



GLOBAL PROJECT FINANCE

Rating Methodology

Introduction

Project finance is long term financing of economically standalone infrastructural & industrial projects. In recent years, project financing has become a popular mode of funding, particularly in emerging markets where demand for infrastructural development has experienced growth. Various structures including Build-Own-Operate-Transfer, Build-Lease-Transfer and Build-Own-Operate have facilitated execution of such projects in markets throughout the World. These projects are financed through a combination of equity and debt. Fund raising through debt has historically remained the domain of commercial banks, export credit agencies and multilaterals. However, the limited fiscal space for governments, long term nature of projects and their complexity have created an increasing interest in capital markets as a source of funding for infrastructural projects. Primarily, mega projects are usually initiated by governments that in recent years have turned into public-private partnerships. In any case, the onus of arranging for major funding falls on respective governments. Project financing through capital market debt instruments provides room for governments to undertake infrastructural development without burdening the national exchequer. It is important that these projects have strong economics as the environment in which they operate can be un-tested or uncertain. JCR-VIS generally breaks down the debt issue analysis into the following areas: sponsors, pre-completion risk, operations risk, off-take, country risk and structural aspects.

Sponsors

The quality of sponsors is an important factor in assessing the potential success of a project. Prior experience of sponsors in related projects and their completion ratio is taken into consideration. Knowledge of region and country where the project is located is also a positive rating factor. JCR-VIS looks for evidence of sponsor's commitment to the project that can be gauged from the level of equity participation, time invested and project's strategic importance to sponsors. Moreover, financial strength of sponsors is determined to ensure that future obligations such as contingent equity requirements are met. Ability to arrange mezzanine financing becomes particularly important in case of cost over-runs. In case a sponsor is weak, guarantee from a stronger entity can be considered.

Pre-Completion Risk

Pre-completion risk or construction risk is the risk that the project is not completed on time, within budget, and/or up to the required performance standards. There are multiple factors that test the project's resilience to pre-completion risks. JCR-VIS analyses all contractors for performance history, prior experience and financial strength. Generally, contractors having local experience are preferred for their familiarity with business and political environment. The risk that construction cost may exceed budget is also taken into account while analyzing pre-completion risks. The terms of the contract and construction budget is examined for realistic estimates and the ability of the project to pass on cost overruns to the contractor.

JCR-VIS also considers factors that may prolong scheduled completion of the project. The longer the project, the more it is exposed to delay risks. Construction contract is reviewed for terms that may insulate the project from potential stoppages. Adequate penalty payments for not meeting the targeted performance or bonus payments for exceeding targets, if part of the contract, may be considered positively.

Operation Risk

The operations risk is the risk that the project will suffer a loss in productivity/output and may not meet the expected performance standards due to outages or ultimately incur greater costs than projected. Either of these will eventually alter the project's ability to generate projected cash flows. JCR-VIS examines the likelihood of such events and the consequences if they do occur. The analysis of operation risk revolves around the ability and financial health of the operator, the cost structure, technology risk and the supply risk. The ability and capacity of the operator to operate efficiently and effectively is seen through demonstrated performance in similar projects. Ideally, the operator should have prior experience in the country or the region. The motivation for the operator to run a project is linked to monetary benefit, future potential for getting similar projects and various bonuses/penalties for achieving/missing performance targets. The project should have strong contractual agreements with the operator to provide protection against adverse situations. The financial strength of the operator and its capacity to continue with the project across the life of debt issue is also evaluated. In some cases, the operator may be a sponsor that may entail added incentive to operate the project in an efficient manner. The operating and maintenance contract normally provides for dispute resolution. The agreement is seen for recourse option in case any dispute arises.

JCR-VIS reviews the volatility in operating cost. Operating cost varies by project and has major components such as labor, fuel,

insurance, power and maintenance. A strong project has a pass through cost component so that any variation in projected cash flows is covered through tariff adjustments. Similarly, technology risk is important in the pre-completion and post completion stages. The risk that the project will not perform up to the required standards is greater in technology intensive projects such as power plants. Projects where proven technology is used as compared to a relatively new one, this risk is minimized. Past performance of the technology used is reviewed, though JCR-VIS understands that historical performance is not a reliable indicator of future performance as sub standard maintenance and repairs may have negative implications. A feasibility report from independent experts can be helpful in understanding the expected outages, potential efficiency levels and possible environmental issues.

