

Terms of Reference for Cost Benefit Analysis – Standard module

For use in Evaluations (mid-term, end of phase and other) and End of phase reports

Context

SDC is concerned about the effectiveness of its interventions. All SDC projects are held accountable for the economic and effective use of resources.

A multitude of different methodologies and criteria are available for project evaluation. The economic and financial analysis is an approach that examines whether the project is economically viable, sustainable. Concepts like net-present-value, cost-benefit-relations, internal rate of returns are commonly used.

It is in particular required to analyze in greater detail cost benefit relations in end of phase reports as well as to increasingly elaborate on this issue when proposing new projects.

Evaluations ex-post, mid-term as well as ex-ante should therefore delve into these topics. However, due to the nature of SDC projects (creation of public goods, long term effects, outreach to huge target groups, imperfect secondary data, etc.) the consultant has to strike the balance between reasonable effort and scientific robustness of her findings. Therefore, it is recommended to build in sufficient reserves for errors, risks and omitted aspects.

Expected Output

1. An economic and financial analysis of the project or at least parts of it.
2. Condensing the most relevant information in
 - a) an excel spreadsheet, allowing the modification of assumptions and doing sensitivity analysis (e.g. separate sheet on assumption and questions of attribution)
 - b) explicit description of how the attribution to the project has been modeled
 - c) a succinct explanation of the underlying assumptions, easy to understand for a non-expert third party
 - d) containing at least calculations of the internal rate of return, net present value and discounted and nominal cost-benefit relations and other management ratios considered as relevant in the specific case
 - e) reasonable, plausible explanations concerning estimations (comprehensible for non-expert third parties)
 - f) interpretation and critical evaluation of the findings in 1-2 pages
3. Capacity Building of SDC staff and partners on how to use the outputs - if necessary
4. Recommendations to improve the project M&E systems for improved future integration of economic and financial analysis concerns

Activities

Ideally the consultant elaborates a full fledged economic and financial analysis of the project. However, this will only in few cases be feasible due to the nature of SDC projects (see above).

Therefore we suggest a stepwise approach:

1. All SDC projects have logframes and usually quantified objectives with indicators and measurement systems (Monitoring and Evaluation). Based on this and in dialogue with the project staff the consultant shall quantify the most relevant benefits of the project, ideally combined with the corresponding cost (total cost, see below 3.).
2. Establishment of result chains to illustrate the attribution.
3. Calculation and attribution of total project costs (SDC plus other costs (in-kind and financial contributions of partners, negative externalities, etc.)
4. Establishment of the flow of funds over time (highlighting investment, divestment, depreciation, liquidation values etc. – if applicable)
5. Report writing incl. different explanations, recommendations
6. 2-3h crash course on how to interpret the major ratios and use the model (allowing elaboration of scenarios, revision of calculations, doing sensitivity analysis, etc.)

Estimated time

- Collection of relevant data: in the context of the rest of the evaluation
- Quantification and monetization of benefits, if not or not sufficiently available: 1 day
- Elaboration of flow of funds incl. assumptions: 1 day
- Elaboration of a results chain or similar to tackle attribution issues: 0,5 day (if applicable)
- Description of assumptions, estimations, attribution, used model (if necessary), etc.: 1 day
- Capacity building SDC and project staff: 1 day including preparation (if necessary)
- Elaboration of recommendations: 0,5 days

Total: approximately 3-5 days

Literature

Nassir Sapag Chain y Reinaldo Sapag Chain; Preparación y Evaluación de Proyectos, quinta edición, 439 pages; McGraw-Hill Companies, 2003, ISBN-10: 9701042484

Appendix 1 – Private Sector Development Example:

The following explanations refer to the separate Excel file, giving a concrete, but simplified example on how to do an economic and financial project evaluation. Other forms are possible, in addition there is sufficient literature explaining in detail the appropriate methods.

Consultants doing evaluations should be familiar with the state-of-the-art in project evaluation, including economic and financial project evaluation.

A fictitious private sector development case

Very simplified the story goes as follows:

1. The project supports and subsidizes the creation of 20 enterprises (from the private sector, with private sector owners, capital, and employment), the enterprises are multipliers, instruments from SDCs point of view. They may be socially motivated or not.
2. The enterprises receive the project support because they sell technologies to poor farmers which in turn become more productive and increase their (net) income. The farmers are the real target group of SDC.

