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CBA in decision-making processes of EU-27

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Abstract

This working paper investigates the role of CBA in the decision-making process of EU-27 member states. While the role of CBA at the EU decision-making level is well known and analysed, there is a gap in the analysis of the practices of the different member states in the use of this appraisal tool. The study is based on a survey sent to EU-27 country experts from public sector, private sector and academia. It investigates various aspects related to CBA, such as the legal requirements behind it, its preparation stage, the roles and responsibilities of the actors performing the study and its overall impact on the decision-making process. The analysis of the institutional framework governing CBA is fundamental because it influences the way it is conducted, its reliability and potential to improve the decision-making processes. The survey responses show the significant role of CBA within the EU-27. In most countries, there is a legal requirement to conduct CBA, and it is typically conducted at the pre-feasibility stage when project alternatives are still under consideration. All EU-27 countries dispose of guidelines to conduct CBA, and most of the countries' experts reported an impact of CBA on the efficiency and effectiveness of projects under assessment. The results also reveal that EU-27 countries lack a consistent institutional framework for determining who conducts CBA, posing a risk of varying study quality. Additionally, they reported not regularly conducting ex-post CBA, representing a missed opportunity for policy learning purposes.

Keywords: Cost-Benefit Analysis, legal requirements, preparation stage, Social Discount Rate, project appraisal, capital expenditures, decision-making processes.

JEL codes: H43, D61

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1 Introduction

Cost-Benefit Analysis (CBA) is a useful tool to assist decision-makers in assessing the economic viability of capital investments, regulatory measures, and other kinds of policy instruments. It achieves this by quantifying social welfare changes in terms of monetary value of all costs and benefits associated with specific measures. The overarching goal of CBA is to facilitate a more efficient and effective allocation of resources, demonstrating the societal advantage of a specific decision in comparison to alternative options, including the 'do nothing' or 'business as usual' scenarios.

The initial CBA studies are mainly attributed to two countries: France and the United States. In France, CBA dates perhaps to the 18th century with the work of Saint-Pierre in 1708, gaining further momentum with the contributions of Dupuit's concept on consumer surplus in 1844 (Jiang & Marggraf, 2021). Despite these early developments, CBA failed to garner significant attention in France and other European countries. Meanwhile, the United States mainstreamed the use of CBA through the 1936 Flood Control Act and the Green Book in 1950, establishing cost-based methodologies for benefit measurement (Jiang & Marggraf, 2021).

In the last century, the use of CBA grew significantly and expanded to many countries. A search on the Web of Science Core Collection for academic publications on CBA from 1900 to 2020 (conducted on 23 September 2021) found a total of 54,445 publications across 197 countries. The United States emerged as the leader in publications, with nearly 20,000 instances, followed by England, China, Canada, Australia, Germany, Italy, Netherlands, and France (Jiang & Marggraf, 2021).

Governments use CBA to inform their investment planning and regulatory decisions with the ultimate aim of maximising social welfare. However, given that the public sector largely operates outside market mechanisms, the application of the CBA in the public sector encounters challenges due to the necessity of considering broader implications for society. This means that evaluating the social costs and benefits of public interventions is inherently more complex than applying CBA for private purposes.

Despite its potential, CBA is not fully leveraged and systematically integrated into the government decision-making process. Poor execution, manipulation, or improper utilisation of CBA are common, as highlighted by studies like Florio (1990), Flyvbjerg et al. (2007), and Boardman (2006). The reasons for low utilisation in decision-making often stem from three main sources of bias: technical limitations (lack of capacity or adequate data/information), psychological/cultural factors (optimism bias and planning fallacy), and political-institutional considerations that may encourage opportunistic behaviours.

The prevalence of bias may be influenced by specific features of the institutional setting or funding mechanisms. Biased investment decisions may result when key actors lack the right incentives to conduct CBA with quality standards. Paradoxically, the higher the importance assigned to CBA in decision-making processes, the stronger are the incentives to reduce its informative capacity to improve the effectiveness and efficiency of public policies. Studies by Florio and Vignetti (2005), Florio (2007), and De Rus (2010) reveal inherent incentives for strategic misrepresentation of costs and benefits of projects within the EU Cohesion Policy framework. In this context, national and regional authorities may be motivated to maximise fund absorption by promoting low-risk, consensus-driven projects, possibly overestimating the benefits of the interventions.

Given the diverse institutional settings in which CBA is applied, understanding how different countries utilise it becomes crucial to identify institutional settings that maximise the benefits of using this tool. The institutional environment should provide the right incentives for disclosing and

using CBA-generated information, minimising the risks of data manipulation by those with vested interests in government expenditures.

The role of CBA at the European governance level has been fundamental. CBA has been a strategic tool for several EU policies and institutions such as the EU Cohesion Policy, the EIB, multiple DGs of the EC and authorities like ESA or EISMEA. However, beyond the European level, the use of CBA in a national context by EU member states has not been investigated yet. This study describes the results of a survey on the extent CBA has been adopted among the EU-27 member states (hereinafter referred to only as “survey”). Particularly, it looks at several dimensions concerning the way CBA has been adopted, ranging from the legal landscape and objectives of CBA to its actors, guidelines, social discount rates, sectors, and overall impact.

1.1 Methodology

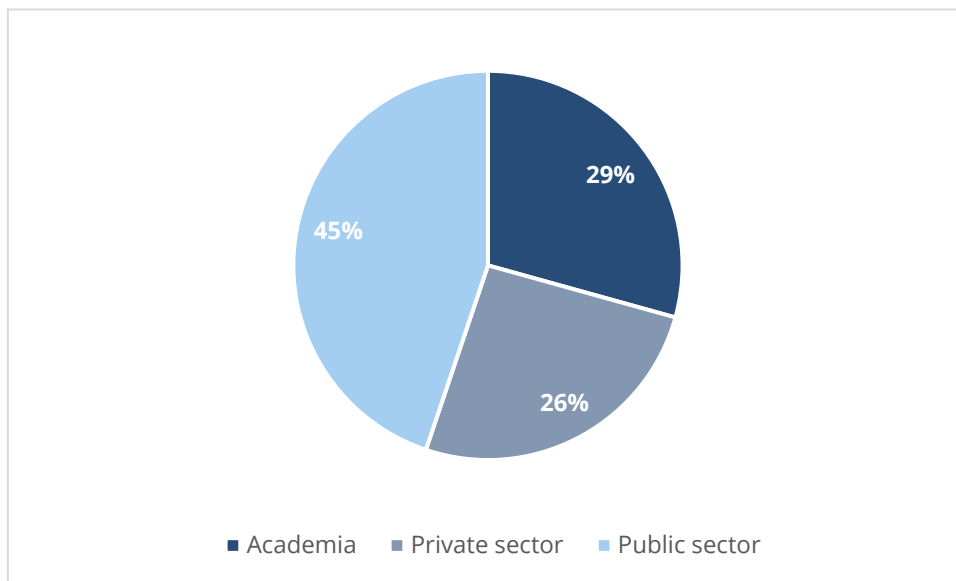
This study has been inspired by the earlier OECD Survey on the challenges and applications of CBA for the preliminary feasibility study of capital investments in 2014 (OECD, 2014). This survey was structured in the five following parts:

- General information on the planning process of capital investments (e.g. share of public investment budget centrally or regionally managed, general description of public investment management).
- The role of CBA in the decision-making process of capital investments (e.g. CBA legal requirements, general objective, preparation stage, sectors, etc.)
- The roles and responsibilities for performing CBA (e.g. actors, quality assessment, public availability and use).
- The contents and methodology of CBA (e.g. content requirements, guidelines, training sessions, typical items included)
- The impact of CBA on the decision-making process (e.g. since when CBA is used, the effect of CBA on decision-making)

Given the different settings under which the current survey has been conducted, it has been decided to reduce the number of questions by focusing mainly on the governance aspects and to keep just one open general question for respondents to provide additional qualitative information on their responses. In particular, the second and fifth parts of the OECD survey on the role of CBA in decision-making and its impact have been entirely replicated, as they represent the core of the analysis on the governance of CBA. Most of the other sections have been dropped mainly because of survey length reasons.

