The Indian RE finance story : Risk nuances and policy response

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Outline

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- India's RE finance risk perception
- What is the current credit risk measurement method for RE?
- Changing credit risk measurement landscape for RE
- The Expected Loss Rating Scale and its implications
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India’s RE finance appetite

At the COP26 conference, India proposed an increase in its non-fossil fuel-based energy capacity to 500 GW by 2030. As of January 2022, the total RE capacity was 152.3 GW

India needs ~ Rs. 17 Lakh Crore (~USD 218 Bn) of capital requirement to make the additional utility scale RE target of 340 GW possible.

At a debt: equity financing ratio of 80:20, the debt requirement for a 340 GW RE target works out to ~ Rs. 14 Lakh Cr (~USD 180 Bn) over a period of 9 years.

Note: We have assumed capex cost per MW for solar at Rs. 4 Cr and for wind at Rs. 7 Cr. We have also assumed the incremental 400 GW of RE will be a mix of 60:40 of solar:wind.

Banks & FIs	Rs. 1.22 Lakh Cr (~USD 16 Bn) as of March 31 2021 (on outstanding basis).
External Commercial Borrowing (ECB)/Foreign Currency Convertible Bonds (FCCB)/ Rupee Denominated Bonds (RDB) route	USD 5.43 Billion or Rs. 0.40 Lakh Cr as RE debt for year ended March 31 2022 (vs USD 2.75 Billion or Rs. 0.20 Lakh Cr for year ended March 31 2021).
Foreign Direct Investment (FDI)	USD 1.39 Billion of Foreign Direct Investment (FDI) in FY20 (Rs. 0.10 Lakh Cr) vs USD 1.45 Billion in FY19 (Rs. 0.10 Lakh Cr).

Early signs of financial stress building up in Indian RE projects

- The Standing Committee on Energy to the Lok Sabha titled 'Financial Constraints in Renewable Energy Sector' from January 2022 (referenced as the January 2022 SC report) covered the RE lending experience of the three primary Government owned NBFC participants (PFC, REC and IREDA)

- An increasing trend in NPAs signal a deterioration in the quality of the loan asset book of a financing entity. Below is a snapshot of the NPA information provided by IREDA, PFC and REC in the January 2022 SC report:

Name of entity	RE Loan book outstanding as of March 31 2021 (Rs. Cr.)	RE Gross NPA (Rs. Cr.)	RE Net NPA (Rs. Cr.)	RE Gross NPA Ratio	RE Net NPA Ratio
IREDA	27,854	2,442	1,510	8.77%	5.61%
PFC	31,104	333.46*		1.07%*	
REC	16,505	40.66*		0.25%*	

*In the January 2022 SC report, it is not clear if the NPA numbers for PFC and REC are net of provisions or gross NPAs.

- These GNPA and NNPA numbers are on the higher side and indicate high stress on the asset quality of IREDA (as compared to lets say State Bank of India which reported GNPA ratio of 4.98% and NNPA ratio of 1.50% as of March 31 2021).

- Similar granular data on RE NPAs was not presented for PFC and REC in the January 2022 SC report. The large difference in the RE NPA ratios between IREDA, PFC and REC needs to be better understood.

What has been the current credit risk measure for RE?

- A credit default is any delay or non performance of payment of interest and/or principal repayment of a loan by an entity which has availed the loan facility.

- Credit Rating Agencies (CRAs) assign credit ratings to debt instruments and their issuers based on 'Probability of Default' (PD) of 'Single Rupee Shortfall Single Day Delay' paradigm normally starting from AAA (highest rating) to D (lowest rating) .

- Credit ratings are assessment based opinions of risk of default: the higher the rating, the lower the probability of default should be.

- Probability of Default (PD) is computed annually by each CRA based on cumulative default rates (CDRs) from their annual Default and rating transition study for time horizons of 1 year, 2 years and 3 years based on SEBI stipulated computation methodology.

What is a typical credit rating scale?

