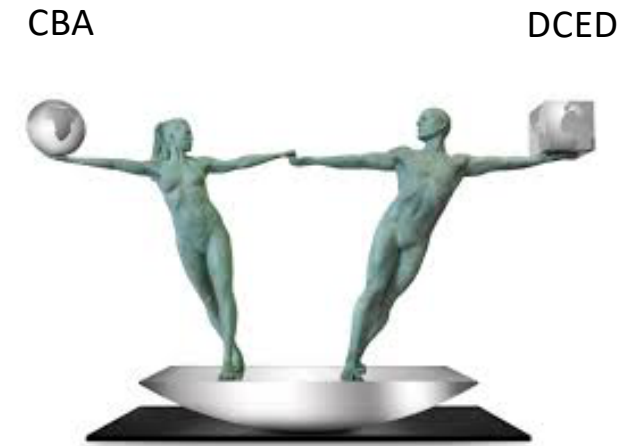


## Cost Benefit Analyses (CBA) & The DCED Standard for Results Measurement

**This document aims to clarify what the CBA tool and DCED framework for RM have in common, what the differences are and how programs benefit from both the CBA tool and DCED RM framework to improve program design and performance.**

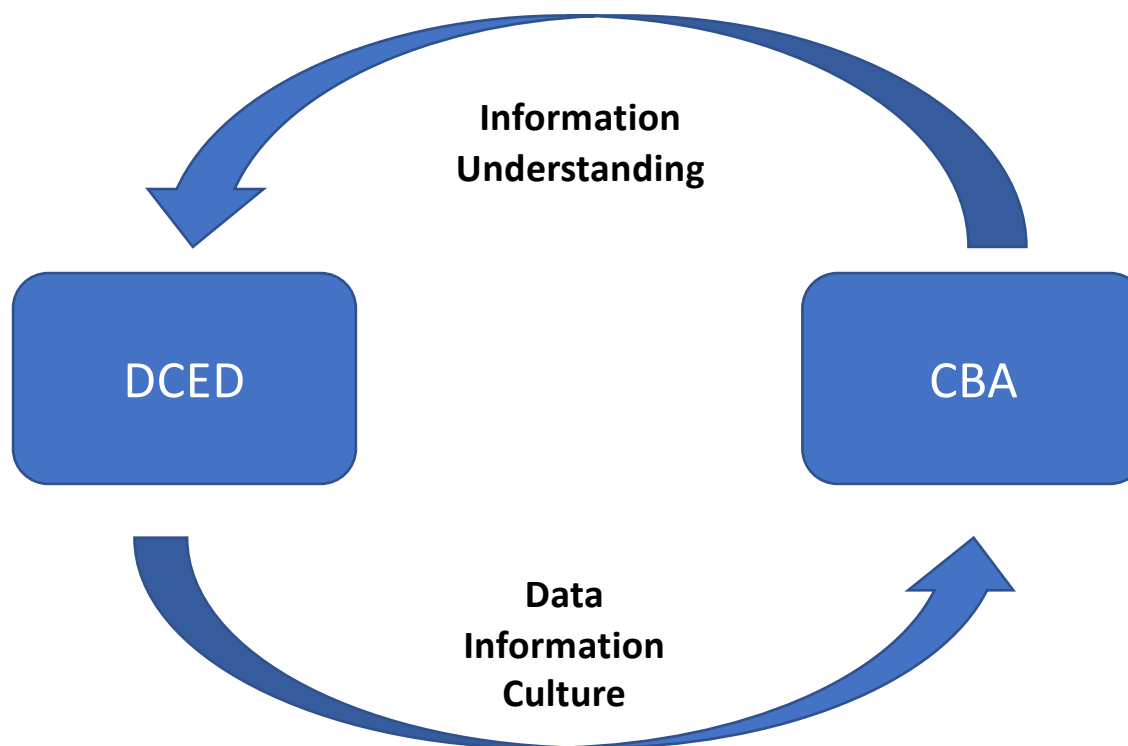
This document is written for SDC program managers and managers from implementing organizations. For those wishing to read more on the CBA tool or the DCED framework reference is made to other publications.