Some projects require that a resource or product exists or be available in order for the project to operate. This resource or product can take many different forms. In projects that involve extraction of a resource or commodity, an assessment of supply risk will involve determination of the sufficiency of reserves or the cost of extracting them. In case of a power plant that needs to be operated on let's say gas, fuel supply is necessary to produce electricity. In such a scenario, supply in adequate quantities and at predetermined price is essential for smooth operations. Normally, long term contracts are preferred with suppliers at fixed prices over the period of the debt issue. If the purchase agreement incorporates a pass through cost element then fixing of price may not be a priority. The supplier is seen for its ability to provide continuous supply as long as the debt issue remains outstanding. The credit quality of the supplier, the source of supply and back up alternatives are important factors in assessing supply risk.

Off-Take Risk

Off-take risk is the risk that demand for output or service does not exist at the agreed price or the off-taker is unable or refuses to honor its commitment to purchase. The project should have the ability to generate sufficient cash flows to meet operating expenses and service its debt. For this reason, the economics of the project are very important, especially in emerging markets where the enforceability of contract may be unreliable due to less developed legal system. The focus is on market risk that there may not be enough demand at a given price necessary to generate adequate cash flows. In analyzing the potential variability, demand forecasts are seen in the light of underlying assumptions and duly stressed in cash flow modeling.

JCR-VIS differentiates between multi user and single or few user projects. Multi user projects can be toll roads while single or few users are common in power projects. In single or few user projects, the purchase agreement is important, which is generally a take-or-pay contract. The price mechanism of the off-take agreement is evaluated for its adequacy in covering fixed costs, operating expenses and debt servicing requirements. A variable cost structure in a project that stipulates adverse developments in input costs to be passed on to the off taker is viewed positively. The pricing at the same time should be economical so that the off-taker is willing and able to pay for the output. The financial strength of the off-taker is also important with respect to its ability to buy. The purchase price usually varies with the quality of output. For example, the quality of mineral in a mining project will determine the off-take price or efficiency levels in a power plant may affect tariff. These risks are identified and assessed. The purchase contract is also reviewed for the quantity of output to be purchased. There may be seasonal variability in demand of the output which will have direct impact on the cash flows. Stronger projects would have full capacity booked through the purchase agreement. Generally, the contract has penalty or

bonus provisions for meeting performance standards. This can be payable by either party involved in the project. Penalty payments by the off-taker/supplier for not meeting the commitment would compensate for the loss in cash flows.

Country Risk

Risks in global projects vary by country due to their economic environment, political & regulatory framework and currency risk. In analyzing a project, it is important to understand the economic environment of the country and its potential impact on the project. JCR-VIS analyzes different macro & micro economic variables in which the project operates or is expected to operate in future. The sovereign risk analysis helps in quantifying these risk factors. Generally, the rating of a project is constrained by rating of the sovereign. However, a structure can be evolved through which certain sovereign risks can be mitigated to achieve a rating above that of the country. It includes political risk insurance, preferred creditor status, project's ability to generate hard currency off-shore. A debt instrument issued in local currency and rated on the national scale can even have 'ratings in the highest band' if backed by a sovereign guarantee from the federal government.

JCR-VIS reviews the political and regulatory environment for its stability and consistency. The likelihood of negative government interference may impact the economic feasibility of the project. In this regard, historical trend of the government is seen for interventions. JCR-VIS assesses the incentives that exist for government interference with the project. The strategic importance of the project to the country and its benefit to public are important risk mitigants. Stronger projects operate in a predictable regulatory environment. The ability of the project to obtain timely operating permits or make necessary tariff adjustments is dependent on the regulatory environment. The effect that the country's legal system would have on the transaction is also reviewed. For a project to be highly rated, a well developed legal

system that respects the validity of contracts, rights of property owners and have established corporate and commercial laws, are positive factors. In emerging markets, the strength of legal system is sometimes not at par with developed markets. It is for this reason that the economic viability of projects in such countries is of prime importance.