Credit Rating	Credit Risk Measurement
AAA	Highest degree of safety regarding timely servicing of financial obligations. Such instruments carry lowest credit risk.
AA	High degree of safety regarding timely servicing of financial obligations. Such instruments carry very low credit risk
A	Adequate degree of safety regarding timely servicing of financial obligations. Such instruments carry low credit risk.
BBB	Instruments with this rating are considered to have moderate degree of safety regarding timely servicing of financial obligations. Such instruments carry moderate credit risk.
BB	Instruments with this rating are considered to have moderate risk of default regarding timely servicing of financial obligations.
B	Instruments with this rating are considered to have high risk of default regarding timely servicing of financial obligations.
C	Instruments with this rating are considered to have very high risk of default regarding timely servicing of financial obligations.
D	Instruments with this rating are in default or are expected to be in default soon.

Modifiers {"+" (plus) / "-"(minus)} can be used with the rating symbols for the categories AA to C. The modifiers reflect the comparative standing within the category.

India’s RE finance risk perception

- The majority of the current discourse around the Indian RE story is centred around speed and scale of the installed capacity ramp up.

- The modular nature of executing RE projects puts them on the other end of the construction complexity spectrum as compared to conventional power generation plants.

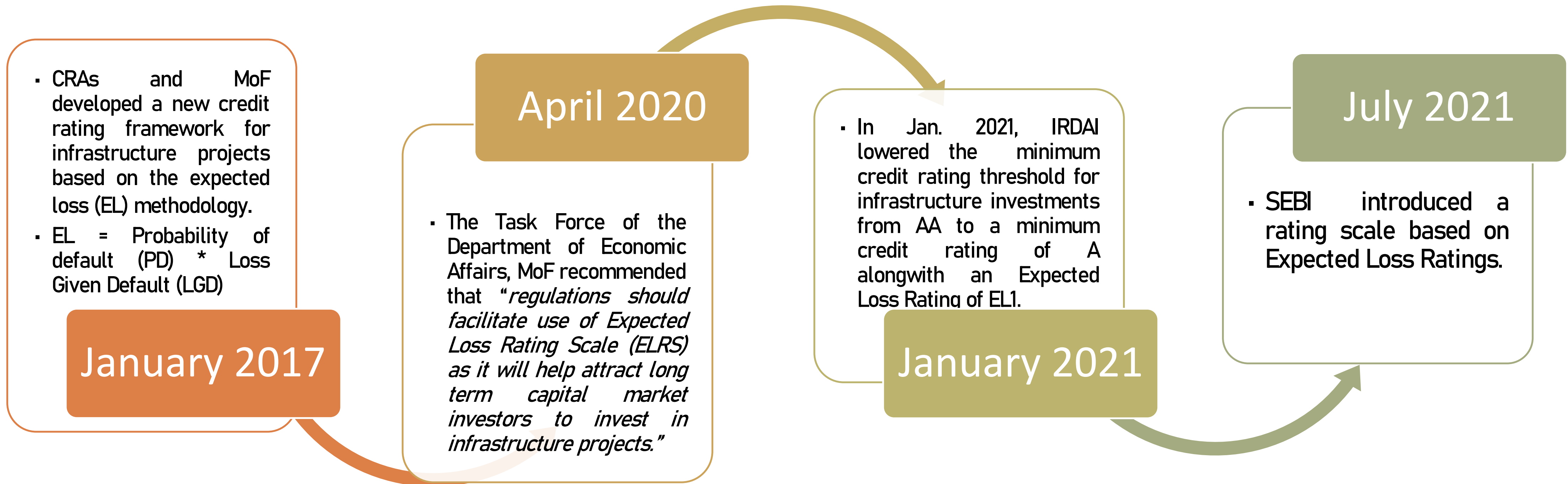
- However, there are some unique characteristics of RE projects which puts them in a different class of risk compared to conventional power plants.

- At the heart of these risks is the potential for lower than estimated power generated based on the vagaries of the weather and aggressive bidding based on high generation assumptions.

