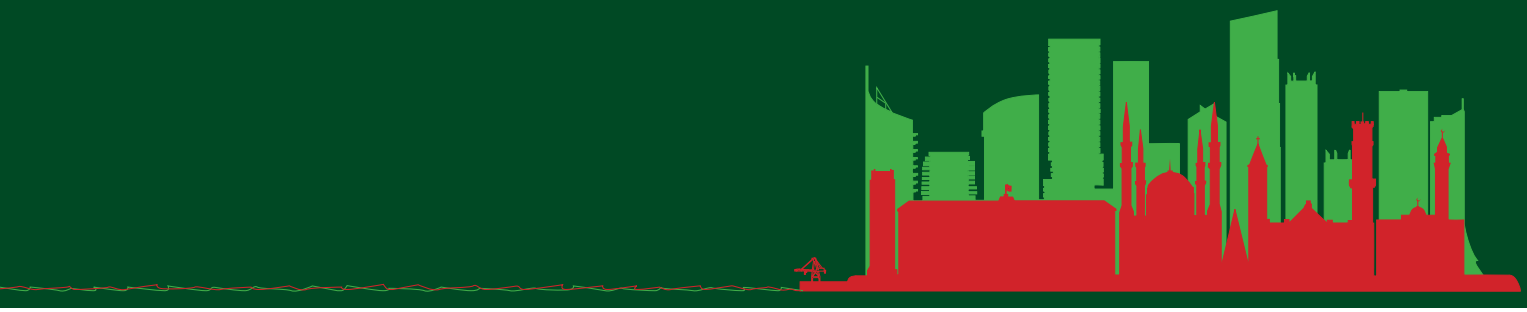

INDIRECT PROFITABILITY

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INDIRECT PROFITABILITY ANALYSIS FOR URBAN DEVELOPMENT

Methodology
Large-scale investment projects like the Beirut Waterfront produce considerable direct, indirect and secondary economic effects. These are reflected in (a) increased added value, (b) higher employment rates and (c) income as well as in the generation of (d) additional earnings for public authorities through taxes and social security contributions. The entirety of these effects is called the indirect profitability of the investment project (also referred to as flow-on analysis).

The indirect profitability is calculated to show that a project - or in other cases a state funded institution - has significant positive effects that exceed the costs for the public. Chronologically, the building / investment phase is separated from the operating / utilisation phase for analytical purposes. The investment phase is usually regarded in total over the building period. For the utilisation phase, a typical year in full operation is used a basis. Thereupon, an increase of the usage can be applied starting with an initial low volume reaching full capacity after a certain period. This is particularly relevant for large-scale and long-lasting building projects with different completion dates.

Besides the direct (primary) effects of the project on the economy, the analysis also includes influences on downstream industries and markets. In this regard, indirect effects refer to purchased materials and services while secondary effects reflect overall consumption effects through increased income.

The indirect profitability analysis thus, greatly exceeds a project-specific economic feasibility study. However, it is nonetheless based on main assumptions and results of the underlying venture. The following scheme illustrates the relationship between the different effects:

