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June - November 2022

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# H0BI



Publication Date  
8 November 2022

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**COST BENEFIT ANALYSIS (CBA)** is a crucial method for assessing investments in projects or programs involving the public interest. CBA analysis aims to provide preliminary information (in terms of economic parameters) for decision makers in determining the possibility of non-monetary profit projects such as flood mitigation projects, considering the creation of an industrial park to spur economic growth and jobs, and turning a forest into a palm oil plantation. Despite having very little financial resources, the government must conduct many initiatives or projects. They must therefore be used more effectively, that is, in accordance with specified standards considering the social and economic objectives of society. Using CBA, the government guarantees that economic resources are used effectively by choosing ventures that adhere to efficiency standards, (Volden, 2019).

The CBA aims to assess the financial effects of project alternatives implementation on key stakeholders, including the government, locals, and the aforementioned agency or company, over a specified time period. The alternatives' strengths and weaknesses are estimated using CBA. Benefits and costs are expressed in monetary terms and adjusted for the time value of money.

Organizations frequently utilise CBA to measure the desirability of a particular policy. It is an assessment of the anticipated benefits and costs, taking into consideration the status quo and foregone alternatives. Aggregation involves comparing profits and costs across several entities and time periods, and benefits and costs must be identified and assessed. CBA aids in determining if a policy's advantages outweigh its costs and, if so, by how much in comparison to other alternatives, allowing one to rank the alternative policies according to their cost-benefit ratio

There are three (3) measurements that typically employed in CBA as the decision criteria. The measurements are Net Present Value (NPV), Benefit Cost Ratio (B/C Ratio) and Expected Internal Rate of Return (EIRR).

#### **Net Present Value (NPV)**

All the future costs and benefits of each project scenario based on each economic life



of project were converted into present values using discount rate at fixed discount rate. According to Zhuang, Liang, Lin, De Guzman (2007), public discount rate practises vary widely over the world, with developed countries employing lower rates (3 to 7 percent) than the developing countries surveyed (8-15 percent). This discount rate is used to represent the opportunity costs of using the public funds for the given project. Public projects that have a positive NPV (benefits that outweigh costs) will be deemed acceptable or desirable. Following is the formula used to measure the NPV.

$$NPV = \sum_{i=1}^n \frac{B_i}{(1+r)^i} - \sum_{i=1}^n \frac{C_i}{(1+r)^i}$$

### **Benefits Costs Ratio (B/C Ratio)**

The B/C Ratio is a variant of the NPV. The present value of benefits is divided by the present value of costs. The project is undesirable if the B/C ratio is less than 1.0. It is a marginal project if it is exactly 1.0, but if it is greater than 1.0, its execution would seem justifiable. A project is deemed to bring value to society if the ratio exceeds 1, i.e., benefits outweigh costs. Following is the formula used to measure the B/C Ratio.

$$BC \text{ Ratio} = \frac{\sum_{i=1}^n \frac{B_i}{(1+r)^i}}{\sum_{i=1}^n \frac{C_i}{(1+r)^i}}$$

### **Expected Internal Rate of Return (EIRR)**

An Expected Internal Rate of Return (EIRR) is used as the indicator of the efficiency of a project investment. EIRR is defined as the discount rate that equalises the present value of the flow of costs incurred in the project with that of benefits, resulting in a Net Present Value (NPV) of 0 (zero), or a B/C ratio of 1, which indicates the proportion of profit the investment will be repaid with. This criterion determines the interest rate internally, indicating the project's return on investment, in contrast to the other two criteria, which use a fixed discount rate. The project is considered favourable if the EIRR is higher than the projected average return on public funds. Following is the formula to measure EIRR.

$$\sum_{i=1}^n \frac{B_i}{(1+r)^i} = \sum_{i=1}^n \frac{C_i}{(1+r)^i}$$

### **Conclusion**

Cost-benefit analysis (CBA) attempts to provide decision-makers with preliminary data (in terms of economic parameters) to help them assess the viability of non-financial profit initiatives, particularly when it comes to public works projects that are funded by the public. This economic information (B/C ratio, EIRR, and NPV) can quickly indicate how attractive a project is. Decision-makers can therefore use the results of CBA as the basis for making informed project implementation decisions.

### **Reference**

- [1] Boardman, Anthony E. et al, Cost Benefits Analysis. Concepts and Practice, 5th Edition, (Cambridge University Press, 2018).
- [2] Volden, G. H. (2019). Assessing public projects' value for money: An empirical study of the usefulness of cost-benefit analyses in decision-making. *International Journal of Project Management*, 37(4), 549-564.
- [3] Zhuang, J., Liang, Z., Lin, T., & De Guzman, F. (2007). Theory and practice in the choice of social discount rate for cost-benefit analysis: a survey (No. 94). ERD working paper series.



BizNewz 2022  
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