

Article 11- 29-04/20/2024/JAMG\_IMCI+ Alliance

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## USING PROJECT FINANCE TO HELP MANAGE PROJECT RISKS

### I- RISK MANAGEMENT

#### Allocating Risk and Arranging Capital

Effective management of risk is the essence of project finance. With limited recourse beyond the assets of the project, there is no participant with traditional owners' responsibilities in terms of residual risk assumption and guarantee of debt repayment. Through the process of identifying and allocating risks, project finance can help to improve the efficiency of project management.

Financial intermediaries often play a crucial role in project finance, allocating risk and arranging capital to match the supply of investment opportunities seeking finance with demands by investors for such opportunities. Banks and developers are typical intermediaries in project finance, serving as advisors to a sponsoring consortium. Some firms frequently involved in project finance, including large E&C contractors, equipment suppliers, and corporate investors, maintain inhouse financial advisory capabilities or an ongoing relationship with a financial intermediary.

#### Allocating Risk

While little can be done to alter the underlying risk profile of a project, the project finance process can be used to improve risk management. Consortium ownership creates shared liability that should encourage efficient identification and allocation of project risks.

Involvement of off-takers, vendors, and contractors in a sponsoring consortium allows the allocation of risk to those parties best able to manage it. For example, guarantees in offtake contracts can be used to transfer risk due to changes in market conditions from the project to customers.

Take-or-pay contracts guarantee the project a future stream of revenues. Lump sum, turnkey construction contracts can be used to transfer completion and cost overrun risk to E&C contractors. Performance guarantees and incentives in purchase agreements and O&M contracts can be used to transfer operating risk to equipment suppliers and operators. Involvement of government can be used to manage political risk.

## Types of Risk

Several types of risk associated with the developmental, construction, and operating phases of a project are discussed below:

- a. **Technology risk.** The possibility that a new technology will prove uneconomic or infeasible, or that regulatory changes will affect use of a technology. Involvement of the technology provider in the sponsoring consortium can help to manage this risk.
- b. **Credit risk.** The possibility that the credit worthiness of the project as a whole or of an individual sponsor will not be satisfactory to investors. Credit worthiness may be enhanced by obtaining letters of credit from banks, which also imposes some level of bank oversight.
- c. **Completion risk.** The possibility that the project will not reach the operating stage, i.e., construction will not be completed within the projected schedule and design criteria. Typically, some form of completion guarantee is provided to investors by the sponsoring consortium with a specified completion date and minimum rate of operating efficiency. This risk can be allocated to E&C contractors through the use of turnkey contracts and performance incentives. E&C contractors can manage some of their risk through contractual arrangements with equipment and material suppliers.
- d. **Cost overrun risk.** The possibility that construction or operating costs will exceed projections. This risk can be allocated to E&C contractors and equipment vendors through the use of fixed-price, lump-sum contracts.
- e. **Offtake risk.** The possibility that project operations will not generate projected revenues because of changes in market prices or demand for the product. Guarantees in offtake contracts, including take-or-pay and take-and-pay clauses, can be used to transfer this risk from the project to customers.
- f. **Equity resale risk.** The possibility that contractors and other sponsors may not be able to liquidate their equity positions upon successful completion of their participation in a project. Because of the limited secondary market for sponsor equity positions, sponsors may manage this risk by using subordinated loans, rather than equity investments, to provide capital to a project, with the subordination of the loans limited to specific senior third-party project lenders. As debt, the loans will eventually be repaid, and the advantages and upside potential of an equity position can be preserved through the use of warrants or conversion rights included in the subordinated loan agreement.
- g. **Interest rate risk.** The possibility that interest rates will increase, forcing the project to bear additional financing costs. Coupon swaps, which involve the exchange of a coupon of one configuration (i.e., fixed or floating interest rates) for a coupon stream with a different

configuration but essentially the same principal amount, can be used to manage this risk. Investors and borrowers in project finance have access to a variety of fixed and floating rate debt markets, and can use coupon swaps to arrange debt service income and cost in any desired configuration.