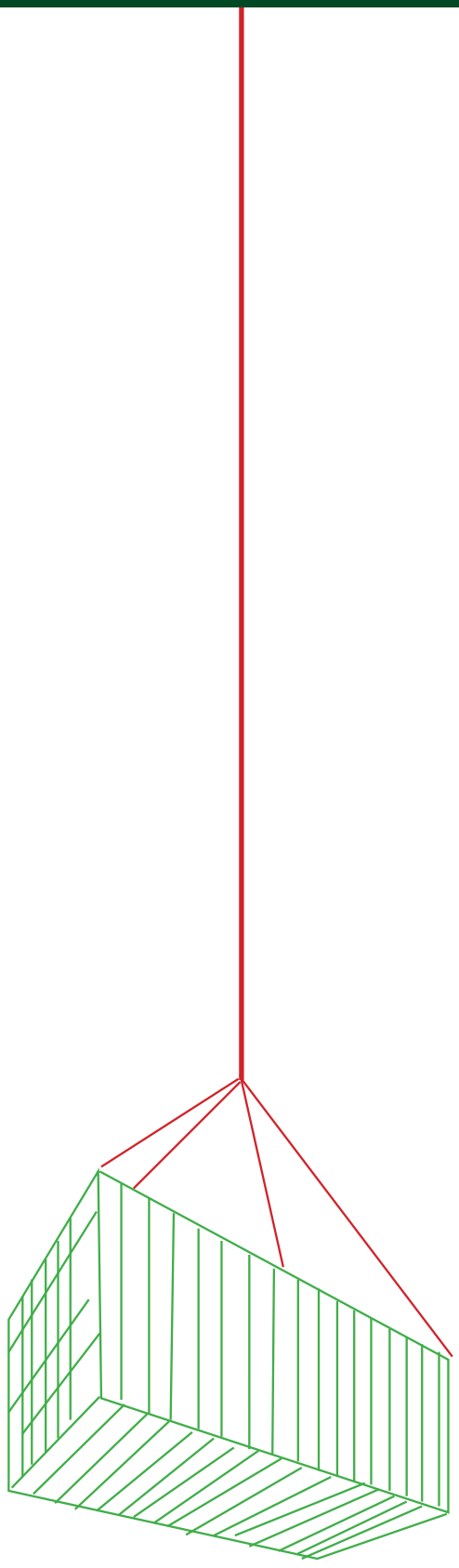
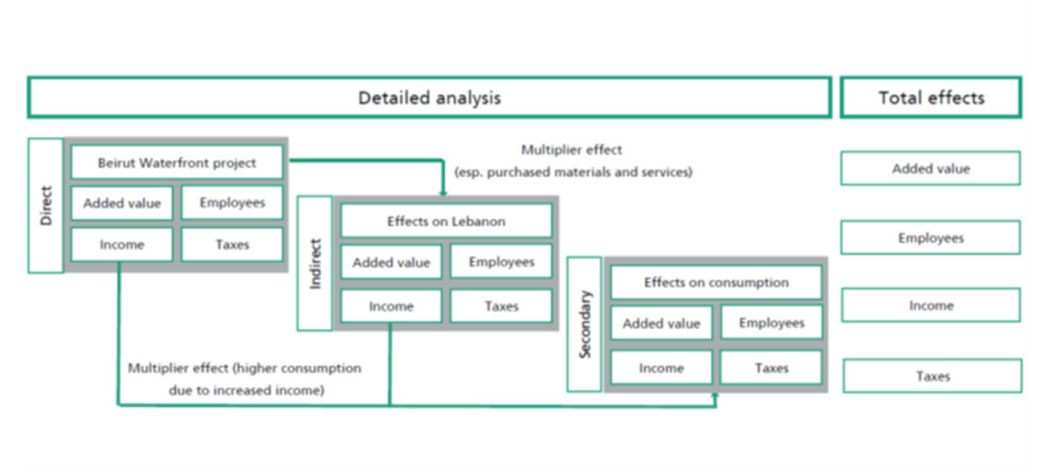


Figure 39: Methodology



Source: Fraunhofer IMW

On the other hand, the public sector must finance infrastructure investments that cannot be transferred to the private sector directly or via PPP (Public Private Partnership) models. These investments mainly encompass roads, park areas and cultural locations but also schools and hospitals. In addition to the quantitative approach described above, qualitative effects can play a significant role in the examination of the overall feasibility of a project. These impacts can affect political and socio-economic stability, environmental and sustainability criteria as well as image improvement, cultural and other public targets.