Currency risk involves exchange rate risk, transfer and convertibility risk. Typically, projects generate revenues in local currency while funding may be raised in foreign currency; transfer or convertibility risk may arise in such cases in addition to the risk of devaluation. Some of these risks may be mitigated by linking the tariff to exchange rate movements or hedging currency risks through derivatives. Currency risk may not be an important factor in local currency ratings if both funding and cash flows are generated in the home currency.

Structure

Many of the risks associated with project financing are minimized by allocating them to different participants. However, a tranche of debt may need to have greater risk mitigation when receiving a rating. JCR-VIS reviews debt structuring by focusing on the cash flows mechanics, capital structure and legal issues. It is important that a project maintains strong cash flows throughout the life of the debt issue. Typically, cash flows are linked to tariff based on market price that may experience volatility. Tariffs that represent a good matching of revenues to expenses will expose the project to less volatility. It is possible that some projects entail longer gestation period before cash flows can be generated; in such a scenario it is essential that maturity of debt is accordingly negotiated and principal repayments are matched with the cash flows of the project.

The project may face liquidity crisis due to unexpected interruptions in operations amid labor strikes, technical difficulties or force majeure. These extraordinary situations call for extra protection through covenants such as maintaining a certain debt

coverage ratio, building an operating reserve account or restrictions on payments to shareholders. Insurance can be used to mitigate force majeure risks. JCR-VIS would expect an independent expert to comment on the adequacy of insurance coverage. Apart from cash flows, it is equally important that the project has a balanced debt to equity mix as it has an influence on the debt servicing coverage and manifests sponsor's commitment to the project. Generally, greater the risk, higher the equity that is required. The timing of equity infusion and back up commitment vary by project. In some cases, JCR-VIS may require sponsors to maintain a certain minimum level of equity or may consider subordinated debt equivalent to equity. Project financing faces many legal issues in international markets. The predictability of legal system, enforceability of collateral and the enforcement of project's agreements are key concerns. As discussed earlier, legal structure becomes more important in emerging markets. The opinion of the legal counsel holds substantial weight in addressing these issues.

Conclusion

Project financing are complex transaction with many risks. Projects having strong economics, reputable participants and good structures are likely to receive an investment grade rating. A Special Purpose Vehicle (SPV) mechanism can sometimes further strengthen the structure of the issue. International projects are exposed to additional country risk factors. However, these can be mitigated and an issue can have a rating over and above the sovereign ceiling for cross border investors.

Jahangir Kothari Parade (Lady LLOYD Pier)

Inspired by Her Excellency, The Honorable Lady Lloyd, this promenade pier and pavillion was constructed at a cost of 3 Lakhs and donated to the public of Karachi by Jahangir Kothari to whose generosity and public spirit the gift is due. Foundation stone laid on January 5, 1920. Opened by Her Excellency, The Honorable Lady Lloyd on March 21, 1921.

Dome: A roof or vault, usually hemispherical in form. Until the 19th century, domes were constructed of masonry, of wood, or of combinations of the two, frequently reinforced with iron chains around the base to counteract the outward thrust of the structure.

Origins: The dome seems to have developed as roofing for circular mud-brick huts in ancient Mesopotamia about 6000 years ago. In the 14th century B.C. the Mycenaean Greeks built tombs roofed with steep corbeled domes in the shape of pointed beehives (tholos tombs). Otherwise, the dome was not important in ancient Greek architecture. The Romans developed the masonry dome in its purest form, culminating in a temple built by the emperor Hadrian. Set on a massive circular drum the coffered dome forms a perfect hemisphere on the interior, with a large oculus (eye) in its center to admit light.



Jahangir Kothari
Parade

National Excellence, International Reach

JCR-VIS Credit Rating Company Limited is committed to the protection of investors and offers a blend of local expertise and international experience to serve

the domestic financial markets. With its international reach, JCR-VIS is positioned to aim for an international mark. In this regard, the global experience of our principal, Japan Credit Rating Agency, Ltd. has been invaluable towards adding depth to our ongoing research endeavors, enriching us in ways, that enable us to deliver our responsibilities to the satisfaction of all investors.

The edifice of the Jahangir Kothari Parade has stood proudly through the years and is a symbol of our heritage. Its 'Dome' as the most stable of building structures, exemplifies architectural perfection. Committed to excellence, JCR-VIS continues its endeavor to remain an emblem of trust.

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