This survey has been sent to about 100 selected experts in the EU Member states only (differently from the OECD Survey). The selection criteria included participation at the [Society for Benefit-Cost Analysis conferences](#), [CSIL Milan Summer School on CBA](#) or other relevant expert networks. Participants were asked in the first place to indicate whether they belong to the public sector, private sector or academia. The survey received 59 valid responses covering all EU-27 countries, with the relative majority of the respondents from the public sector (45%), followed by academia (29%) and private sector (26%).

Figure 1: Background of respondents



Source: Authors, based on survey

In the case of multiple responses from the same country, the responses have been compared, and if providing contrasting information, the priority has been given to more senior researchers in the field of CBA or to the public sector's staff responses.

The analysis of the survey has been complemented and validated by selective checking of previous literature on the role of CBA in decision making processes, as well as from additional evidence from EU-27 with respect to the different items of the survey. These additional sources are cited in the appropriate places.

2 Role of CBA in the decision-making process of capital investments

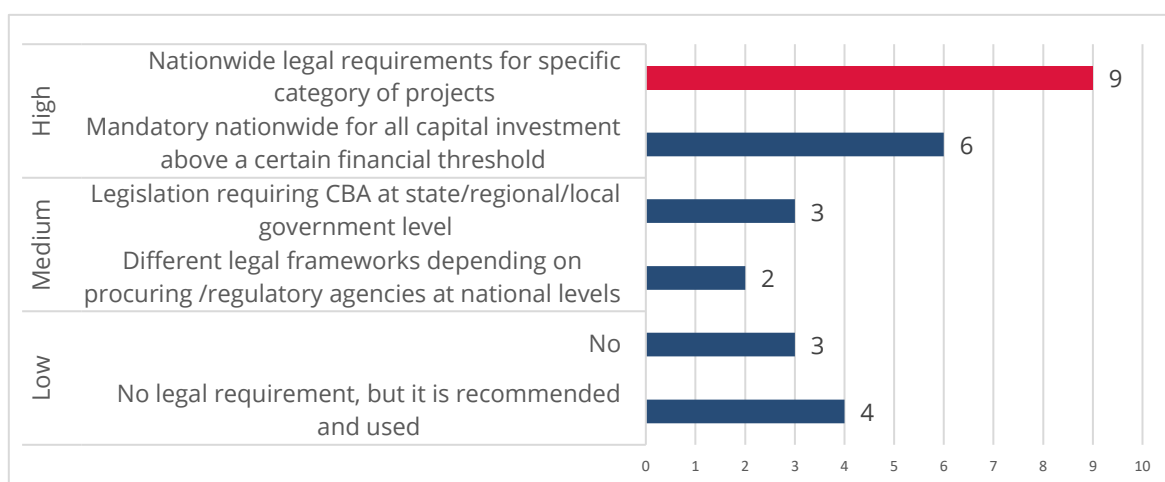
This section explores the role of CBA within the decision-making processes of EU-27 member states. It starts by delving into the legal landscape and scrutinising the obligations imposed by national or subnational laws on CBA practices. The section also analyses the role of CBA in the decision-making processes and delves into the underlying objectives that guide the application of CBA in European Member States. The stage at which CBA is conducted is also examined, investigating when it is used in the decision-making process of capital investments. This section also sheds light on the often-overlooked aspect of ex-post CBA, explaining its role as a tool for learning and assessing the tangible impact of projects.

2.1 Legal requirements

The legal requirement aspect pertains to whether CBA is mandatory, recommended or neither of the two. These two options come with their advantages and drawbacks. On the one hand, stringent legal provisions enhance systematisation, standardisation, transparency, and comparability of assessments. However, they can also result in a compliance-driven and inflexible approach to preparing project appraisal reports. Conversely, leaving the decision to conduct project appraisal to the discretion of project promoters or funding agencies can foster ownership of the analysis and provide flexibility in methods and tools used in the CBA.

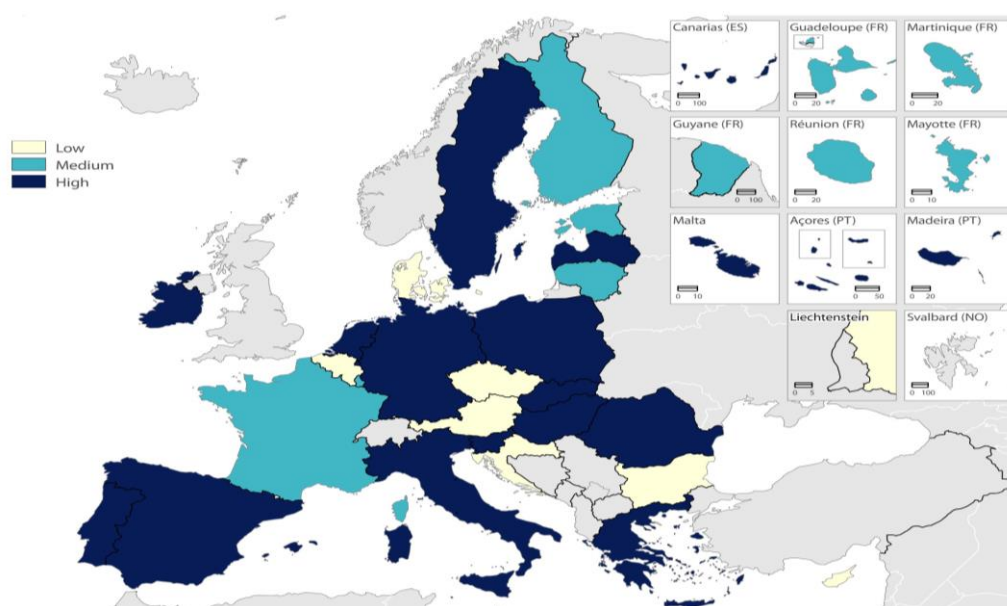
The responses to the survey show that most countries have some legal requirements to conduct CBA or impact assessment (figure 2). Slightly more than half (15) of the EU-27 countries have national regulations governing CBA. Within this group, 9 countries have national legal requirements on specific categories of projects, and 6 have mandatory nationwide legislation for all capital investments above a certain financial threshold. Other countries present more fragmented legal requirements, with three countries reporting there are legal requirements only at lower levels of decision-making and two countries delegating CBA requirements to the discretion of the procuring agency. Interestingly, only seven countries of the EU-27 lack CBA legislation, although four of them still incorporate CBA as a recommended or practised tool. The presence or absence of legally mandated CBA and its type of requirement does not show any clear geographical patterns (figure 3).

Figure 2: Legal requirement for CBA



Source: Authors, based on survey

Figure 3: Geographical distribution of CBA requirements



Source: Authors, based on survey

Box 1: Legal requirements - Country examples

In **France**, the government has put in place a framework for socio-economic assessment of public policies with a law of 2012 concerning the multi-annual programming of public finances. The law requires a prior socio-economic assessment for all civil investment projects financed by the State, its public establishments or public health institutions (France Stratégie, 2023).

In **Croatia**, the Ministry of Environment and Energy has enacted a legal requirement concerning the CBA within the energy sector. This ordinance, effective since 2019, outlines detailed provisions for the economic analysis of costs and benefits associated with national heating and cooling projects. In particular, the regulation defines the methodology, assumptions, and principles the CBA should take into consideration. The Ministry of Environment and Energy is the authority responsible for implementing the CBA, as well as for establishing and publishing the procedures for the economic analysis. Concerning the rest of the public investments that are not related to the energy sector, CBA has been mandatory only for major projects (above 50 million EUR) financed by the EU following the EU legislation for the 2014-2020 programming period (Ministarstvo zaštite okoliša i energetike, 2019).