Analysis of the Beirut Waterfront project

Assumptions

An indirect profitability analysis requires large amounts of input data in numerous categories. However, this is only available to a limited extent for Lebanon and therefore a substantial amount of numbers had to either be derived from comparable data on an international level or be estimated. Even though some input was received from local contact persons, a high level of uncertainty remains. In addition to the detailed assumptions (see appendix), the following general guidelines were applied:

- Dislocation and expulsion effects were widely disregarded because of the current economic situation in Lebanon, which is characterized by a high unemployment rate and a significant underutilisation of capacities in many sectors of the economy; the project would thus be a step towards higher occupation rather than leading to expulsion to a greater extent.

- In the calculation, the investment phase was considered as one unit over the assumed building and construction period of 15 years. To show the annual effects, the numbers were then divided and allocated to the respective years. The increasing utilization of the Beirut Waterfront is reflected in higher shares of the full effects over time (see scenarios).

- Due to the unknown number of import shares and the possibility to impose certain demands regarding local value creation, the economic effects in Lebanon are varied in three scenarios (80 %, 60 % and 30 % local value creation).

- In line with this, VAT was only applied to goods and services purchased locally (VAT-exemption for imports), so the indirect profitability in Lebanon increases with higher local value creation. Potential customs duties were not considered.

- All project-related assumptions were taken from the plan developed by Colliers with reference to the current base case option 2 (contingencies for cost overruns are not included).

Based on these assumptions this analysis will determine whether the Beirut Waterfront project is likely to not only become an urban quarter that is economically, socially, and ecologically sustainable, but can also generate additional growth and public income to co-finance the new construction of the harbour in a nearby location. Some of the public earnings could also be used for social measures such as support for low-income families and ecological improvements such as the implementation of a sustainability concept.

Due to the limited availability of reliable and detailed data, the results for the different parameters are given as scenario-driven ranges that for some effects show significant deviations (see 3.5). In sections 3.2 through 3.4, the base case for the current planning option 2 is presented in more detail.

Summary

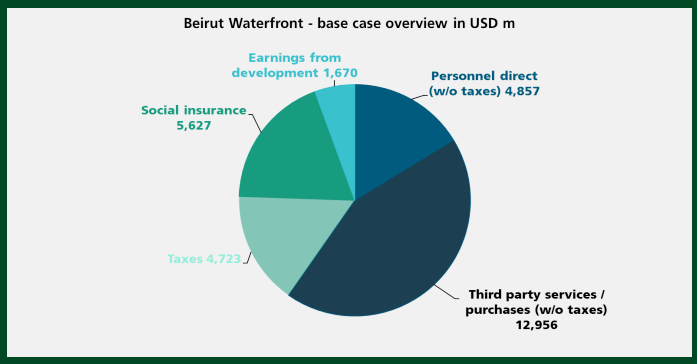
While the idea for the Beirut Waterfront project resulted from a catastrophic event it has the prospect to be converted into a positive chance for the city and Lebanon altogether. It provides the opportunity to construct a lighthouse project that sends out its rays to the region and could improve the image of a country that for a multitude of reasons has had to play below its proper level for far too long.

In the current option 2, the project has a direct investment volume of approx. USD 7.2 bn (w/o contingencies) that allows for a new urban quarter with all the necessary infrastructure of an attractive venue, including gastronomy, schools, parks and beaches as well as cultural, sports and leisure facilities. In addition, a significant number of workplaces in offices and the hospitality industry can be created and provide improved economic perspectives for its inhabitants.

Besides uncertainties due to the lack of data and the early stage in the planning process, the analysis shows that the investments in public facilities adding up to a total volume of approx. USD 1.9 bn would in the medium-term flow back to the public budget (and the social insurance system). Furthermore, tax revenues would generate earnings that could be used to co-finance the new construction of the harbour as well as social and ecological measures. Overall, the project has significant positive effects that exceed the initial costs for the public.