8<sup>th</sup> August 2019



*In the remainder of this document we simply use the abbreviations CBA and DCED when referring to SDC's ex-ante financial and economic evaluation tool, including cost-benefit and cost-effectiveness analyses, and when referring to the results measurement framework of the DCED Standard for Results Measurement.*

## CBA and DCED reinforce each other



## What do both CBA and DCED aim to achieve?



They are both instrumental for **results-based management** aiming to improve the effectiveness of programs by linking results with resources.

Both CBA and DCED strive to maintain a pragmatic approach, and aim to be '**doable**' (with limited efforts).

Both CBA and DCED focus on **usage**: for planning, for management, for learning and for reporting.

Both CBA and DCED enable practitioners to '**deal with uncertainties**' by collecting facts, specifying assumptions and making informed decisions.

## What are CBAs, and why are they done?

It's a systematic process for calculating and comparing benefits and costs of investments over time. A CBA can be done from the perspective of a program's individual beneficiary or program partner (**a financial CBA**), as well as for the society as a whole (**an economic CBA**). A consolidated cash/value flow table is created showing the investments, the recurrent costs per year and the benefits per year. Subtracting costs from benefits creates net benefits per year.

With this, the Internal Rate of Return (IRR) can be calculated that indicates how much interest is obtained for every dollar invested. Or, the Net Present Value (NPV) can be calculated after first defining the discount rate (the opportunity costs of the money): how much is being generated; to repay the capital, to pay for the interest and still remain with an 'additional gain'.

[Click here for a short video on CBAs](#)



IRRs and NPVs are calculated and used to **analyze sensitivity** ("what if cost go up or benefits go down?") and to **compare options**. This creates insight into feasibility, choices and risks.

## When are CBAs done?

In theory, whenever they are needed to make decisions on what to do (differently): planning, management and evaluation. In practice, at SDC level limited to ex-ante (at program design stage and part of the credit proposal) and ex-post (as an evaluation tool). Ideally, they are done during implementation for program steering.

## What are the key challenges?

The availability of reliable data on costs and benefits and appropriately detailed intervention logics linking resources to benefits. Without these, external CBA experts either need to collect the data and develop intervention models, with a risk of not collecting the correct data, making up intervention logics on the spot, or making too many assumptions.

## Who does the CBAs?

In practice these are led by external experts, but ideally in a participatory way: to provide information from the program to the exercise and to ensure that decision makers will use the information deriving from the CBAs. This should enable and motivate programs to undertake these CBAs in the future by themselves.



## What is the DCED Standard for Results Measurement?

**It's a framework that helps programs to plan, monitor and report results.**

It basically informs programs how to manage for results: conduct market analyses, define strategies, develop causal models, define indicators, obtain baselines, monitor and assess impact (dealing with attribution) for interventions, aggregate results and costs, and use the information for learning (what works and what doesn't?) and making decisions (adjusting interventions and strategies).

**Programs with DCED compliant results measurement systems should thus be able to provide reliable data and appropriately detailed and logic theories of change, with specified assumptions, making the CBA an easy and valuable exercise.**

[Click here for a short video about the DCED Standard](#)



The DCED Standard for Results Measurement is mainly (but not only) used by Market Systems Development (MSD) and Vocational Skills Development (VSD) programs.

## What value does CBA add to DCED compliant programs?

### Financial CBAs for individual actors.

MSD and VSD programs aim to create innovative sustainable business models, often between a private sector actor and target beneficiaries. The viability and sustainability of the model depends to a large extent on the financial incentives for each of the actors in the business model. **Financial CBAs help to sharpen the assessment:** not only to calculate 'profitability or returns' for each actor, but to assess the alternatives that the actors have, given the cost of money.



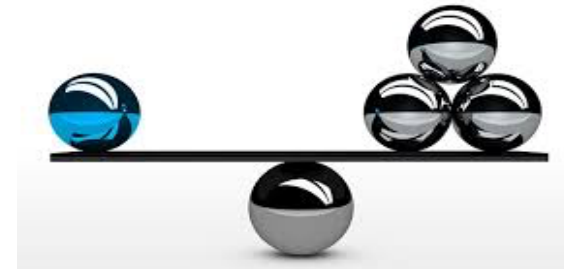
It's a tool that assumes that decisions are taken by actors (in other words by people) in an analytical and rational way, focusing on financial gains only. **Many decisions are however also taken for other reasons such as strategic positioning within the market.** Assessing viability of business models need to take those (non-quantifiable) incentives into consideration too. SDC underlines that financial CBAs are never the only assessment tools to assess viability and are not the only decision-making criteria.