In December 2022, the parliament of **Spain** passed the Public Policy Evaluation Law (Jefatura del Estado, 2022), reinforcing the 2009 requirement to conduct impact analyses of laws and regulatory changes with a considerable impact on society (Ministerio de la Presidencia, 2009). The new law introduces the development of the Government's Strategic Evaluation Plan, updated every four years by the Council of Ministers, which specifies the public policies that should be subject to evaluation, the evaluation type, and associated resources and deadlines. Additionally, departments are mandated to create biennial Departmental Evaluation Plans outlining evaluation activities and support initiatives. The law mandates ministries to perform both ex-ante and ex-post evaluations for policies with significant budgetary or social implications, considering aspects like gender equality, demographic challenges, digital transformation, green transition, social inclusion, and administrative efficiency.

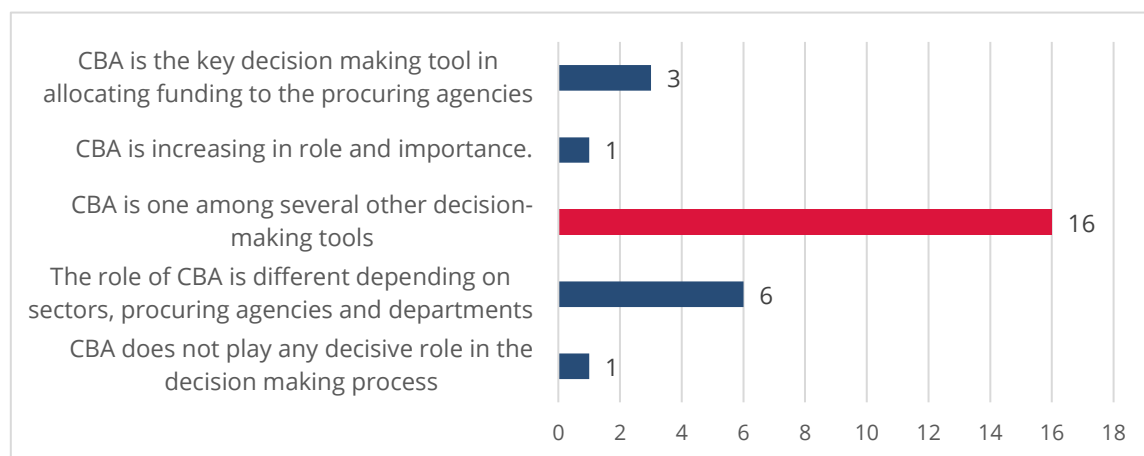
In **Finland**, general impact assessment is carried out to support decision-making by producing reliable assessments of the impacts of law proposals¹. The main legal requirements for impact assessment in the country concern the Environmental Impact Assessment Procedure that applies to projects with potentially significant negative effects on the environment. This includes projects like motorways, airports, big harbours, and large poultry- and pig-farming facilities. The decision to conduct an Environmental Impact Assessment (EIA) is given by the Regional Centre for Economic Development, Transport, and Environment based on their considerations of the potential environmental impact of the measures under assessment (Ymparistoministerio, 2017)². The goal is to make sure that when authorities plan and approve projects, they consider and assess their environmental impact.

2.2 Role of CBA in decision-making processes

The analysis of legal requirements should be linked to the general function of CBA in the decision-making process. The role of CBA could vary across sectors, procuring agencies, and departments because it can be influenced by factors such as the size of the capital investment being evaluated and the potential utilisation of other impact assessment tools like cost-effectiveness analysis, least-cost analysis, and multi-criteria analysis.

The results of the survey offer a clear overview of CBA's role in EU-27 member states. The most cited role (16 countries) was that CBA is one of several tools used by decision-makers to evaluate the impact of public projects. Six countries indicated that its role depends on the specific sector, procuring agency, and department, while only three countries (Greece, Belgium, and Slovenia) reported CBA as the primary decision-making instrument for fund allocation. Czechia stands out as a unique case where CBA is noticeably absent from the decision-making process.

Figure 4: Role of CBA



Source: Authors, based on survey

Box 2: Role of CBA - Country examples

In **Ireland**, the Public Spending Code dictates which projects and programs undergo thorough appraisals, and the choice of the appraisal method depends on the project's scale (Department of Public Expenditure and Reform, 2019):

¹ More information available at: <https://oikeusministerio.fi/en/impact-assessment>

² More information available at: <https://ym.fi/en/legislation-on-environmental-impact-assessments>

Simple Assessment: For minor projects with costs below €0.5 million.

Single Appraisal: Projects costing between €0.5 million and €5 million undergo a single appraisal, which is a hybrid technique incorporating elements of simple and detailed assessments.

Multi-Criteria Analysis (MCA): This tool is mandatory for projects between €5 million and €20 million.

CBA or Cost-Effectiveness Analysis (CEA): This tool is required for projects exceeding €20 million. Economic appraisals for current expenditure proposals expected to exceed €20 million are submitted to the Department of Public Expenditure and Reform.

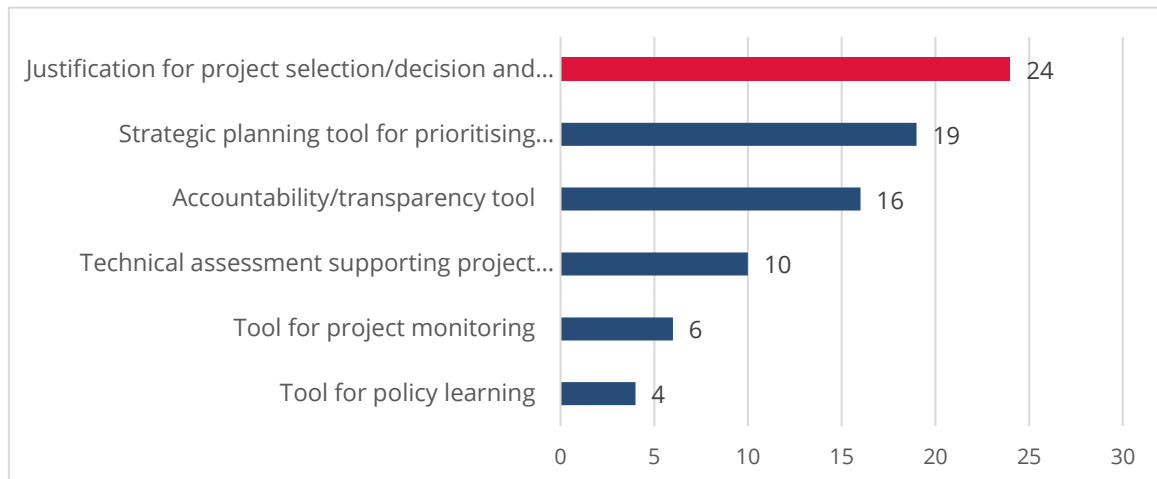
Program Evaluation: Programs with an annual value exceeding €30 million and lasting five years or more undergo prior and mid-term evaluations.

2.3 Objectives of CBA

The objective of the appraisal is an important component of CBA employment, as it determines what will be the practical utilisation of its outcomes. Although project appraisal is predominantly employed to rationalise funding decisions, additional important objectives include accountability and strategic planning. Figure 5 provides a summary of the objectives associated with CBA implemented in the EU-27 countries.

All EU-27 countries employ CBA to justify the allocation of funds to projects, except for Austria, Bulgaria, and Finland. For a considerable share of countries, CBA is a strategic planning instrument (19), facilitating the prioritisation of investments and an accountability/transparency tool (16). However, a smaller subset of countries employs CBA for policy learning (4) and post-project monitoring (6).

