Project Value Delivery | Large, Complex Project Leadership White Paper Series

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How Financial Markets Influence Large Industrial Projects

Large industrial projects are often partially financed by debt, and often leverage an international supply chain and therefore are quite susceptible to financial parameters such as interest rates, inflation and foreign exchange, as well as the condition of the global economy. In this White Paper we reflect on how those issues are managed at project level.

Management of financial aspects by the owner during the development phase

Main financial parameters to be considered are interest rates, inflation, foreign exchange, and commodity prices or product prices market fluctuations.

During the project development phase, financial parameters are only some of the inputs into the project business plan. The level of sensitivity of the business plan to each of those parameters is therefore assessed in a comprehensive manner. We identify five main factors that drive the sensitivity of the business plan to the financial parameters:

- Relative weight of Capex and Opex in the total cost of ownership
- Actual construction duration until revenue generation
- Expected duration of facility operation and revenue generation
- Ratio of debt leverage in the facility financing scheme
- Currency basket of Capex, Opex and revenue streams

Financial parameters may significantly affect the overall profitability of capital projects

Relative weight of Capex and Opex in the total ownership cost

This relative weight varies between industries. The higher the weight of Opex, the less important Capex-influencing parameters will be. This is the generally the case in extractive industries where the relative weight of the Capex in the business plan is quite limited. In power generation, the weight of Capex in the total ownership cost will increase significantly from coal or hydrocarbon fuelled facilities to nuclear facilities and become quite extreme for renewable energy. In this situation, any parameter bearing on the Capex becomes more decisive. In infrastructure projects, the weight of Capex is generally significant.

Actual construction duration until revenue generation

The longer construction takes without any revenue, the more interest rates will weigh in the business plan – in the nuclear industry for example, they are decisive and this is why government backed financing providing low interest rates is unavoidable, as commercial debt financing would be too expensive and could almost double the overall ownership cost! This also explains the extreme sensitiveness of assumptions regarding ramp up duration as they will have a very significant impact on profitability.

Expected duration of facility operation and revenue generation

In extractive industries, expected lifetime of facilities before depletion of the resource is often around 20-25 years. In power generation, it is often more 40 years as an initial objective, and facilities are often actually operated for 60 or even 80 years. The longer the expected duration of operation, the more weight interest rates and inflation will have.

Ratio of debt leverage

Interest rates will play a higher role depending on the share of financing that is debt-based. This will also increase the influence and oversight of lenders on project governance. Oil & gas extractive projects are typically funded by oil companies based on their own funds without project debt and are insensitive to interest rates. Mining and minerals processing projects are often funded using some amount of debt and are more sensitive. Power generation plants are often significantly funded using debt and will be sensitive to interest rates, this explains why renewable projects have been significantly hit by recent interest rates hikes. Government-funded infrastructure projects are generally insensitive to project rates but will be susceptible to the overall government budget woes, which is also affected by interest rates on government debt.

It should be underlined that debt leveraging is a double-edged sword for the owner. On one side, it allows to improve dramatically profitability by using less capital to generate a higher return on investment. On the other side, it makes the return on investment of the Capex much more sensitive to interest rates and actual operating performance.

Currency basket of Capex, Opex and revenue

The currency issue always needs to be considered in light of the overall currency streams of the owner, and not just for the individual project, in particular if there is an owner-wide imbalance between revenues and expenditures. However, it remains useful to have a certain balance for the specific facility, in particular regarding Opex and revenue. Currency issues for the time-bound Capex phase can always be insured against using hedging mechanisms, while it will be much more difficult for the operations phase.

Management of financial aspects by the owner during the execution phase

Industrial owners generally have strong balance sheets and continuous revenues from other operations in parallel to the project. Therefore, any approach to dealing with financial risks during project execution will depend on the overall situation of the owner. For example, the need to implement specific currency exchange protection will depend on other inflows and outflows in that currency at organisational level. The same applies to interest rates, as it will be the mix of all debt instruments currently valid that will drive decision-making.

Five main factors drive the sensitivity of the business plan to the financial parameters:

- **Relative weight of Capex and Opex in the total cost of ownership**
- **Actual construction duration until revenue generation**
- **Expected duration of facility operation and revenue generation**
- **Ratio of debt leverage in the facility financing scheme**
- **Currency basket of Capex, Opex and revenue streams**

If the project is particularly substantial compared to current operations, or in the case of Special Purpose Vehicles with partners for a specific capital project, those owner-wide approaches will be less effective and specific protection will be sought by fixing as much as possible financial parameters through fixed price contracts, hedging, fixed interest rate deals, avoidance of excessive foreign exchange exposure etc.v

Management of financial aspects by contractors during the execution phase

Contractors have generally weak balance sheets and are not in the business of speculating on financial issues. Therefore, their strategy will generally be the following:

- Lock exchange rates at the time of contracting, covering their entire exposure by some combination of contractual protection from the client, early commitments with suppliers back-to-back with client currency, and currency hedging
- Contractually maintain neutral cash flow to avoid being affected by the cost of financing (interest rates)
- Lock main costs by contracting early after contract award and thus avoid risks related to changes in the overall economy such as inflation, commodity prices fluctuations, supply of specific services etc.

In case a financial or economic parameter varies significantly outside normal bounds, contractors will generally request owners to support so as not to bear unacceptable consequences. This needs to be clearly captured contractually at the onset, and often accepted by owners who have much wider financial capability, in particular for exchange rates (or multi-currency compensation to correspond to the actual cost), as well as for significant variations of key commodity prices, referring to accepted public indexes.

Summary

Financial parameters may significantly affect the overall profitability of capital projects. During project development stage, sensitivity of the business case to financial parameters will depend on different factors, such as the importance of Capex in total ownership cost, the actual construction duration, the expected operating duration and the debt leverage ratio. At Final Investment Decision the strategy of owners and contractors alike will be to freeze the exposure to financial parameters as much as possible.

This White Paper has been produced following a question by Baishnab Chand (LinkedIn). Do not hesitate to ask for our thoughts on key aspects of large complex industrial projects!