

PROJECT COSTING AND FINANCING

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ABSTRACT

Owing to difficulties occupied in estimating costs of projects, many people think it is an art. To be able to do a high-quality job, one has to compile and analyze a lot of cost data on past projects completed within the company and keep these data updated by collecting the most recent price estimates from the market. Market intelligence has to be quite reliable. However, we must for all time remember that only thing not as good as than missing information is getting wrong or misleading information, which must be avoided in all eventualities. After the perusal of the paper you will have deeper understanding of cost estimating of projects at preliminary feasibility techno-economic feasibility and detailed project report stages for seeking and obtaining financial sanctions within the company and also negotiating for securing project finances with appropriate financial institutions and clearer application of the role of cost estimating of projects for defining the range of the investment proposal and increasing importance of computerizing and codifying cost-estimates which form the basis not only of financial sanction but also for basic design, detailed engineering, procurement, construction and commissioning it into a viable and operable plant.

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COST OF PROJECTS

A great amount of companies who are in the business of project design, engineering, procurement and construction, use cost data for arriving at the price of the project as they have to participate in competitive bidding for securing future business. Pricing of a project, although based on rather a great deal of cost data, may still be construed as an fine art albeit partially. At any speed, it is a strategy - *Those who talk, don't know and those who know, don't talk.*

COSTING AND PRINCING OF PROJECTS

Initial with the idea to commissioning of projects, we may need different types of cost estimates. Clearly, their stage or degree of accuracy is dependent upon the kind and detail of information and data available at that stage of the project.

Order-of-Magnitude Cost Estimates

This type of cost estimate is complete without any detailed engineering data. This cost estimate may the precise $\pm 25\%$ within the scope of the project. It may be based on precedent knowledge in India or out of the country with foreign principals or it he based on capacity estimates.

Companies operating in international project business. Use quite a huge of information from their home projects and use broad "scaling factors" to obtain the cost in the currency of the customer country. Another broad parameter used is in terms of rupee crores per megawatt of electricity generation for power plants, per kilometer railway track in plains or per kilometer of railway electrification for single, double, triple or quadruple tracts or per kilometer of road (to a known specification) to be construct. These order-of-magnitude cost estimates are useful for preliminary discussions and project formulation.

Approximate Cost estimate (PFR Estimates)

Also called top-down approximation, it is done with no detailed engineering data and may be accurate +15%. This kind of estimate is undertaken at the time of **Preliminary Feasibility Report (PER) stage**. Here we use various techniques of costing like pro-rata estimate from experience of doing similar projects in the past and updating for inflation. It may also be described as estimating by analogy or regulation of thumb estimates. We extensively use indexing costs of similar activities. These are adjusted for capacity and technology. Since detailed engineering statistics is not available, estimator is likely to conclude that since this component is 20% more difficult than a similar one completed in another project, it is likely to cost 20% more overall or in terms

of materials or labour or overhead, as appropriate.

Economic Feasibility Cost Estimate (TEFR Estimates)

As we growth further in the project formulation, we are to prepare an Economic Feasibility Cost Estimate of the project. This is used for working out the product cost and pricing and as a result the profitability analysis of the project depends on this cost estimate. This is based on a reasonable amount of detailed engineering data and should be accurate + 10% for Techno Economic Feasibility Report (TEFR) stage. This exercise is blown up into much details. Function-wise and for expert equipment; budget quotations from vendors are also obtained. A great deal of cost data. compiled from past projects, is used extensively so as to obtain accurate cost estimates of all main plant items (within the battery limits) and for all service or utility plants and systems outside the battery limits. For each category of equipment used or system installed, it is possible to compile overall cost data and the same can be used at this phase for arriving at Economic Feasibility Cost Estimate.

This cost estimate formed the basis of companies applying to Government of India for obtaining industrial license and for capital goods license for imported plant and machinery. With deregulation, it is required only for industries on the restricted list.

