1), pp. 75-106.
- Beukers, E., L. Bertolini and M.C.G. Te Brömmelstroet, 2012. Why cost-benefit analysis is perceived as a problematic tool for assessment of transport plans: a process perspective. *Transportation Research Part A* 46 (1), 68-78.
- Beyer, J. and H. Trice, 1982. The utilization process. A conceptual framework and synthesis of empirical findings. *Administrative Science Quarterly*. Vol. 27 (4), pp. 591-622.
- Bromley, D.W., 1990. The ideology of efficiency: searching for a theory of policy analysis. *Journal of Environmental Economic Management*. Vol. 19, pp. 86-107.
- De Jong., W.M., and Geerlings, H., 2003. Exposing weaknesses in interactive planning: the remarkable return of comprehensive policy analysis in The Netherlands. *Impact Assessment and Project Appraisal* 21 (4), 281-291.
- Driesen, D.M. 2006. *Is Cost-Benefit Analysis Neutral?* Syracuse University College of Law.
- Eliasson, J., and M. Lundberg. 2012. Do cost-benefit analyses influence transport investment decisions? Experiences from the Swedish transport investment plan 2010-2021. *Transport Reviews*. Vol 32 (1), pp. 29-48.

- Eliasson., J., M. Börjesson. J. Odeck. and M. Welde. 2015. Does Benefit-Cost Efficiency Influence Transport Investment Decisions? *Journal of Transport Economics and Policy*. 49 (3), pp. 377-396.
- Feldman, M.S. and J.G. March. 1981. Information in organizations as signal and symbol. *Administrative Science Quarterly*. Vol. 26, pp. 171-186.
- Knorr, K.D. 1977. Policy makers' use of social science knowledge: Symbolic or instrumental? In Carol Weiss, ed. *Using Science Research in Public Policy Making*. Lexington: Lexington Books, pp. 165-182.
- Lindblom, C.E. 1965. *The intelligence of Democracy*. New York. Free Press.
- Mackie, P.J., T. Worsley and J. Eliasson. 2014. Transport Appraisal Revisited. *Research in Transportation Economics*. Vol. 47, pp. 3-18.
- Mackie, P., Preston, J., 1998. Twenty-one sources of error and bias in transport project appraisal. *Transport Policy* 5 (1), 1-7.
- Mill, J.S. 1861. *Considerations on Representative Government*.
- Ministry of Infrastructure and the Environment (2010) *Manual for exploration phase spatial-infrastructure projects (In Dutch: Handreiking MIRT-Verkenning)*. The Hague.
- Mouter, N., 2014. *Cost-Benefit Analysis in Practice*. Thesis. Delft University of Technology.
- Mouter, N., Annema, J.A., Van Wee, B., 2013a. Ranking the substantive problems in the Dutch Cost-Benefit Analysis practice. *Transportation Research Part A* 49, 241-255.
- Mouter, N., J.A. Annema and G.P. van Wee. 2013b. Attitudes towards the role of cost-benefit analysis in the decision-making process for spatial-infrastructure projects: a Dutch case study. *Transportation Research Part A*. Vol. 58, pp. 1-18
- Naess, P, J. Andersen., M.S. Nicolaisen and A. Strand. 2014. Transport modelling in the context of the predict and provide paradigm. *European Journal of Transport and Infrastructure Research*. Vol. 14 (2), pp. 102-121.
- Nicolaisen, M.S. and P.A. Driscoll. 2014. Ex-Post Evaluation of Demand Forecast Accuracy: A Literature Review. *Transport Reviews*. Vol. 34 (4), pp. 540-555
- Nyborg, K., 1998. Some Norwegian politicians' use of cost-benefit analysis. *Public Choice*. Vol. 95, pp 381-401.
- Nyborg, K., 2014. Project Evaluation with democratic decision-making: What does cost-benefit analysis really measure? *Ecological Economics*. Vol 106, pp. 124-131.
- Pelz, D. 1978. Some expanded perspectives on use of social science in public policy. In *Major social issues: A multidisciplinary view*, pp. 346-57 (New York, Free Press, 1978).
- Romijn, G., Renes, G., 2013. *Dutch General CBA Guideline*. In Dutch: Algemene Leidraad voor maatschappelijke kosten-batenanalyse. Centraal Planbureau en Planbureau voor de Leefomgeving.
- Sager, T., Ravlum I.A., 2005. The political relevance of planners' analysis: the case of a parliamentary standing committee. *Planning Theory* 4 (1), 33-65.
- Van Wee, B., 2012. How suitable is CBA for the ex-ante evaluation of transport projects and policies? A discussion from the perspective of ethics. *Transport Policy* 19 (1), pp. 1-7.
- Van Wee, B., 2015. Towards a code of conduct for clients of research? *Transport Reviews*. Vol. 35 (1), pp. 1-3.
- Weber, Max. 1919. *Politik als Beruf*. Siebente Auflage, Duncker & Humblot. Berlin. 1919.
- Weiss, C.H. 1977. Research for policy's sake: The enlightenment function of social research. *Policy Analysis*. Vol. 3, pp. 521-45.