## What value does CBA add to DCED compliant programs?

### Economic CBAs for interventions, markets, components and programs.

MSD programs often implement several interventions to achieve changes in one intervention area or market. **Economic CBAs will enable comparisons between interventions and between markets in terms of effectiveness**, which is crucial information for decision-makers: maximizing impact with minimal resources.

Economic CBAs help to assess **effectiveness of the programs** for learning; to improve and to inform policy dialogue.



NPVs and IRRs for interventions and markets highlight only effectiveness (for a relative short timespan). **Other dimensions are equally important**, such as the depth of change, the importance of unlocking constraints, the degree of inclusiveness and many other dimensions that need to be considered.



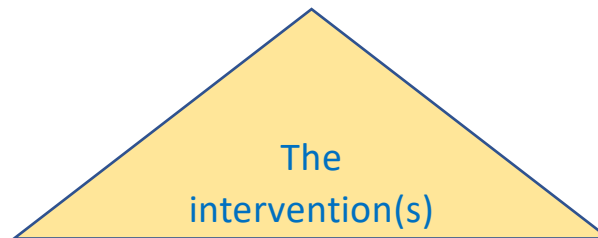
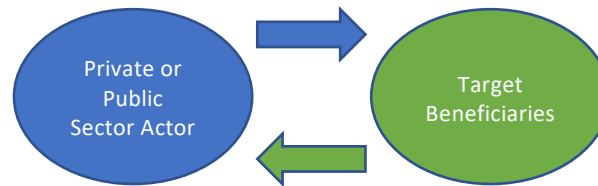
# CBA

**Financial** CBAs for actors in the business model

**Economic** CBAs at intervention level

**Economic** CBAs at market and program level

## Sustainable Business Model



Program and markets with several interventions

# DCED

Assessing the likelihood of sustainability

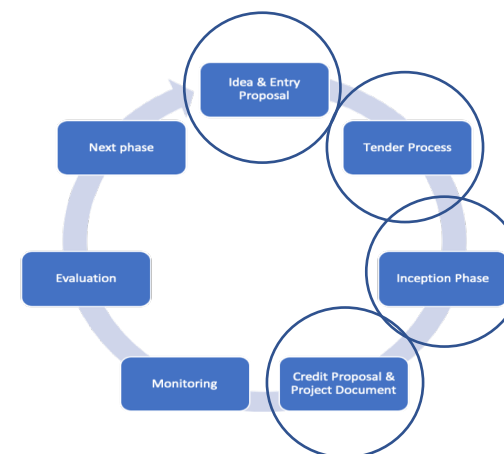
Assessing and reporting intervention costs and results

Aggregating costs and results

## Dealing with uncertainty



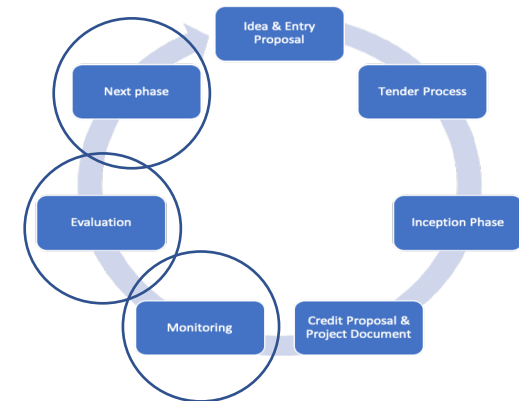
At the **Program idea and Entry Proposal** stage a '*back of the envelope*' type of **economic CBA** for the program should give insight into rational and ambitions of the program. Naturally, especially for MSD programs, many intervention details can't be known at this stage. **Assumptions** are thus made that then feed into the more detailed CBA at the Tender, Inception and Credit proposal phases.