Figure 5: Objectives of CBA



Source: Authors, based on survey

The academic literature on CBA underlines the significance of employing impact assessment tools, particularly CBA, to justify the financing of policy projects. Mechler et al. (2014) underline the increasing necessity for decision-support tools for the deployment of investments to prevent large-scale flood disasters. The paper identifies specific objectives for using decision-support tools among various stakeholders, including demonstrating the efficiency of actions before a flood event (ex-ante) and aiding in the selection of interventions to enhance community flood resilience. Additionally, Mouter et al. (2013) note the advantages of using CBA, such as fostering reflection on

the usefulness, necessity, and design of a project and providing objective and independent information to decision-makers.

Box 3: Objectives of CBA - Country examples

The **Finnish** General Guidelines for Impact Assessment in Law Drafting remark that the primary aim of impact assessment is to enhance the information available for decision-making in both Parliament and the Government, thus using it mainly as a strategic planning tool. This involves generating reliable assessments of various solutions and their potential impacts. The Guidelines also mention that impact assessment fosters transparency and accountability in the legislative process. The guidelines emphasise that fostering an inclusive and transparent impact assessment process, accompanied by the possibility of justifying the selected solution with the best available knowledge, fosters trust in decision-making and increases the acceptability of policy proposals (Finnish Government, 2023).

In the **Netherlands**, the role of CBA extends beyond its traditional function of determining whether benefits exceed costs. According to the CBA national guidelines, there is a strategic effort to integrate CBA into all the stages of decision-making. This includes employing CBA in problem analysis, defining null and policy alternatives, assessing the legitimacy of government interventions, and enhancing the rollout of policy alternatives. The aim is to leverage CBA as a tool that not only evaluates outcomes but actively contributes to improving the decision-making process itself (Romijn, 2018).

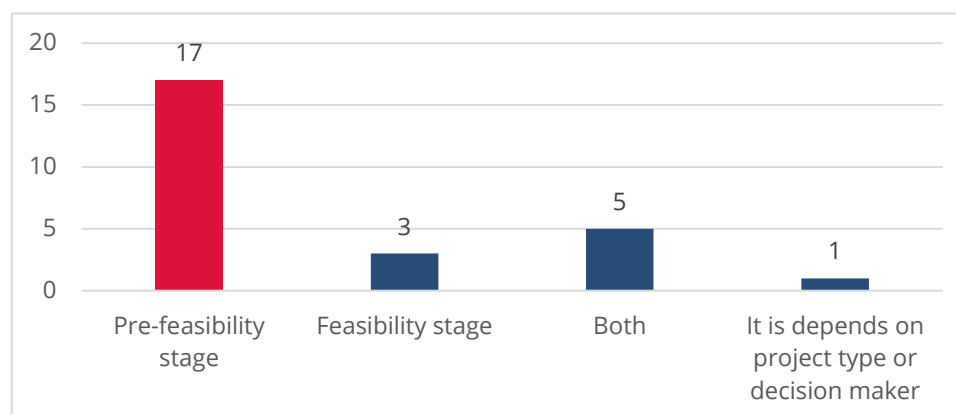
2.4 CBA preparation stage

The preparation stage of CBA plays a crucial role in the public investment management system, reflecting the purpose of CBA within the decision-making framework. In the early stages, CBA serves as a strategic appraisal, helping the government assess various solutions to address a particular problem. At this point, different strategic alternatives are still open, and the primary goal is to include or discard projects from consideration, prioritising them based on budget constraints. Nevertheless, CBA could be used to assess the strategically chosen projects, supporting their design and technical definition. The appraisal, in this case, is more detailed and involves a comprehensive evaluation of a specific project.

It is considered good practice to conduct the appraisal at an early phase when both strategic and technical project alternatives are still being considered (Pancotti et al., 2019). Conducting the appraisal later in the project preparation process introduces the risk of reducing the usefulness of CBA or making it compliance-driven, merely justifying choices that have already been made. CBA can be initiated early and updated throughout the entire project preparation period, especially for those projects with long implementation plans. The process of preparing and selecting capital investments often extends over a substantial timeframe, potentially spanning many years. During this period, the initial project concept undergoes multiple revisions and adjustments to align with changing needs and conditions. Integrating CBA into the entire project design and preparation cycle enhances its capacity to provide valuable information and support throughout the decision-making process.

Most EU-27 countries (22) opt for conducting CBA at the pre-feasibility stage, which is in line with the good practice previously mentioned as it allows for an informed comparison of various project alternatives. In contrast, eight countries reserve CBA for the feasibility stage, primarily evaluating the benefits inherent in a chosen project. Only five countries use CBA in both stages, thus basing their decision to finance the project as well as other choices throughout the implementation process on information from CBA.

Figure 6: Timing of CBA



Source: Authors, based on survey

Note: The first two bars in the figure represent those countries reporting to conduct CBA in one specific stage only. Those who reported implementing CBA in both stages are represented in the third bar.

Box 4: CBA preparation stage - Country examples

According to the Public Spending Code of **Ireland**, CBA should be conducted during the pre-feasibility stage before deciding to approve a project. Nevertheless, the Code remarks that it is also essential to conduct or update the CBA at other stages of the project cycle (e.g. during the planning phase when more accurate information on the project's scope and costs is already available). If project costs go up significantly before signing a contract, a revised CBA should be carried out. Additionally, if there is a substantial time gap between the appraisal and the project's commissioning, a final reassessment of demand and costs should be done (Department of Public Expenditure and Reform, 2019).

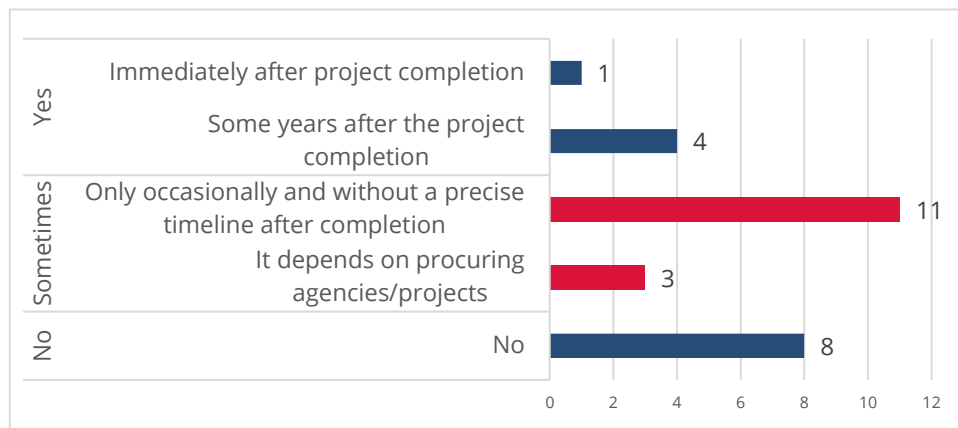
The general guidelines for impact assessment in **Finland** emphasise the integration of impact assessment throughout the entire law drafting process. During preliminary preparation of the drafting, key tasks involve defining the problem, planning the impact assessment, assessing the current state, and conducting a preliminary assessment of alternative solutions. The guidelines emphasise that the assessment should be refined as the drafting progresses, also thanks to consultations and feedback from stakeholders (Finnish Government, 2023).

2.5 Ex-post CBA

Ex-post CBA serves as a learning tool to assess the real impact of a project and investigate its lasting contributions to the economy. It is ideally conducted at the project's conclusion or after several years of operation. In the realm of ex-post evaluation, key considerations include determining whether there are obligations for such assessments or if they are sporadic initiatives; establishing rules on the timing of the evaluation after project completion or leaving it to the discretion of individual procurement agencies; and deciding whether the evaluation is conducted selectively, periodically on a sample of investments, or systematically on all major investments.

In the case of EU-27, there is not a systematic use of ex-post evaluation. Only five countries regularly carry out ex-post CBAs. A more substantial segment, comprising 14 countries, either prepares ex-post CBA only occasionally or makes it dependent on the procuring agency/characteristics of the specific project. Eight countries abstain from this evaluative practice altogether.