The following figure summarises the overall results of the indirect profitability analysis for the Beirut Waterfront project by different effects. Basis is a calculation period of 25 years with an investment phase of 15 years and a utilisation of the facilities beginning step by step from year 9 on in the base case:

Figure 47: Summary

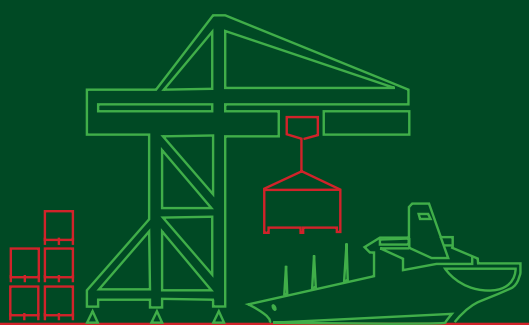


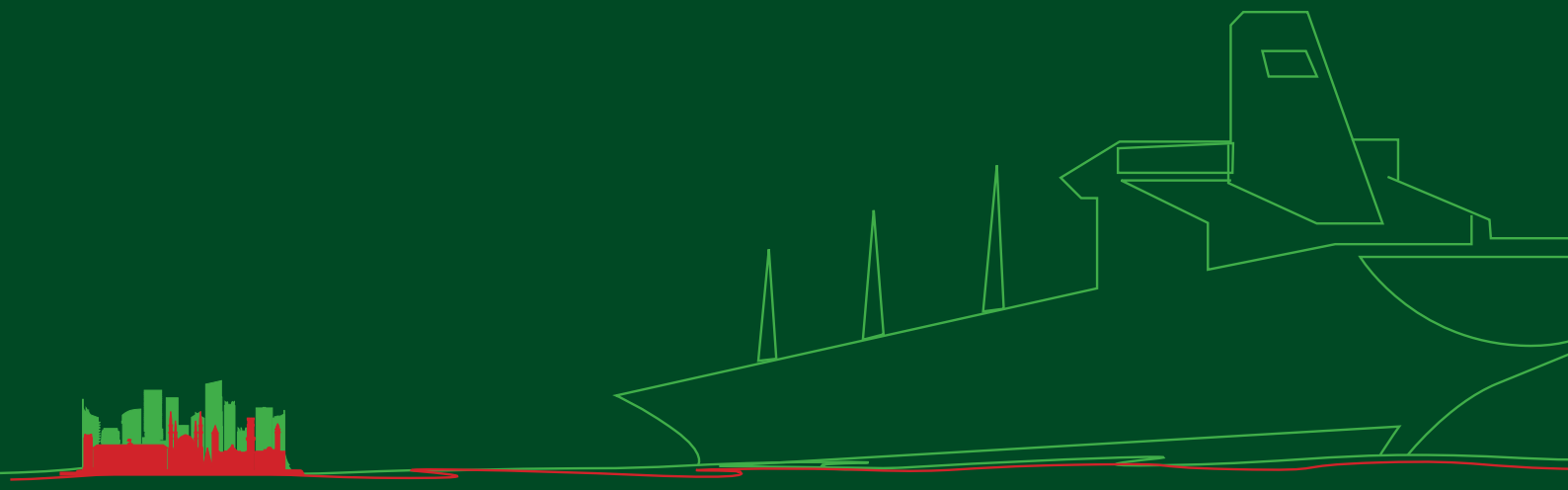
Source: Fraunhofer IMW

Based on the assumptions made, public refunding through taxes and earnings from the development totals to approx. USD 6.4 bn, more than threefold of the initial spending. The scenario analysis showed that favourable results can be achieved even in a supposed downside case. In addition, social security funds would receive payments of approx. USD 5.6 bn and in turn reduce expenses because of unemployment and the underutilisation of economic capacities.

The share of personnel expenses (based on direct added value w/o taxes and social security contribution) and third party services / purchases (based on indirect and secondary added value w/o taxes and social security contribution) that would come into effect in Lebanon depends on the contribution of local companies and employees to the construction of the Beirut Waterfront project.

Including earnings from development and on the assumptions made, the indirect profitability of the Beirut Waterfront project could generate to approx. USD 30 bn in the base case over a period of 25 years.





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