Rating Criteria for Expected Loss Ratings for Infrastructure Projects

Background:

Infrastructure is not only the backbone of a growing economy, but also imperative for faster economic and industrial growth in the country. Broadly, the sector consists of projects undertaken in the power, roads, railways, ports, airports, urban infrastructure, and telecommunication sectors. These projects have a long gestation period and are exposed to various execution risks such as financial tie-up, execution-related risks, and regulatory risks during the implementation stage. However, post completion of the project, stable operations and cash flow, if these are in line with initial expectation, improve the overall credit profile of the rated entity and thus reduce default risk. On the flip side, even though the project may be completed on time and within budgeted costs, it may encounter liquidity mismatches mainly due to volatile cash flow arising out of delayed payments from counterparties, lower demand than estimated (like lower traffic for toll road projects) and high maintenance cost.

Infrastructure sector typically comprises road and transport (toll, annuity, and hybrid annuity), airport and port, railways, power (thermal, solar, wind, hydro, transmission and power distribution), telecommunication, ports and urban infrastructure. The rating of infrastructure entities is driven by various factors such as policy changes by the government, tariff charged or pricing for services provided which are determined by the regulator or the government, and low impact of demand-supply driven risks especially in power, annuity-based infrastructure projects and urban infrastructure.

Due to the capital-intensive nature of the sector, a heavy investment is required which leads developers to opt for a higher proportion of debt which is financed from commercial banks and NBFC's as there is lesser participation from the bond market. These projects face unpredictable, high implementation risks including time and cost overrun, risks pertaining to counterparties, single asset concentration, availability of alternatives, policy changes, etc. These risks may result in lower ratings for the infrastructure projects on a conventional rating scale based on Probability of Default (PD) principle, which focuses on timely servicing of debt obligations. The revenue streams are expected over a longer term as compared to other companies as infrastructure projects normally have a longer gestation period. Further, shorter tenor of debt as compared to total economic life of the project poses refinancing risk of the project. In order to overcome these shortfalls, a new credit rating system for infrastructure projects, to begin with, was developed by the Department of Economic Affairs (Ministry of Finance).

The rating framework is based on a combination of PD and loss given default (LGD) and is measured on the Expected Loss (EL) rating scale. The EL rating system is aimed to provide broader and additional information on various risks associated with Infrastructure projects to the investors. It provides an opinion on PD and expected loss post default.

Scope of the Criteria:

Initially these ratings cover all infrastructure projects in the Roads (Annuity based, Toll based, Hybrid Annuity Model), Power (Generation, Transmission and Distribution), Airports and Ports sector, especially the ones involving a PPP framework.

Since the sector is capital intensive and has a long gestation period, it is imperative for the entity to have stable cash flows over a longer term and access to capital markets and banks for funding. The differentiating factor for infra projects is the inbuilt provisions related to contractual obligations like termination payments, residual tenure post loan tenure of project and regulatory support which reduce potential losses to the investors, subject to a credit assessment of the Counterparty. The PD scale of ratings does not factor in these additional cushions which are available for infrastructure projects mainly on account of the aforesaid clauses embedded in the project documents.

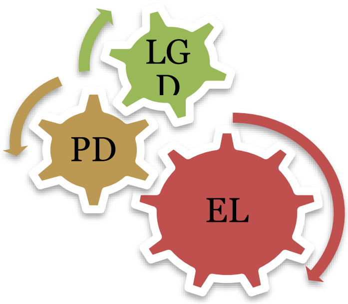
The objective of this rating methodology is to highlight the approach used to evaluate the expected loss profiles of infrastructure entities. Conceptually, there is a loss to investors when there is default. Which means, the investor needs to assess the likelihood of such a default, or PD. However, default is not necessarily loss of entire money invested, there is a chance of recovery after the default persists. It means the quantum of loss will depend on the money recovered after a default. This is called the 'loss given default', or LGD, and is not captured in the conventional PD rating methodology.

EL rating aims to help issuers, investors and other interested market participants understand the approach to analyze the quantitative and qualitative risk characteristics that are likely to affect the rating outcome of the life cycle of infrastructure assets. This methodology does not include an exhaustive treatment of all the factors that are reflected in ratings but would enable the reader to understand the rating considerations that are most important.

Expected Loss Rating Methodology:

EL Ratings methodology critically assesses the clauses for termination payments, the entity's ability to refinance which help in evaluating recovery of dues to the investors and lenders over the economic life of the infrastructure project. The approach also factors in the subordination clauses and the waterfall mechanism embedded in the project agreements.

EL is calculated by multiplying PD to the LGD to arrive at EL for each time-period. This effectively means that BWR, while evaluating any infrastructure project / entity, would assess the EL for each successive year till the end of the loan / Concession period.



Expected Loss (EL) = PD * LGD

The credit rating of infrastructure entities is constrained on account of high exposure to execution risks i.e., during the implementation phase as well as post completion. BWR has mapped various probable EL outcomes into a seven-point rating scale. Each rating on the scale corresponds to a range of EL value and expected loss over the life of the instrument. EL rating is a combination of PD and LGD at various points in time. These ratings are valid through the maturity of the debt instrument for which the project is being funded initially. However, it can be extended in the event of default, but can be limited to residual life of a project. For example, for road project rating would be valid till tenure of the concession agreement, which in general ranges from 25-30 years.

Probability of Default Approach:

Infrastructure projects being highly vulnerable to volatile cash flows, results in lower credit ratings on a conventional rating scale, which is based on the PD principle. It is based on the rating of a debt instrument and is valid for the tenure of the project debt. BWR estimates yearly PD for each year based on historical default rates, which will be mapped with the associated projects.