Figure 7: Ex-post CBA



Source: Authors, based on survey

The rare utilisation of ex-post CBA, whether in a public or confidential manner, may be linked to the limited number of countries that prioritise policy learning as a key objective of this tool. It appears that most governments are not inclined to assess whether the decisions made, relying on forecasts of benefits and costs, are validated upon the completion and operation of the project over a sufficient period. This could reveal potential waste of public expenditures and reduce the consent of policymakers advocating the assessed policy.

Box 5: Ex-post CBA - Country examples

In **Ireland**, capital projects exceeding 20 million EUR are required to undergo ex-post evaluation, while the selection of other projects for evaluation is discretionary. According to the Public Spending Code, ex-post evaluation should occur after sufficient time has elapsed to allow for a thorough assessment with ample evidence. The timing of the evaluation depends on the duration needed to observe the anticipated benefits, capped at one-third of the timeframe used in the appraisal. The insights gained from these evaluations are meant to inform future project planning (Department of Public Expenditure and Reform, 2019)³.

³ Section C of the Public Spending Code on “Implementation and Post-Implementation Periodic Evaluation/Post-Project Review”. More information available at: <https://assets.gov.ie/20041/e8edcf69f84876990fa6ebf4bed13f.pdf>

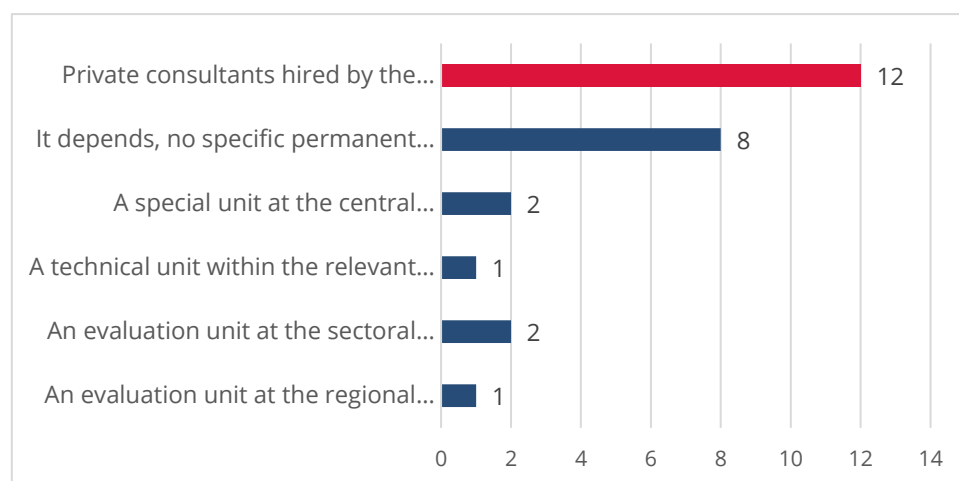
3 Roles and responsibilities of performing CBA

The process of making funding decisions for public capital investments, along with the use of CBA to guide decision-making, can be viewed as a complex game involving various stakeholders with diverse objectives, priorities, capacities, and interests. The entities conducting the appraisal range from dedicated units within public organisations to private consultants hired by line ministries. There is a potential trade-off when choosing who conducts the CBA. Conducting CBA internally could be easier as inside information and conceptual ideas are known. At the same time, external agents might have less prior bias and more expertise in CBA than the project's promoters.

It is important to remark that different actors in the chain of responsibility have distinct incentives that may sometimes conflict. For instance, the project sponsor (providing funds) may be interested in ensuring project sustainability and value for money, while the procuring agency (responsible for selecting and managing the contractual relationship with the contractor) may be incentivised to guarantee high fund absorption rates⁴.

In the case of EU-27, most of the countries reported the absence of a structured government arrangement. Twelve countries reported to entrust to the expertise of private consultants the performing of CBA and eight commented that there is no specific arrangement. A small share of countries reported that a special unit with the central government/relevant procuring agency (Estonia, Germany, Sweden) or specific evaluation units (Luxembourg, Belgium, Romania) performing CBA. Contrarily, eight countries reported a lack of a specific structure for CBA implementation, underscoring the diversity of approached employed.

Figure 8: Actors performing CBA



Source: Authors, based on survey

In this context, it is important to remember that the seminal report by Little and Mirlees (1974) emphasised the necessity for public authorities, in collaboration with project promoters and planners, to establish key parameters for determining shadow prices (see also: Dréze and Stern, 1990; Florio and Pancotti, 2023). Advocating for a planning bureau, such as the Central Office of Project Evaluation, integrated into the ministry or commission responsible for planning and

⁴ Fund absorption rate is defined as the percentage of actual expenditures compared to grant budget;

coordinating public investment, they propose that this bureau should compute shadow prices based on informed predictions of the country's future socio-economic landscape.

Box 6: Actors performing CBA - Country examples

Lithuania has a central body for investment management. The Central Project Management Agency (CPMA)⁵ serves as a competence centre, overseeing the entire investment process, including project preparation, selection, appraisal, procurement, contracting, and control. This comprehensive management aligns with both EU and national regulations. A CPMA representative member, presenting at the Society for Benefit-Cost Analysis (SBCA) workshop in September 2021, highlighted the following benefits of a centralised competence centre:

Cost reduction in project evaluation by minimising reliance on private consultants.

Guarantee of high-quality expertise across all state and municipal institutions

Standardisation in project appraisal, maintaining a uniform quality standard across various sectors.

In the case of **Ireland**, the Government Economic and Evaluation Service (IGEES) has the main responsibility to enhance the analytical capacity of Irish policy making. The IGEES was founded in 2012 with the objective of creating a central evaluation unit for public spending optimisation against the reduced availability of public finance due to the financial crisis. The service was provided with the tasks to provide economic analysis, value-for-money assessments, and evaluations across all government departments. The IGEES network consists of over 200 civil servant analysts working across the entire Civil Service (OECD, 2020).

In **France**, the law mandates an independent counter-expert assessment of the ex-ante socio-economic evaluation for major projects with state and public institution funding exceeding 100 million EUR. This assessment is funded by the project's budget and conducted by the services of the Commissioner General for Investment (CGI), reporting directly to the Prime Minister's office. The CGI assembles a team of independent counter-experts, typically 2 to 5 experts, including at least a sector specialist and an economist. Counter-experts are selected based on competence and without any conflicts of interest related to the project. Their evaluation focuses on several key questions, ensuring compliance with project specifications, assessment methods, consideration of critical non-monetised aspects, evaluation scope, and the coherence and realism of choices. The results are presented in a counter-expertise report. Since its initiation in 2013, this process has examined 85 projects with a total value of EUR 81.2 billion up to 2020 (Baumstark et al., 2021).

In **Slovakia**, the Ministry of Finance's Value-for-Money Division plays a crucial role in conducting the evaluation of state budget-funded major projects. A representative member of this division, in an internal presentation at the SBCA workshop of September 2021, remarked that its role is to validate CBA calculations before a project can proceed to the procurement stage. The creation of the Value-for-Money Division aims to assist Ministries lacking the capacity for CBA while also overseeing the quality of CBA for projects. Although the MoF's opinion on CBA for major projects is not binding, it significantly influences government decisions.

In **Spain**, the newly proposed law for the evaluation of public policy outlines the establishment of the State Agency for the Evaluation of Public Policies, tasked with coordinating, overseeing, and promoting the public evaluation system. This agency is responsible for developing a thematic online portal for the evaluation of public policies, which will support administrations

⁵ <https://www.cpva.lt/en>

in evaluating policies and enable the participation of civil society in the evaluations. Moreover, the law requires the creation of the Higher Commission on Evaluation, which is an inter-ministerial body collaborating with the Evaluation agency to foster coordination between the different government bodies' evaluation needs (Jefatura del Estado, 2022).