India's RE finance risk perception

- RE projects' success (of which debt makes 80% of the project cost once the project is operational) is supported by annual average energy generation estimates based on a statistical level of confidence that it is expected that the predicted solar resource/wind resource energy yield may be exceeded with 90% probability.
- Any large dip in generation will automatically lead to stress for the project level debt. Most RE loans are financed at base case debt coverage ratios of between 1.20x to 1.15x (depending upon the PPA counterparty). This means that for an annual debt service burden of 10, the base case available cashflow is 12. In case of a 20% dip in annual generation (as was the case in CY2020 for wind power projects in India), this would lead to available cashflows for debt service of 9.6 vs the annual debt service burden of 10. This generation linked debt servicing shortfall has not considered any delay in receipt of dues from the offtaker.
- The implications of the same are profound, both, for the servicing of the debt sitting on individual RE projects (upto 80% of the project cost for RE projects is long term debt funded) as well returns for the equity investors.

Changing risk measurement landscape for infrastructure sector (including RE)



It should to be noted that there was limited public consultation before the above mentioned regulatory changes.

Expected Loss (EL) Rating Scale

- SEBI introduced 'Expected Loss (EL) based Rating Scale and Standardization of Rating Scales Used by Credit Rating Agencies' through its July 2021 circular where it introduced the following rating scale based on EL:

Rating symbols should have CRA's first name as prefix	
Rating symbol	Definition
EL1	Instruments rated "EL1" are considered to have the lowest expected loss, over the life of the instrument
EL2	Instruments rated "EL2" are considered to have very low expected loss, over the life of the instrument
EL3	Instruments rated "EL3" are considered to have low expected loss, over the life of the instrument
EL4	Instruments rated "EL4" are considered to have moderate expected loss over the life of the instrument.
EL5	Instruments rated "EL5" are considered to have high expected loss, over the life of the instrument
EL6	Instruments rated "EL6" are considered to have very high expected loss, over the life of the instrument
EL7	Instruments rated "EL7" are considered to have highest expected loss, over the life of the instrument

Note : The SEBI circular has no mention of any methodology nor definitions of Probability of Default (PD) or (LGD). Further, the circular also does not mention any numerical ranges of EL. Each CRA has their own computation formula albeit operating within similar risk contours. Further, the assumptions utilized at arriving at the recoverability ratio are also not stated by each CRA. This exposes the EL scale to inconsistent treatment across CRAs.

Experience of Credit Ratings performance

- Issuer pays model of CRAs lead to conflict of interest
- Inconsistent ratings assigned by CRAs have been and continue to be a reality
- While SEBI regulates CRAs and their activities, each CRA has its own independent credit risk measurement methodology and approach. This leads to considerable divergence between the Cumulative Default Rates for similar rating grades as is seen in the below table

	CRISIL (FY11 - FY21)			ICRA (FY11 - FY21)			INDIA RATINGS (FY10 - FY20)			CARE (FY10 - FY20)		
CDR	1 year	2 years	3 years	1 year	2 years	3 years	1 year	2 years	3 years	1 year	2 years	3 years
AAA	0.00%	0.00%	0.00%	0.10%	0.20%	0.40%	0.60%	1.31%	1.88%	0.29%	0.83%	0.97%
AA	0.03%	0.11%	0.22%	0.10%	0.20%	0.40%	0.22%	0.56%	1.08%	0.30%	0.69%	1.11%
A	0.16%	0.72%	1.39%	0.30%	1.10%	1.90%	1.18%	3.28%	5.82%	0.52%	1.55%	2.99%
BBB	0.75%	2.06%	3.62%	1.70%	4.00%	6.00%	2.83%	6.63%	10.57%	1.63%	3.86%	5.98%
BB	3.50%	7.43%	11.31%	4.50%	8.30%	11.40%	4.47%	8.68%	12.76%	4.29%	7.72%	10.71%
B	8.41%	16.90%	24.03%	6.50%	12.00%	16.30%	6.28%	12.78%	20.49%	7.50%	12.92%	15.91%
C	20.83%	34.89%	45.24%	24.80%	35.70%	40.30%	23.91%	35.69%	40.49%	26.19%	33.92%	36.47%