- h. **Currency risk.** The possibility that changes in foreign exchange rates will alter the home currency value of cash flows from the project. Exposure to currency risk can be hedged in the short-term through transactions in currency forward and futures markets. In the case of recurring cash flows, such as collection of revenues from an operating project, hedging can be accomplished with either a long-date forward currency contract or a series or strip of short-date forward currency contracts. Currency swaps, involving the exchange of currencies at an agreed-upon rate, can also be used to manage long-date currency risk.
- i. **Political risk.** The possibility that legislation or regulations affecting a project will change. Internationally, political risk includes the possibility that host governments will expropriate project assets without adequate compensation or will not allow the repatriation of funds. Strong commitment to a project from local and national governments, or governmental involvement in a sponsoring consortium, can help to manage political risk. The Overseas Private Investment Corporation (OPIC) provides insurance to U.S. companies against the risk of expropriation of foreign assets. Uncontrollable circumstances or force majeure risk. The possibility that events beyond the ability of project sponsors to foresee or control will affect construction or operation. This risk is typically assumed by project sponsors and equity investors, although there is growing pressure, with some success, for lenders to assume a portion of the risk. Some of this risk may be managed through standard insurance coverages.

In order to manage these various types of risk, the project financial advisor develops a matrix of project participants and risk components associated with the project. The body of the matrix identifies risk allocations. Cells in the matrix reflect the various contractual agreements that allocate risk.

Based on agreement among project participants on recourse and allocation of risk, the financial advisor develops a term sheet. The term sheet defines the rights and obligations of borrowers and describes default conditions and remedies. The term sheet serves as the bid document for accessing capital markets.

## II- FINANCING

### 1. Financial Arrangements

Capital for a project can be arranged in a variety of ways. In the traditional approach, a lead bank is designated to arrange placement of debt through other banks. The borrower is apprised of the response of capital markets to the financing offer by the lead bank.

In contrast, project finance often utilizes a “club loan” approach, in which a financial advisor works with a “club of lenders that bid on financing a project based on the term sheet. This should lead to increased competition and efficiency. Sponsors interface closely with capital markets through the financial advisor and, therefore, have a first-hand view of funding alternatives.

Companies that are involved in project finance on a recurring basis often maintain an ongoing relationship with a cadre of lenders, and may not utilize a financial advisor. Working relationships between sponsors, financial intermediaries, and corporate clients and investors facilitate private placement of debt and equity.

## 2. Financial Engineering

Sponsors or financial advisors often perform a function that can be characterized as “financial engineering,” in order to enhance a project’s attractiveness to potential investors. Financial engineering may involve altering the size, timing, quality, direction, or currency of cash flows to meet investors’ needs. Mechanisms typically used in financial engineering include swaps, options, caps and floors, leases, limited partnerships, joint ventures, warrants, and conversions, as well as traditional forms of debt and equity. Financial “engineers” may also package several project finance deals together in order to enhance the credit of weaker projects and provide an investment sizable enough to be of interest to large investors.

## CONCLUSIONS

The project finance market involves a supply of public and private sector projects seeking finance and a demand for such projects by investors, lenders, financial intermediaries, E&C contractors, and equipment suppliers. On the supply side of the market, project finance provides a means of funding the construction of projects that might otherwise be delayed or foregone; on the demand side, project finance provides investment opportunities that meet the needs of a wide range of institutional and corporate investors and lenders, and provides a source of fees for financial intermediaries. Contractors and vendors benefit from project finance by allowing them to provide goods and services for design, construction, operation, and maintenance.

The project finance process, characterized by limited recourse to the assets of the sponsor, use of third party funds, and allocation of risks to those parties best able to manage them, can also assist project management. Limited recourse and use of external funds may impose greater fiscal and management discipline and facilitate effective use of project resources, while risk management techniques can help to improve project efficiency.

Domestic and international markets for project finance are growing and appear likely to continue to do so, as investors seek large, high-yield assets with relatively long terms, and governments and corporations find that their abilities to finance increasingly expensive construction projects through traditional methods are constrained.

More effective project management is an additional advantage of the project finance process that is likely to encourage its continued use.

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