4 The methodology and sectors of CBA

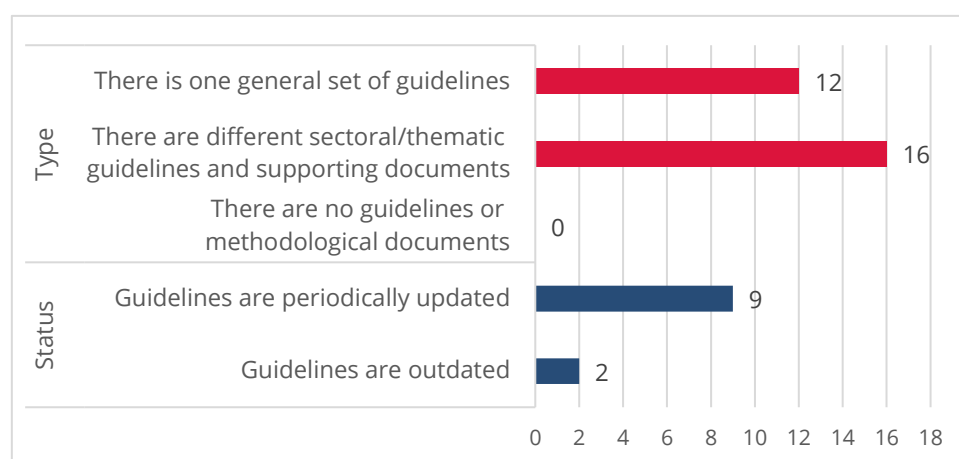
This chapter explores common methodology and sectors associated with CBA in EU-27, shedding light on the way CBA is applied in European member states. The first element of CBA methodology that is analysed is the existence of well-defined guidelines, whether at the central or local level. These guidelines play a critical role in standardising analyses, enhancing comparability, and providing valuable instructions to appraisal performers. Another key element within the CBA methodology is the Social Discount Rate (SDR), which represents society's stance on balancing present and future utility. Finally, the application of CBA across various sectors is explored.

4.1 CBA Guidelines

The presence of a guidance document to support analysts performing CBAs with formal instructions has a considerable impact on how CBA is carried out. This not only streamlines the analyst's work but also contributes to the objective of enhancing comparability by standardising the analysis. While some guidance documents only establish common principles for project assessment, providing the appraisal performer with considerable flexibility, other guidelines may be more prescriptive and detailed. These guidelines could include specific unit values (e.g., the cost of time) and other parameters like shadow prices and social discount rates. Additionally, there might be sector-specific guidelines, either supplementing or serving as an alternative to more general instructions.

The survey responses show that all EU-27 have certain types of CBA guidelines. Among these, a dozen countries report comprehensive general guidelines, while an additional 16 remarked the presence of sectoral or thematic guidelines. Notably, six countries combine both approaches. With respect to the quality of the guidelines, experts from nine countries reported that guidelines are periodically refreshed to stay aligned with the evolving landscape of best practices. Only two countries reported that the guidelines are generally outdated.

Figure 9: Type of CBA Guidance



Source: Authors, based on survey

Box 7: CBA guidance - Country example

Some countries have gone the extra mile in developing guidance tools for performing CBAs. The CPMA representative member, within its presentation at the SBCA workshop of September 2021, also reported that **Lithuania** had introduced a standardised spreadsheet distributed by the central planning agency to all line ministries and procurement agencies involved in developing capital investment projects. This spreadsheet facilitates the automatic calculation

of essential indicators and factors, such as the treatment of VAT. The observed advantages of this system include a decrease in errors and inaccuracies, along with quicker and more straightforward evaluation processes. Another reported benefit is the reduced requirement for specialised knowledge. At the same time, it is important to mention there is a potential downside if this leads to a too mechanical approach without a deep technical understanding of the project appraisal's key assumptions and features.

In **Ireland**, the IGEES wrote the Central Technical References and Economic Appraisal Parameters (Department of Public Expenditure and Reform, 2019a). The central economic appraisal parameters are in place to ensure that there is consistency across the analysis being conducted such as Cost Effectiveness Analysis (CEA) and CBA. IGEES remarks that the objectives of providing central parameters are to:

Enhance accuracy and precision in the conduct of economic appraisals across the public sector;

Ensure that there is consistency in the preparation of economic appraisals;

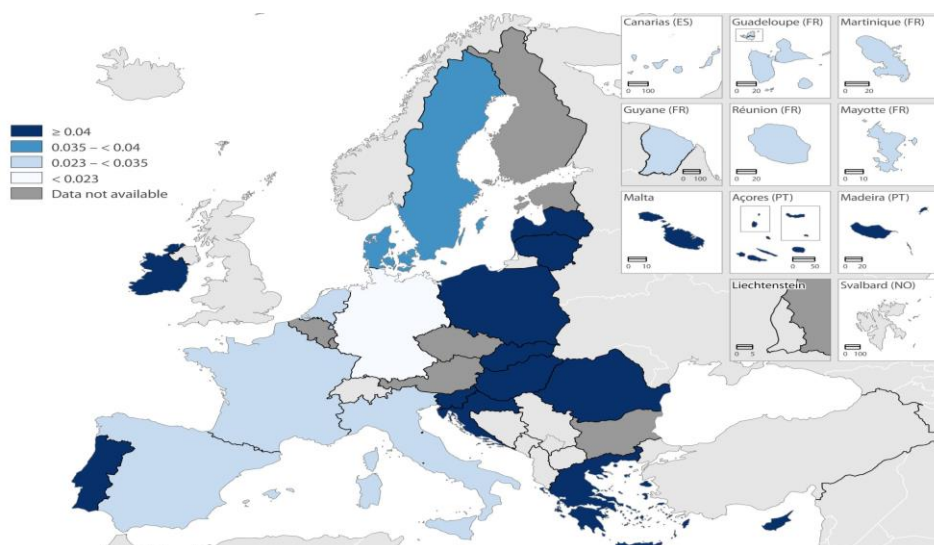
Support practitioners in the development of appraisals to inform spending decisions.

4.2 Social Discount Rate

In the realm of CBA, the SDR is the key parameter for the estimation of the benefits, as it determines the slope of the intertemporal utility function. The SDR can be understood as a parameter of society's patience, where a higher discount rate places a stronger emphasis on the presence (i.e., less patient individuals). Estimating the SDR can be done using different methods, such as estimating the opportunity costs rate or social time preference rate. Thus, it can result in divergent outcomes depending on the assumptions. There is variation in the applied discount, with wealthier countries typically displaying lower rates, reflecting a prioritisation of future needs over present concerns. Dynamic factors, such as evolving growth uncertainties and the intergenerational consequences of current policies, add complexity to SDR estimation within the context of CBA.

The survey shows clear patterns with respect to the distribution of SDR across the EU-27. What captures attention is the interplay between a country's Gross Domestic Product (GDP) and its chosen SDR, suggesting an underlying correlation between the two variables. The highest SDR is reported by Croatia at 6%, whereas the lowest is reported by Germany at 1.7%. Notably, most EU-27 countries harmonise their SDRs with the established EU CBA Guidance.

Figure 10: Social Discount Rates in Europe



Source: Authors, based on survey

Box 8: Social Discount Rate - Country examples

As explained by FranceStratégie⁶, the **French** discount rate is set by the Quinet Commission (2013), which recommends a risk-free discount rate of 2.5% to 2070, gradually declining to 1.5% beyond 2070. This was the result of decisions made in light of France's economic outlook and by incorporating risk in future predictions. The Quinet Commission's remarks state that the discounting system must consider the country's expectations on the likely increase in national wealth, the uncertainty of these expectations and the risks the different projects represent for public finance in the event the expectations are unfounded (France Stratégie, 2022)⁷.