Detailed Project Cost Estimate (DPR Estimates)

As we grow further with the project formulation, a number of aspects get defined. Some preliminary drawings like layouts, process flow diagrams, piping and instruments (also called engineering line) diagrams are prepared and company firms up its action plan by preparing a detailed project cost estimate - **corresponding to Detailed Project Report (DPR) stage** and is predictable to be accurate to + 5%. At this condition, costing work out is very detailed and costs of all main plant items are supported by proper price quotations from the intended suppliers. Even at this stage. Cost of construction and erection labour and cost of overheads are estimated factorial.

Control Cost Estimates

After making some development on the basic design viz. drawing up of full scheme, flow diagrams and layouts, a very detailed exercise on cost-estimates is undertaken. When essential documents as above are sufficiently frozen, we have, more or less, defined the scope of the project in hand. As a result the aim is to arrive at an correctness of + 2.5% although it may be more precise to say that is lower than + 5% as achieving an accurateness subordinate than + 5% is very much dependent upon economic stability, inflationary trends on prices, balance of payment, fluctuations in currency exchange rate etc.

As the name signifies, these estimates are used for controlling the costs whereas plant and equipment are being designed, indented and ordered and serve as a very useful frame for controlling expenses as they are incurred.

Until the Control Cost Estimates (CCE) are finalized, the earlier DPR estimates are used for indenting and ordering any critical long-delivery items of equipment and the same figures are adopted/incorporated into the CCE.

TYPES OF COST ESTIMATES IN PROJECTS

All huge and mature project organisations are giving better attention to this detailed exercise of compiling CCE - these are being computerised and suitably codified so that these can be referred to while indenting the equipment for procurement.

Ever more CCE is being used as the basis for defining the scope of the project and should be completely aligned with the cut-off lines of responsibilities agreed with the end customer/user or purchaser.

Owing to greater awareness, thanks to Total Quality Management environments, on designing and operating 'fail-safe' or 'fool-proof' systems of project management, the importance of an exhaustive procedure of CCE has increased and is becoming the essential document for defining the project scope.

The TQM philosophy enjoins project management personnel to design whatever is

built-in in the cost control estimates and therefore, we have tied up procedures wherein whatever is designed is indented on purchase/contracts and whatever is indented is, in fact, ordered and whatever is ordered must be delivered at the proposed project location at the designated construction warehouse. Correspondingly, whatever is delivered at the storehouse is erected at the designed location provided in the drawings, oil-topped, no load tested etc. previous to taking up the trial production and commissioning of the plant.

PROJECT FINANCING

The sources, common to projects from all the three sectors, are as under:

a) Equity and Preference Share Capital

Equity is one of the principal sources of fund available to promoters and shareholders and its main features are:

i) Promoter groups contribution: Promoters also along or together with their friends, associates, relatives etc., are expected to bring in 25% of the total issue of equity capital for projects upto Rs. 100 crores and only 20% if cost exceed Rs 100 crores or as laid down by Securities and Exchange Board of India (SEBI) from time to time. Promoters share is locked in (without transfer or withdrawal) for a period of particular number of years from the date of commencement of production or date of allotment of shares whichever is later.

State Governments Contributions: State Governments may, through State Financial Corporations (SFCs), subscribe to the capital issue subject to a certain maximum limit; they may not take up equity in companies whose net worth is more than a specified value

Public Subscriptions: Public subscription to the equity issue of the company is governed by SEBI guidelines and certain sections of the Companies Act of 1956 and must be taken into account; your bank, financial institutions subscribing, merchant bankers etc. may be able to advise appropriately.

There days over the counter (OTC) facility is as well obtainable who handle issues of equity capital between Rs 30 lacs to Rs 25 crores with a greatest of 40% issued capital or Rs. 20 lacs worth of shares whichever is higher.

Seed Capital Assistance: Operated by IDBI, this financial assistance scheme is available for medium scale units set up and run on a whole-time basis, by technically and/or professionally qualified and skilled entrepreneurs and is offered through SFCs and SIDCs and they same may be checked with concerned units for details.