|                    | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 | 2035 | 2036 | 2037 | 2038 | 2039 | 2040 | 2041 | 2042 | 2043 | 2044 | 2045 | 2046 | 2047 | 2048 | 2049 | 2050 | 2051 | 2052 | 2053 | 2054 | 2055 | 2056 | 2057 | 2058 | 2059 | 2060 | 2061 | 2062 | 2063 | 2064 | 2065 | 2066 | 2067 | 2068 | 2069 | 2070 | 2071 | 2072 | 2073 | 2074 | 2075 | 2076 | 2077 | 2078 | 2079 | 2080 | 2081 | 2082 | 2083 | 2084 | 2085 | 2086 | 2087 | 2088 | 2089 | 2090 | 2091 | 2092 | 2093 | 2094 | 2095 | 2096 | 2097 | 2098 | 2099 | 2100 | 2101 | 2102 | 2103 | 2104 | 2105 | 2106 | 2107 | 2108 | 2109 | 2110 | 2111 | 2112 | 2113 | 2114 | 2115 | 2116 | 2117 | 2118 | 2119 | 2120 | 2121 | 2122 | 2123 | 2124 | 2125 | 2126 | 2127 | 2128 | 2129 | 2130 | 2131 | 2132 | 2133 | 2134 | 2135 | 2136 | 2137 | 2138 | 2139 | 2140 | 2141 | 2142 | 2143 | 2144 | 2145 | 2146 | 2147 | 2148 | 2149 | 2150 | 2151 | 2152 | 2153 | 2154 | 2155 | 2156 | 2157 | 2158 | 2159 | 2160 | 2161 | 2162 | 2163 | 2164 | 2165 | 2166 | 2167 | 2168 | 2169 | 2170 | 2171 | 2172 | 2173 | 2174 | 2175 | 2176 | 2177 | 2178 | 2179 | 2180 | 2181 | 2182 | 2183 | 2184 | 2185 | 2186 | 2187 | 2188 | 2189 | 2190 | 2191 | 2192 | 2193 | 2194 | 2195 | 2196 | 2197 | 2198 | 2199 | 2200 | 2201 | 2202 | 2203 | 2204 | 2205 | 2206 | 2207 | 2208 | 2209 | 2210 | 2211 | 2212 | 2213 | 2214 | 2215 | 2216 | 2217 | 2218 | 2219 | 2220 | 2221 | 2222 | 2223 | 2224 | 2225 | 2226 | 2227 | 2228 | 2229 | 2230 | 2231 | 2232 | 2233 | 2234 | 2235 | 2236 | 2237 | 2238 | 2239 | 2240 | 2241 | 2242 | 2243 | 2244 | 2245 | 2246 | 2247 | 2248 | 2249 | 2250 | 2251 | 2252 | 2253 | 2254 | 2255 | 2256 | 2257 | 2258 | 2259 | 2260 | 2261 | 2262 | 2263 | 2264 | 2265 | 2266 | 2267 | 2268 | 2269 | 2270 | 2271 | 2272 | 2273 | 2274 | 2275 | 2276 | 2277 | 2278 | 2279 | 2280 | 2281 | 2282 | 2283 | 2284 | 2285 | 2286 | 2287 | 2288 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| 3290 | 3291 | 3292 | 3293 | 3294 | 3295 | 3296 | 3297 | 3298 | 3299 | 3300 | 3301 | 3302 | 3303 | 3304 | 3305 |
|--------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-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| Cost/Benefit Ratio | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      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|      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      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|      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |



The **ex-ante financial CBAs** for individual actors and **ex-ante economic CBAs for interventions** are part of the intervention design. They help to assess the viability of the proposed interventions and business models in terms of assessing the costs and benefits for the individual actors and for the program.

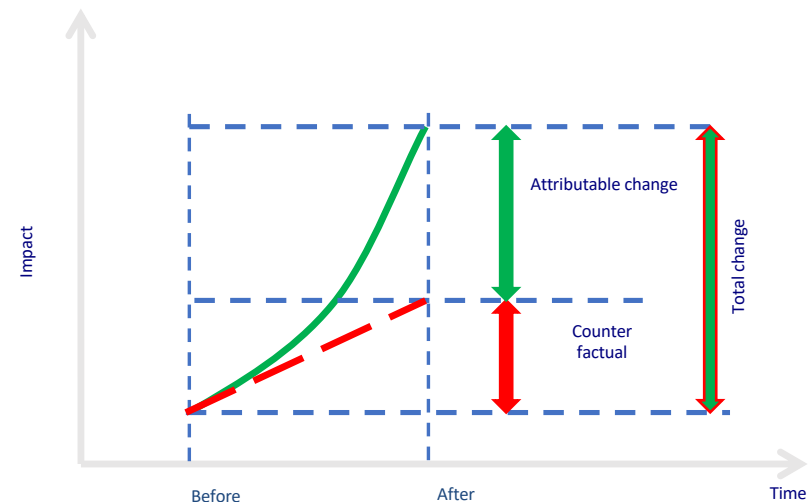


The **ex-post financial CBAs** for individual actors and **economic CBAs for interventions** are part of intervention monitoring and learning and best incorporated in the semi-annual **review system for interventions**.