The Federal Transport Infrastructure Plan of **Germany** adopts a discount rate of 1.7% for new construction of transport projects (Federal Ministry of Transport and Digital Infrastructure, 2016). The SDR has been derived through two primary approaches: the opportunity cost approach, considering the cost of foregone alternatives, and the social time preference rate approach, which assesses societal preferences over time. The discount rate has been determined by a weighted average of these approaches, recognising the strengths and weaknesses of each. Even if the estimations fell within a range of 1.0% to 2.0%, the rate of 1.7% (upper than the middle of this range) has been preferred as it leads to a more conservative estimate of project profitability (Rieken, 2015). According to the German expert who participated in the survey, this methodology has faced criticism from various organisations, including the Association of Environmental Protection (BUND), which has led an effort to shift the paradigm of transportation planning and appraisal. This initiative encompasses a novel approach to integrated impact assessment, emphasising strategic considerations linked to long-term goals. This is an effort to enhance the significance placed on environmental and climate protection aspects when assessing capital investments.

⁶ France Stratégie publishes reports and analyses on major social, economic and environmental issues. Working under the Prime Minister, it makes recommendations to the executive, organises debates, leads consultation exercises and contributes to the ex-post evaluation of public policies.

⁷ More information on the SDR in France: [The discount rate in the evaluation of public investment projects | France Stratégie \(strategie.gouv.fr\)](https://www.strategie.gouv.fr/en/the-discount-rate-in-the-evaluation-of-public-investment-projects)

In **Ireland**, the SDR is 4% and is determined using the social rate of time preference (SRTP) method. The discount rate is applied excluding projected inflation to future costs and benefits expressed in constant prices. The discount rate of 4% was last revised in 2007, but given significant changes in economic circumstances, the 'Guide to Economic Appraisal: Carrying Out a Cost Benefit Analysis' mentions the need for a revision of the official SDR rate (Department of Public Expenditure and Reform, 2012). In this regard, O'Mahoney (2022) remarks that the current SDR of Ireland is too high, as it relies on a historically anomalous period for economic growth. Instead, he proposes a range of 1.7% to 2.8%, also based on the SRTP method. Additionally, he remarks on the need for two discount rates for non-substitutable natural and social capital, given that public investments tackling climate change should be discounted less than other kinds of investments.

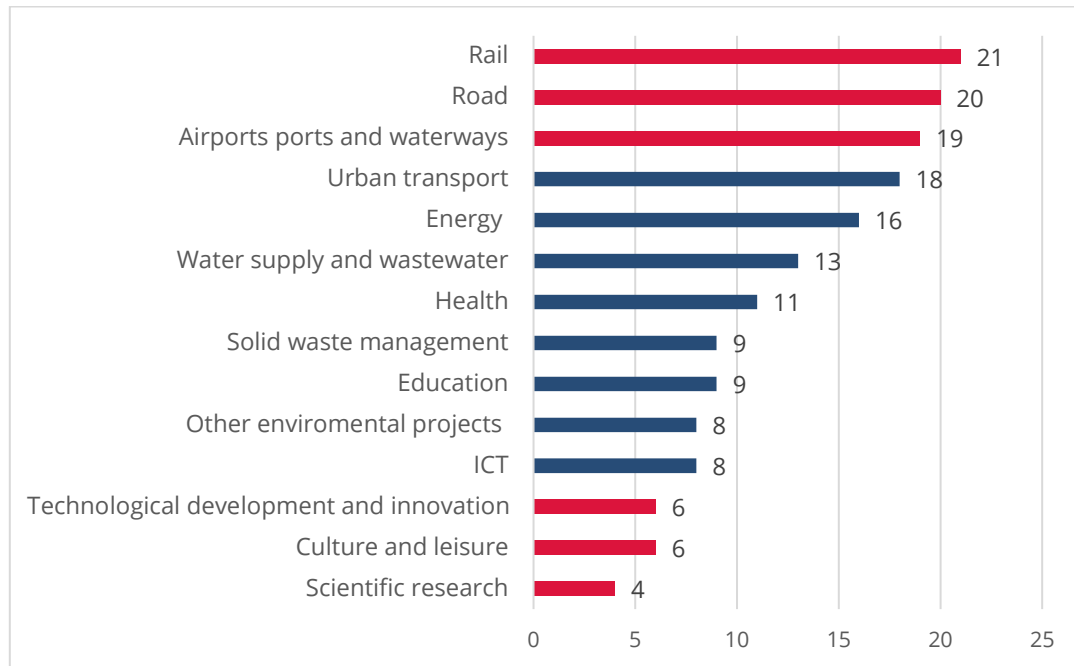
In **Poland**, the used SDR follows the EU CBA Guidance of 5%; however, according to Foltyn-Zarychta, Buła, & Pera. (2021), the official recommendation may not consider the specific economic characteristics and uncertainties related to long-term intergenerational issues, especially significant for energy projects. Using the SRTP approach with the longest available dataset, they recommend an SDR value of 4.39%. The choice of this approach is justified by its stability over time and relevance to the energy sector's long planning horizons.

4.3 Sectors

CBA theory was developed initially for transport infrastructures and then extended to other fields. One of the biggest advantages of economic evaluations in general and CBAs specifically is their applicability to almost all policy sectors, as no other approach coming from other fields offers a consistent but flexible set of project evaluation rules across sectors (Florio, 2014).

The survey responses show that EU-27 countries systematically use CBA for traditional sectors and less than for new policy priorities. The robust presence of CBAs in sectors like rail, road, and airport/port/waterways reflects the overarching usefulness of CBA for infrastructure projects, which represents the historical use of this kind of study. Conversely, the limited utilisation of CBAs in sectors like scientific research, culture and leisure, and technological development demonstrates the weak use of CBA for typically less expensive policies.

Figure 11: Sectors of CBA



Source: Authors, based on survey

These results do not considerably differ from Florio (2014), in which it was noted that transport is the sector where CBA is common practice, followed by Environment. Interestingly, countries introducing relatively recently the use of CBA (Greece, Bulgaria, Estonia, Latvia, Lithuania) selected to perform CBA in the least common sectors such as scientific research, culture and leisure and technological development and innovation.

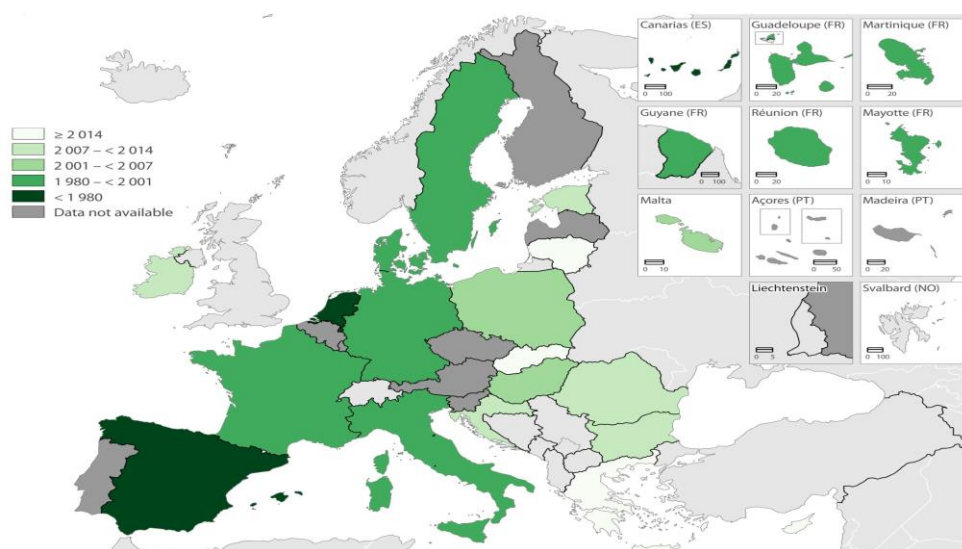
Florio et al. (2018) demonstrate that the results of CBA vary across sectors. They emphasised sector-specific differences in the relationship between financial and economic returns when assessing the CBA studies carried out for EU major projects. Their findings reveal that sectors such as roads, ICT and productive investment exhibit higher economic returns compared to financial returns. This variability suggests different externalities and market failures in different sectors, even after accounting for project costs and duration. Additionally, it may indicate that CBAs are applied differently across sectors, influenced by various traditions and assumptions. While CBAs are more established in the transport sector, allowing better consideration of nonmarket effects, their application in the environmental sector is relatively recent. For example, the health benefits of solid waste management and water treatment may not have been fully estimated as externalities beyond the willingness to pay for the service or its price.

