Training Programme CBA

CBA: performance indicators

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Translating facts into vision

Content

- What are the CBA performance indicators?
- More detail on:
  - Net Present Value (NPV)
  - Internal Rate of Return (IRR)
  - Benefit-Cost ratio (B/C ratio)
- Practical example: the waste treatment case

What are the performance indicators?

- The main performance indicators for CBA analysis: IRR, NPV and B/C
- These indicators give concise information about project performance and could be the basis for ranking projects

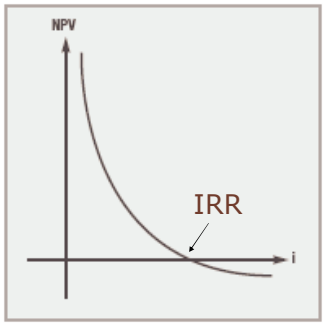
Performance indicators
NPV

$$NPV\,(S) = \sum_{t=0}^{n} at\ St = \frac{S_0}{(1+i)^0} + \frac{S_1}{(1+i)^1} + \frac{S_n}{(1+i)^n}$$

Sn is the balance of cash flow funds at time n and at is the financial discount factor chosen for discounting

- Project is feasible if NPV>0
- This is a very concise performance indicator: it is the actual amount of all the net flows generated by the investment expressed in one single value with the same unit of measurement

Performance indicators
Relationship NPV and discount rate



Performance indicators
IRR

$$NPV\,(S) = \sum_{t=0}^{n} St\,/\,(1+IRR)^t = 0$$

- The internal rate of return is defined as the interest rate that zeroes out the net present value of the investment
- Thus IRR could be an evaluation criterion for project appraisal: under a specific value of IRR the investment should be considered not suitable, e.g. < 5%

Performance indicators
B/C

$$B/C = PV(I)/PV(O)$$

- I are the inflows and O outflows. If B/C>1 the project is suitable because benefits, measured by the present value of the total inflows, are greater than costs, measured by the present value of the total outflows.