The **ex-post economic CBAs** for intervention areas, markets and components are best incorporated in the **annual internal reviews and (external) mid term reviews**.

## Attribution (1)

Determining the counterfactual is not easy, but needs to be done in order to assess the benefits of the interventions, intervention areas, markets and the program. This often implies assessing Difference-in-Difference methods rather than simple Before and After Comparisons. [Click here for more information on attribution methods.](#)



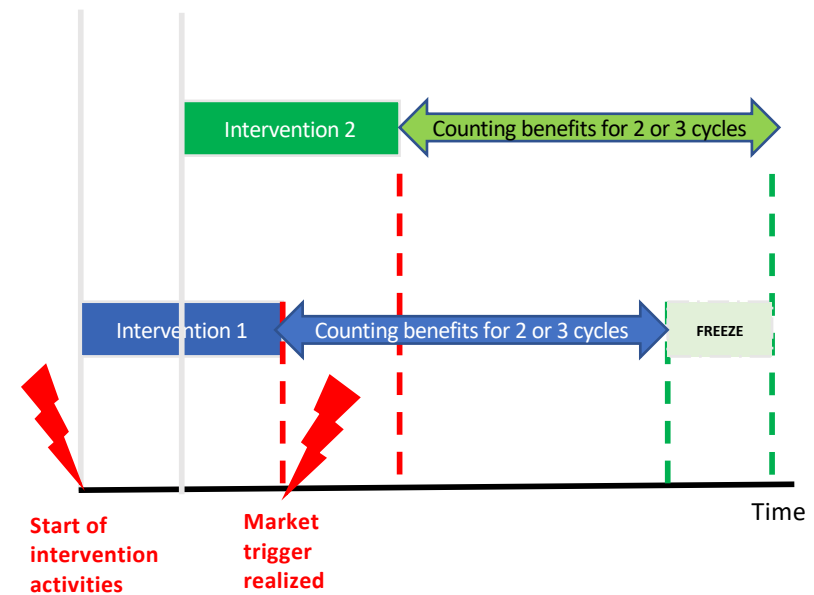
For ex-ante CBAs **conservative projections with realistic assumptions** need to be made.

For ex-post CBAs the program's (DCED compliant) results measurement system should have ensured that **attributable benefits have been assessed** for single interventions that are aggregated for intervention areas, markets and components.

## Attribution (2)

**Time dimension.** Although successful interventions are sustainable and bring benefits 'for eternity', the question is how long those benefits are attributable to the program? The longer the attribution period, the higher the benefits, and the more positive the NPV and IRR (even if future benefits are discounted with the opportunity cost of money via the discount rate).

Programs that use DCED compliant results measurement systems usually fix the cut-off point for interventions at **2 or 3 business cycles**, following the overall underlying assumption that programs only speed up changes that would have happened anyway. The programs' attribution systems provide aggregated annual and cumulative results for all interventions, per market and for the program.



## Implementation Challenges (1)

### Using the information from the CBAs for program management.

Financial and economic CBAs should be done during the development, management and reviews of interventions. This implies that programs should have the drive and skills to undertake them. Few programs however do CBAs.

**MSD and VSD programs that use an appropriate (DCED compliant) results measurement system with sufficient human resources (skills, attitude), should be able to undertake financial CBAs, and with a bit of support, also economic CBAs.**