So, there are two main benefits in the project (other benefits may be achieved as well, but it is simplified):

- a) the enterprises make money over time, i.e. profits and shareholder value,
- b) the farmers make more money thanks to the new technology (improving their livelihood etc.)

Our interest in the wellbeing of the enterprises is limited due to our mission (poverty reduction etc.), and we are not even shareholders. The enterprises are merely instruments to reach out to the poor, ideally massively, guided by the right incentives and sustainably a long time after the project is already gone. Therefore, these enterprises must be profitable, viable and the calculations in separate worksheets allow us to see this aspect, too: If they would not be viable, we would not find private sector partners or they would go out of business soon and our project would not succeed.

As many investments begin with losses we have to look at a longer period to see whether this can work out for the private sector actors. Therefore we have to explicitly take into account the time dimension (e.g. 6-10 years, not only the project phase). In addition, benefits continue accruing after the project is gone, if we did our job correctly.

Finally, the most important for SDC is the “externality”: the additional income generated at the level of the farmers, our target group.

That is more or less all one needs to know about the underlying case. Details can be found and/or guessed in the worksheet “Assumptions”. They will be totally different for your project - so no need to discuss the quality of assumptions. The model and the calculations are important.

How to replicate the Spreadsheet (or rather its underlying concepts and ideas)?

Quantifying benefits and monetizing them is for all these calculations key. The less information is available, the more assumptions might be needed. Creativity will be necessary, but assumptions must be plausible, reasonable and therefore very prudent, and of course explained correspondingly.

The structure of the Spreadsheet reads in this case like this:

1. Worksheet Assumptions
2. Worksheet on Flow of Funds total project
3. Worksheet calculation for one standard enterprise (case specific, can be ignored, kind of side calculation, showing us the feasibility at enterprise level, see above)

Key ratios

The consultant needs to replicate a calculation like suggested, tailored to the case. The client should understand the basic logic, but must at least understand the following ratios, contained in both ratios for visibility purposes (in particular when modifying assumptions to see directly the outcome).

1. **Net Present Value (NPV)**: if ≥ 0 , the project would be usually approved, but of course the higher the better and if there are comparable projects, the one with the highest NPV would be approved (all else equal). If the Net Present Value is 0, this does not mean that no value is created. It simply means our investment will generate exactly the rate of interest we used for discounting. This discount rate (or interest rate) is something which usually reflects our cost of capital or opportunity costs.
2. **Internal Rate of Return (IRR)**: indicates more or less an interest rate a bank would have to pay us, if we put the money into a bank account instead of investing it in the project. Obviously, the higher the IRR the better as it compensates the investor (and SDC) for the risks taken and the corresponding efforts.
3. **Cost-Benefit-Ratios**: if > 1 , the project would be usually approved, same logic as under 1. Indicates how much benefits we get for 1 \$ invested, e.g. 3,4 would mean we create with 1 \$ invested 3,4 \$ of benefits.

Whenever changing numbers, this should be done in the Worksheet assumptions, changes of the major ratios can be seen immediately, allowing for some kind of sensitivity analysis. All worksheets are linked, so that changes need to be inputted only once.

The consultant has to make sure that the client understands the information contained in this part of analysis, but understands as well the limitations (assumptions, other evaluation criteria, see as well box below).

How to establish the contents for the worksheets?

An iterative process will be likely:

1. Identify the main benefits
2. Try to quantify and monetize them
3. Identify all costs (not only SDC costs), ideally attributable to different benefits
4. Take into account specificities concerning investment, depreciation, etc.
5. Do this for each year, determine reasonable time horizons
6. Treat attribution problems explicitly

7. Expand, modify, fill in the worksheets as required by the specific case.

If you can not quantify benefits, do not forget to mention them, e.g. the project might be replicated already in all other provinces of the country, but you simple might not have any reasonable guesstimate of what is going on. But obviously, this is multiplying the benefits of the ongoing project even if attribution will be below 100% (e.g. as others are doing most of the work and bearing costs as well).

Important reminder: economic and financial analysis is not the only decision criteria. Equity, gender, conflict reduction, etc. might all be important, too. The evaluator will have to ponder all criteria as stipulated by the project documents and objectives. Maybe the economic and financial analysis is of minor importance in a purely politically motivated project. However, the additional information is always helpful (reallocation of resources, communication, negotiation with partners, etc.).