

Cost benefit analysis of investment projects

Governments are faced with budget constraints and therefore should invest in those projects that represent the greatest benefits compared to costs. In addition, the presence of market failures, which are situations in which markets left on their own would produce inefficient results (e.g. monopolies), are commonly addressed by government intervention. Regardless of whether a project is carried out by traditional public provision, public-private partnerships, or others, its economic appraisal remains the responsibility of government. Cost benefit analysis (CBA) is a methodology with a long intellectual and practical history for estimating the *ex ante* desirability of a project. It is designed to demonstrate whether or not the long-term social benefits of a project are greater than its costs. In practice, it estimates the opportunity cost or benefit of goods and services and uses these accounting prices (or shadow prices) as a more appropriate signal than observed market prices, which may be distorted by a variety of reasons. Performance indicators are then computed; typically, a positive net present value of benefits over costs is required in order to conclude that *ex ante* a project is socially desirable.

According to the 2014 OECD survey on CBA, it was found that there is generally no nationwide legal requirement for CBA (55% of surveyed countries). However, legislation does exist at the state/local levels (40% of countries) or it is recommended and promoted by central governments (15% of countries). In some cases, such as Canada, the United Kingdom, Chile and Denmark, it is firmly prescribed as a tool for project selection and decision typically at the pre-feasibility stage or at an early stage of the decision making process in any case. Additionally 10 out of 20 countries including Germany, the Netherlands, Mexico, Norway and France have reported CBA to be increasing in role and importance. For instance, the government of the Netherlands has recently issued new guidelines with regard to the use of CBAs covering all types of projects and policy areas.

When asked about the general objective of CBA according to legislation, regulation or official documents, the collected answers point to the key objective of providing a justification for project selection/decision in the feasibility phase (16 out of 19 countries). To a lesser extent, it is considered a tool for transparency (11 out of 19 countries), a tool for prioritising investment at the central level (10 out of 19 countries), and as a technical assessment tool supporting project design in the feasibility stage (10 out of 19 surveyed countries). According to the latest available information, CBA is used for project monitoring in slightly more than two-fifths of the surveyed countries, while the United Kingdom, Ireland and Estonia also use it as an instrument for policy learning.

CBA is a feature of the decision-making process on public investment at the central level in over two-thirds of surveyed member countries, albeit not in an exclusive way,

rather as a complement to other types of assessment. CBA was indicated to be the key decision-making tool in allocating funding to procuring authorities for particular projects in the U.K., Canada, Ireland, Australia, Mexico and Chile. For the other surveyed countries, where the system is more delegated to line procuring authorities and departments, CBA is considered an instrument among several decision-making tools and the implementation of a CBA is delegated to specific departments with regards to the sectors in which they focus on.

Finally, CBA is more commonly used in large infrastructure projects such as roads, railroads, airports and ports and less frequently in projects related to culture and leisure and scientific research. Germany, Ireland and Turkey are the only countries performing CBA for all type of projects.

Methodology and definitions

In 2014, the OECD conducted a Survey on Cost Benefit Analysis following the framework on public investment management by Rajaram et al. (2010). The survey was answered by 20 OECD countries. It covers the scopes and objectives of CBA, roles and responsibilities under it, its content and methodology, as well as related public accountability and learning. It was extended to all OECD member countries to collect evidence on how countries implement CBA, and which are the relevant characteristics and methodologies applied. The survey was submitted to country representatives in ministries of finance or equivalent departments with central budgetary and/or public investment roles (liaising with line departments and other key governmental stakeholders when relevant). In some cases, written questions were complemented by phone interviews to deepen some of the most significant aspects. Policy documents, guidelines and regulatory reference documents complemented the information base and were analysed when available.

Further reading

Florio, M., S. Gastaldo and I. Loudiyi (forthcoming), *OECD Journal on Budgeting*, OECD, Paris.

Figure notes


5.5: In the UK CBA is not prescribed under a specific law but in the Green Book, which is required guidance for all projects receiving central government funding; it is therefore a requirement even if it's not a law. In the Netherlands CBAs are required by law for long term projects in infrastructure, transport and spatial planning.