Venture Capital Assurance: Risk Capital & Technology Finance Corporation Ltd. (RCTFC) is a subsidiary of Industrial Finance Corporation of India (IFCI) and Technology Development & Information Company of India (TDICI) is a counter part of Industrial Credit and Investment Corporation of India (ICICI) and can be approached for "venture capital assistance" in line with their policy.

Share Subscription by Financial Institutions and Mutual Funds: Financial Institutions and Mutual Funds, to create confidence amongst investing public, take up some equity in companies in the initial stage and later sell it to public or promoter as appropriate at a profit and provide a useful base for ensuring success of equity share issue.

Share Subscription by Non Resident Indians (NRI's) Government of India & Reserve Bank of India are permitting investment by NRIs in equity on both with or without repatriation facilities and can provide a good source for meeting the foreign exchange requirements of the project.

Employees Stock Options: Public companies are obliged to reserve 5% of the public issue for allotment to employees. Though

shares remaining unsubscribed can be offered to the public.

Preference Shares (preferred stock): As the name signifies, this class of shares gets precedence over ordinary shares. Not like ordinary shares, they carry a fixed rate of dividend and is independent of profit. They may have limited voting rights. Various types are

- ✓ Cumulative preference shares
- ✓ Non-redeemable preference shares
- ✓ Convertible preference shares
- ✓ Non-convertible preference shares
- ✓ Cumulative convertible preference shares

x) Government Subsidies: In India;-state governments give incentives which may include:

- Fiscal relief in the form of refund of sales tax, octroi or entry tax.
- Land for new units and for expansion of existing units at reserved prices.
- Contribution towards cost of feasibility and project report.
- Subsidy on power.
- Financial assistance like term loans, underwriting shares, share subscription, working capital loans etc.
- Exemption from payment of water rates in developed growth centres of the state.

- Housing schemes for workers etc. in their colonies for industrial workers.
- Supply of raw material.
- State purchases.
- Subsidy on purchase/installation of captive power generating sets.
- Relaxation of terms and conditions for sales tax loans.
- State Capital Investment subsidy.
- Development loans.
- Concessional rent for lease of plot or sheds.
- Tax holiday for payment of corporate tax for a block of five years in the first eight years of operation.
- Clubbing of Net Foreign Exchange (NFE) earned by the unit with the NFE of parent/ associate company for the purpose of according "Export House" status based on export earnings.
- International Price Reimbursement Scheme (IPRS) on the purchase of iron and steel to help units to price exporting products competitively
- Concessions on duties and taxes.
- Foreign equity participation up to 100%.

Adhoc subsidies for implementing projects may have to be refunded if the project fails to go into

commercial production within a reasonable period.

Internal Generation of Funds

There are not available to new companies. There are profits retained after payment of dividends and provisions for depreciation.

Lease Financing

A big number of private financing companies, All India Financial Institutions and banks are doing lease financing of capital equipment; they pay full price of the required equipment to the supplier and then lease it to the purchaser under an agreement to repay the principal and interest in monthly/quarterly instalments. At the closing stages of leasing period, old equipment is transferred to you at a nominal residual value. Herein\debt-equity is not the main factor of credit worthiness and lessor charges interest rates which are a little higher than the bank lending rates.

Debentures

These are debt instruments issued by companies to borrow money from public at fixed rate of interest with different redemption periods after expiry of which the company would also buy back or convert them into ordinary equity shares at predetermined premium rates of conversion. This means of project financing is becoming very popular and there are four types of debentures:

- ✓ Fully Convertible Debentures (FCDs)
- ✓ Partially Convertible Debentures (PCDs)
- ✓ Non-Convertible Debentures (NCDs)
- ✓ Optionally Convertible Debentures (OCDs)

CONCLUSION

Cost estimation of projects plays an important role at preliminary feasibility techno economic feasibility and detail project report stages. Various types of cost estimates are highlighted in this unit equity and preferences share, internal generations of funds, lease finance and debentures are few important sources of funds for project. National and international financial Institutions help project funding. Short term funds are necessary for meeting the worthing capital requirements of the projects.

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