BWR has a well-defined criteria for Infrastructure entities which captures project risks at the planning and execution stage, as well as operations and maintenance stage. It also captures the various liquidity challenges during the life of the project.

The EL based rating framework provides an opinion on the probability of default (for the investors seeking timely repayment) and prospects of recovery of their principal and interest, post-default, and thereby provide incremental information to the investors/lenders regarding expected loss, unlike the conventional PD ratings. This is the primary factor that differentiates a PD ratings from EL ratings

Loss Given Default (LGD):

Expressed as a percentage of the amount defaulted by the issuer, the LGD gives an estimate of the actual loss which a lender/investor would have to incur. It is often expressed as (1 – Recovery Rate) where Recovery Rate (RR) is the amount recovered post default as the percentage of total outstanding amount at the time of default. The defaulted amount consists of the principal as well as accrued interest. Exposure at default (EAD) is the total value of a loan that a bank is exposed to when a borrower defaults. LGD depicts the extent of loss on a debt instrument over its life, after an issuer has defaulted on its repayment obligations on the instrument, i.e., if the project fails to repay on time even for a single day or even by Rs.1 then this is considered as a default and the PD rating has gone into default category.

Loss given Default (LGD) = 1 – Recovery Rate = 1 – (Amount Recovered post default)/(Total amount outstanding at the time of default)

Recovery Prospects:

BWR assesses various ways to evaluate recovery aspects including, but not limited to, an understanding of the cash flows of the infrastructure project for its entire lifecycle and the extent of coverage it can provide to the project debt.

The following aspects of infrastructure projects are generally considered while evaluating the recovery:

- Adequacy of termination payments (PPP projects) in conjunction with the credit quality of the concessioning authority or loan-to-value (LTV) in case of non-PPP projects

- Sponsor's undertaking to fund shortfalls and the strength of the sponsor
- Step-in/substitution rights available with lenders (would be helpful in scenario where sponsor group is in stress)
- Adequacy of the insurance cover and the expected timelines for receipt of the same
- Project's expected cash flows and sensitivity to key variables

Analyzing recovery rates involves a detailed analysis of the following scenarios:

Cash flow-based recovery:

This considers the debt servicing through the cash inflow generated from the project. Cash flow generation from the project depends on asset class, project characteristics and overall assessment of various credit risks related to the project viability. Different projects generate cash in different ways. For example, annuity-based road or transmission projects have a high level of revenue predictability. Thermal power generation or toll road projects on the other hand, may face demand and cost escalation pressure.

The inherent risks of asset classes along with dynamics of the projects are some of the crucial factors considered for arriving at the extent of recovery of cash flows in servicing debt obligations.

Restructuring based recovery:

Normally, infrastructure projects such as highways or toll projects enter into longer concession agreements extending to 25 – 30 years. However, the loan tenure lasts maximum upto 10-15 years, thus leading to cash flow mismatch. Later these loans can be refinanced or restructured for the remaining period which lasts upto residual life of project. However, this scenario is not covered under current PD analysis. This can be assessed under LGD, through various ways such as possibility of refinancing, economic life of the project, viability of restructuring, and stability of cash flow generation for the residual life of the project etc.

Security based recovery:

Infra projects provide some form of security in the event of failure of a project or losses to lenders/ investors. Normally in PPP, a common form of such security is the termination payment which protects investors/lenders from losses, as the payment for a proportion of outstanding debt is assured by the concessioning authority (typically a government entity as a counterparty) in the event of a borrower defaulting, or during events such as force majeure, etc. In general, realisation of such termination payments take longer than anticipated initially. BWR considers some delay in receipt of termination payments while arriving at the LGD.

Expected Loss Rating Symbol and Definition:

Basically, apart from various risks, such as credit risks, liquidity risk, Expected loss rating could determine expected loss and the risk premium charged by the lenders for the loss.

The rating scale for the expected loss rating is on the seven-point scale from BWR EL 1 to BWR EL7, where BWR EL 1 has the lowest expected loss and BWR EL 7 has the highest expected loss.

Rating Symbol	Indicative Range of Expected Loss	Definition
BWR EL 1	≤ 1.25%	Instruments rated “EL 1” are considered to have the lowest expected loss, over the life of the instrument
BWR EL 2	1.25% < X ≤ 3.5%	Instruments rated “EL 2” are considered to have very low expected loss, over the life of the instrument
BWR EL 3	3.5% < X ≤ 7.5%	Instruments rated “EL 3” are considered to have low expected loss, over the life of the instrument
BWR EL 4	7.5% < X ≤ 15%	Instruments rated “EL 4” are considered to have moderate expected loss over the life of the instrument
BWR EL 5	15% < X ≤ 25%	Instruments rated “EL 5” are considered to have high expected loss, over the life of the instrument
BWR EL 6	25% < X ≤ 35%	Instruments rated “EL 6” are considered to have very high expected loss, over the life of the instrument
BWR EL 7	>35%	Instruments rated “EL 7” are considered to have highest expected loss, over the life of the instrument

Conclusion

BWR uses the PD approach, along with an assessment of LGD and Recovery Rates post default to arrive at EL Ratings of Infrastructure projects, which provides additional information and broader perspective for the investors. The final rating factors in a comprehensive analysis of project implementation and execution risks, viability of project, structure of debt and various unique characteristics such as strength of concession, termination payment, predictability of cash flows, for each year, over the life of the infrastructure project.

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