5.5. The general objective of CBA in your country according to legislation, regulation or official documents

	Legal foundation of CBA	General Objective of CBA					Main Role of CBA					
		Tool for prioritising investment	Justify project selection/ decision and financing	Accountability/ transparency tool	An assessment supporting project design	Tool for project monitoring	Tool for policy learning	Decision tool in allocating funding to agencies	Differs depending on actors	One among other decision making tools	Does not play a decisive in decision making	Is increasing in role and importance
Australia	●	✓						✓				
Austria	◆		✓						✓	✓		
Canada	●		✓	✓		✓		✓	✓	✓		
Chile	●		✓					✓				
Czech Republic	■			✓	✓	✓			✓	✓		
Denmark	◆	✓							✓			✓
Estonia	◆		✓	✓			✓		✓	✓		✓
France	●		✓			✓			✓	✓		✓
Germany	●		✓	✓		✓			✓			✓
Ireland	◆	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
Italy	●	✓				✓				✓		
Mexico	●	✓	✓	✓				✓		✓		✓
Netherlands	◆		✓						✓	✓		✓
New Zealand	◆		✓								✓	
Norway	◆	✓	✓		✓				✓	✓		✓
Slovena	◆		✓	✓	✓	✓			✓	✓	✓	
Sweden	◆	✓	✓	✓	✓	✓			✓	✓		
Switzerland	◆	✓	✓	✓					✓	✓		
Turkey	●	✓	✓	✓	✓	✓				✓		✓
United Kingdom	◆	✓	✓	✓	✓	✓	✓	✓				✓
OECD Total		10	16	11	10	8	3	6	13	14	2	10

- Yes, CBA is mandatory nationwide by legislation for all capital investment projects above a certain financial threshold.
- Yes, there is a legal requirement nationwide for CBA, but only for specific category of projects.
- Yes, there are different legal frameworks depending on procuring /regulatory agencies at national levels.
- ◆ There is no nationwide legislation, but there is a legislation requiring CBA at state/regional/local government level.
- No.
- ◆ There is no legal requirement, but CBA is recommended by government and used anyway.
- X Not applicable.


Source: OECD (2014), Survey on Cost Benefit Analysis.

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5.6. Sectors in which CBA is usually performed (2014)

Sectors	Countries
Road	AUS, AUT, CAN, CHE, CHL, CZE, DEU, DNK, EST, FRA, GBR, IRL, ITA, MEX, NLD, NOR, SWE, TUR
Rail	AUS, AUT, CAN, CHE, CHL, CZE, DEU, EST, FRA, GBR, IRL, ITA, MEX, NLD, NOR, SWE, TUR
Airports, ports and waterways	AUS, AUT, CAN, CHE, CHL, CZE, DEU, DNK, GBR, IRL, ITA, MEX, NLD, NZL, NOR, SLO, SWE, TUR
Urban transport	AUS, CAN, CHE, CHL, CZE, DEU, FRA, GBR, IRL, ITA, MEX, NLD, NOR, SLO, TUR
Water supply and wastewater	AUS, CAN, CHE, CZE, DEU, EST, GBR, IRL, ITA, MEX, NLD, SLO, TUR
Solid waste management	CAN, CHE, CZE, DEU, EST, GBR, IRL, ITA, SLO, SWE, TUR
Other environmental projects	CAN, CHE, CZE, DNK, GBR, IRL, ITA, NLD, NOR, SWE, TUR
Energy	AUS, CAN, CZE, DEU, GBR, IRL, ITA, MEX, NOR, SLO, TUR
Education	AUS, CAN, CZE, DEU, FRA, GBR, IRL, ITA, MEX, NOR, SWE, TUR
Health	AUS, CAN, CHE, DEU, FRA, GBR, IRL, ITA, NOR, SLO, TUR
ICT	CAN, CHE, CHL, CZE, DEU, EST, GBR, IRL, NOR, NZL, SLO, TUR
Culture and leisure	CAN, DEU, FRA, GBR, IRL, NOR, TUR,
Scientific research	CAN, CHE, CZE, DEU, EST, FRA, GBR, IRL, NLD, NOR, SWE, SLO, TUR,
Technological development and innovation	CZE, DEU, EST, IRL, NOR, TUR
Other	AUT, CHE, GBR, FRA, NLD, NOR

Source: OECD (2014), Survey on Cost Benefit Analysis.

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