5 Impact of CBA on decision-making processes

This chapter explores the impact of CBA on the decision-making processes of EU-27 member states, exploring the time since CBA has been applied in the countries as well as the reported final impact on the decision-making process.

Countries in Europe differ significantly concerning the reported year since when CBA has been used for decision making processes. According to the responses of the experts, the Netherlands was the first country to adopt CBA as far back as 1970. Meanwhile, Greece was reported as the last country to use CBA. Additionally, it emerged that most EU-13 countries representing East European Member States reported to use CBA since they entered the Union. It is important to note that experts from nine countries did not respond to this question.

Figure 12: Year of introduction of CBA



Source: Authors, based on survey

Box 9: Introduction of CBA - Country example

The history of CBA in **France** is marked by a longstanding tradition of evaluating public policies, with a focus on public investment appraisal. This tradition has deep roots, with notable contributions from figures like Arsène-Jules Dupuit in the mid-19th century or Marcel Boiteux, Chief Executive Officer at the Electricité de France. In the early 1960s, France established guidelines for road investment choices, gradually extending CBA to other transportation modes. The Legislative Act of 1982 made CBA mandatory for major transport investment projects. Over the years, different commissions, particularly the Commissariat Général du Plan, were involved in defining and revising parameters for project evaluation until the last version of the Quinet Commission of 2013 (Florio and Pancotti, 2023).

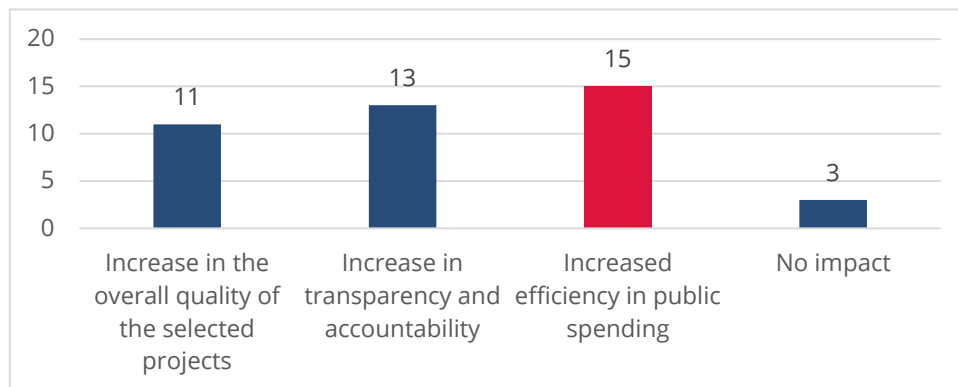
The history of CBA in the **Netherlands** dates back to 1901 when major flood risk investments were analysed with CBA with the aim of assessing whether the benefits outweighed the costs determining the most efficient means of reducing flood risk. This early application of CBA served as a valuable tool to develop evidence-based decision-making in the country. Subsequently, since 1959, CBA has extended to various public investments, including highways, railroads, airports, fighter planes, and windmills. A significant milestone occurred in 2000 when CBA became obligatory for major transport infrastructure projects, leading to the formulation

of national guidelines on transport CBA, known as OEEI (Overview Economic Effects Infrastructure). The years 2013 onwards witnessed a broader integration of CBA across policy areas, with the development of general guidance, specific handbooks, and an expansion of its application beyond infrastructure projects. Notably, in 2018, the Compatibility law reinforced the use of CBA, marking a continued commitment to evidence-based decision-making in the Netherlands⁸.

The final impact of CBA on decision-making processes can be different. As it was previously mentioned, CBA is mainly used to improve the efficiency of policies and public capital investments, especially in times of financial shortage like it was reported for Ireland after the financial crisis of 2008. However, CBA can also be used to improve the quality of the selected policies as an ex-ante assessment allows an understanding of whether the possible effects of public investments are maximised. The purpose of CBAs can also be to inform taxpayers of how their money is spent. In some cases, CBA does not have any impact, especially when there is a fear of potential biases, which leads policymakers to not take it into consideration.

When it comes to EU-27, a substantial majority (15) attributed an enhanced efficiency in public spending to the implementation of CBA. 13 countries reported an increase in transparency and accountability thanks to the use of CBA, and 11 countries reported an increase in the overall quality of the selected projects. Only three countries reported a lack of discernible impact resulting from CBAs.

Figure 13: Impact of CBA



Source: Authors, based on survey

An example of the impact of CBA is reported by Shulz et al. (2015). They analysed the evaluations of Intelligent Transportation Systems (ITS) technology, emphasising their value in objectively supporting public decision-makers. Moreover, Florio et al. (2018) find that projects anticipated to be beneficial for society (e.g., with a high economic rate of return) are not necessarily the least lucrative (e.g. with the lowest rate of financial return). This indicates that CBA has the potential to select projects that strike the right balance between effectiveness and efficiency.

⁸https://www.strategie.gouv.fr/sites/strategie.gouv.fr/files/atoms/files/gerbert_romijn_-_cba_in_the_netherlands_presentation_france_strategie_paris_20181018.pdf

6 Conclusions

The survey responses highlight the significant role of CBA in EU-27 member states. Most of the countries have some legal requirements for CBA specifically and impact assessment in general, which can be either very comprehensive (e.g., at the national level and for capital investments higher than a specific threshold) or they might depend on the government level, sector or procuring agency. While only three countries identify CBA as their primary decision-making tool, many use it alongside other methods, underlining that the use of CBA depends on specific conditions.

CBA is mainly used to justify the selection of certain projects and to prioritise investments, while it is rarely used for policy learning. This explains why the use of ex-post evaluation, which is mainly a learning exercise, is not common. However, most European countries mainly follow the good practice of conducting CBA at an early stage when different project alternatives have to be chosen, decreasing the risk of using CBA only for compliance-driven purposes. Moreover, some countries carry out CBA not only at the beginning of the projects but also in later stages, allowing CBA to support several decision-making steps.

Most of the countries do not dispose of a structured government arrangement concerning the actors performing CBAs. The lack of a standardised arrangement on this matter might pose a risk to the quality of the CBA reports, which might vary according to who is performing them. Moreover, the independence of the actors is also unclear as it is not guaranteed by a standardised arrangement. However, multiple country examples report the presence of a centralised team that is in charge of either performing the CBA or ensuring quality and comparability among different CBAs, such as in Lithuania, Ireland, Slovakia and Spain. The case of France is also exemplary as it involves an independent counter-expert assessment for investments exceeding €100 million to validate the initial assessment.

Every EU-27 country can rely on a set of guidelines to perform CBA and other kinds of economic impact assessment, which reduces the variability of quality across different studies. With respect to the SDR, most countries align with the value assigned by the EU CBA Guidelines, showing a clear distinction between less and more developed countries, with the less developed ones generally having a lower SDR. Interestingly, the country examples of Germany, Finland and Poland show the growing importance of adapting the discount rate to environmental and energy policies. This need can be linked to the analysis of the sectors, as environmental projects often report lower economic returns than transport projects, probably because the current CBA methodology is based on traditional projects like rails, roads, airports, etc.

Finally, even if most EU-27 reported that the impact of CBA on decision-making concerns an increase in the quality of the projects, the most selected option concerns the increased efficiency of public finance, reflecting the traditional role of CBA in minimising waste of public funds.

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