## Implementation Challenges (2)

### Using the information from the CBAs for program steering.

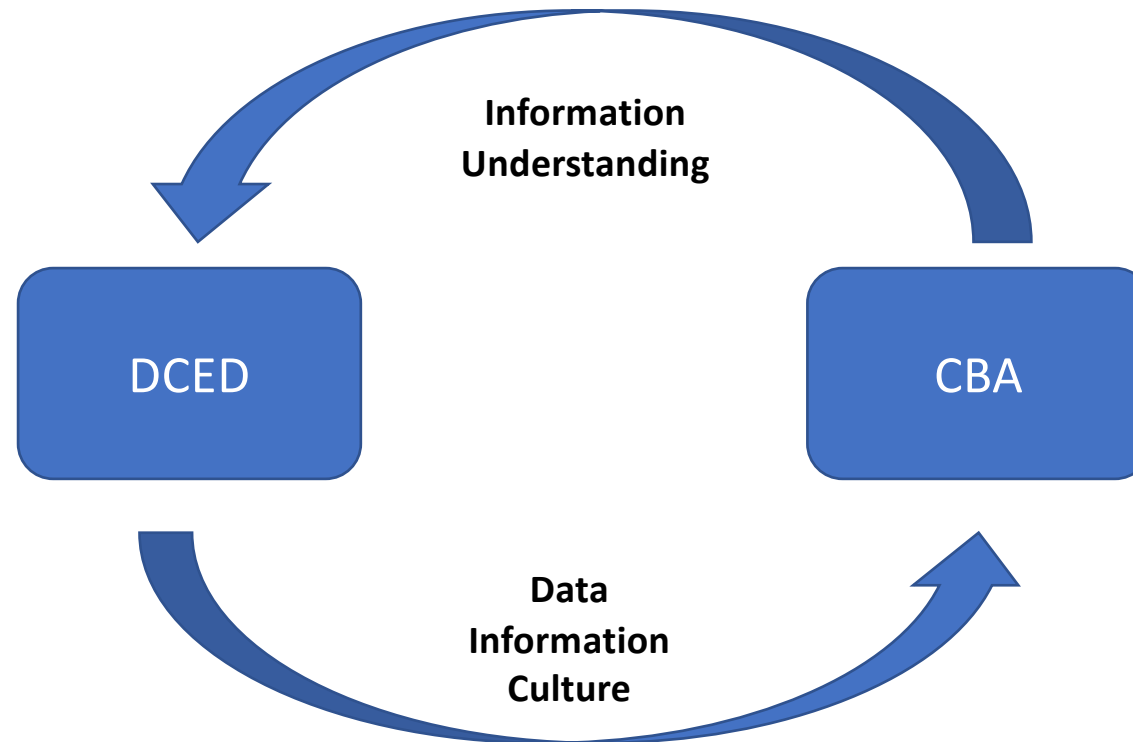
Economic CBAs can assist SDC managers to steer the program: using the ex-ante economic CBAs for **selecting markets and intervention areas**, and using the ex-post economic CBAs for **reviewing intervention areas and markets**.

**CBAs help to make decisions, they are however not the only decision making criteria.** For example, a program may achieve an important systemic change in one intervention area but quantifying all benefits maybe impossible, hence leading to a negative NPV, which is of course fully acceptable.

| What                                                 | Why                                                                           | How                                                                                                                                                                                                                                                                                                                                                                                                       |
|------------------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Reviewing the portfolio of sectors and interventions | Be involved at crucial events, refrain from interfering at operational levels | <ul style="list-style-type: none"> <li>Discuss the periodic sector strategy reviews and assess the effectiveness of these reviews, do not repeat the portfolio review itself.</li> <li>Discuss and approve changes in the portfolio of sectors and sector strategies, not the interventions.</li> <li>Ensure that the implications of these changes are presented (projections and resources).</li> </ul> |

*Monitoring and Measuring Results in Private Sector Development, Good practices for SDC program managers, June 2016, revised July 2018 and February 2019*

## CBA and DCED reinforce each other





**Visit these sites and documents for much more and more detailed information:**

## **SDC**

**[How-to-Note](#), Financial and Economic Analysis of Projects with a focus on Cost Benefit Analysis (CBA) and Cost Effectiveness Analysis (CEA)**

SDC internal: see field handbook, 5.1. working aids

**[SDC PCM e Learning: Module 6](#)**

## **DCED**

**[Measuring results & the DCED Standard](#)**

**Seek more information or assistance:**

SDC Quality Assurance

SDC Inclusive Economic Development:

Pradeep Itty

Peter Beez

Andrea Inglin

Selina Haeny

[pradeep.itty@eda.admin.ch](mailto:pradeep.itty@eda.admin.ch)

[peter.beez@eda.admin.ch](mailto:peter.beez@eda.admin.ch)

[andrea.inglin@eda.admin.ch](mailto:andrea.inglin@eda.admin.ch)

[selina.haeny@eda.admin.ch](mailto:selina.haeny@eda.admin.ch)

**Compiled by [Hans Posthumus](#) for SDC under the Back Stopping Mandate**