Implications of the change

- In Jan. 2021, The Insurance Regulatory and Development Authority of India (IRDAI) has permitted insurers to participate in infrastructure investments with a minimum credit rating of A alongwith an Expected Loss Rating of EL1.
- This is a remarkable departure from the earlier investment policy which permitted investments in corporate bonds or debentures rated not less than credit rating of AA (a three notch downgrade from AA to A).
- Indian public insurance companies have a large investible corpus (LIC had ~ Rs. 37 Lakh Cr (~USD 474 Bn) as of March 30 2021), it needs to be categorically mentioned that they are the last and most often the only source of social security for India's most vulnerable population groups.
- IRDAI (investments) Regulations, 2016 Section 5, No. V, investment in infrastructure and housing jointly is to form a minimum 15% of the total invested funds by an insurer. Life insurers (mainly LIC) have fallen way short of this regulation.
- As per LIC's Annual report 2019-20, investments in the loans/debentures/equity in various entities for infrastructure and social purpose as of March 31 2020 was ~ Rs. 53000 Cr (out of this ~ Rs. 25000 Cr was towards the power sector) amounting to 1.70% of the total investments.

Key observations:

- A large amount of direct and indirect public monies will be involved in the RE finance pie, and hence there is a real need for larger discourse on specific nuances of credit risk for RE debt as well as the current policy responses to RE finance.

- There are regulatory relaxations being provided for attracting finance to the infrastructure sector. These coupled with India's large RE finance appetite are an area which needs to be handled with great care and regulatory forethought.

- Supporting India's transition to RE capacity calls for a change in the existing framework of RE finance based on the guiding principles of transparent and consistent disclosures, efficient and timely data warehousing, and encouraging public discourse on material changes to existing policy.

Recommendations

Encouraging a robust monitoring atmosphere and tools for the RE sector:

- A comprehensive reporting public platform with details such as project wise monthly generation in units, type of project, billed amount to offtaker, date of billing, amount received against each bill, date of receipt of each amount, will markedly improve transparency and information symmetry for RE.

RE Finance reporting framework for lenders and investors emphasizing comprehensive and standardized databases:

- RBI and SEBI may design and stipulate a comprehensive, standardized and consistent reporting format for RE project level data pertaining to financing arrangements from all types of lenders (RBI)/ investors (SEBI) under their aegis.
- RBI to ensure that annual reports of all financing entities under its aegis should clearly delineate their RE finance portfolio alongwith data on offtakers, annual performance, etc.
- RBI to ensure that annual reports of all financing entities under its aegis should clearly delineate their RE NPAs details in a standardized reporting format, alongwith the analysis of reasons for NPAs, and trends in NPA recovery.
    - The NPA disclosures made by IREDA in the January 2022 SC Report referenced earlier are a noteworthy example which may be used as a good reference point.

Modifications to SEBI's current EL Ratings framework to ensure standardization of computation methodology and improve transparency in assignment of EL ratings :

- We suggest that EL, PD and LGD definitions and their specific computation methodology may be made be a part of the SEBI EL rating circular and be commonly applicable to all CRAs.
- The numerical EL ranges may be standardized across the board through the SEBI EL rating circular. CRAs may be directed to make the assumptions underlying their LGD methodology public for scrutiny ensuring transparency. CRAs may clearly state the assumptions and actual results of their PD and LGD estimates in the rating commentary while assigning EL ratings.
- The LGD methodology to be back tested basis the actual losses in the RE sector especially absorbing losses in conjunction with the RBI on an annual basis. A formal platform for information sharing between SEBI, CRAs and RBI may be explored. A task force may be empowered at SEBI to make the necessary changes to the EL rating approach if deviations are observed between assumed recovery rates for various RE projects and actual recoveries.

Innovative debt instrument structuring may offer optimization of measured credit risk:

- Conservative packaging of a debt instrument that acknowledges the various risks and attempts to provide some protection from the same typically results in strong credit ratings.
- The mitigants may be in the form of innovations in instrument structuring, creating a common pool of liquidity reserve for a group of lenders akin to paying up a small insurance premium on annual basis, specific reserves, creating short, medium and long tenor tranches of one instrument, higher debt service coverage ratios for various tranches of tenors, trigger based deleveraging actions such as cash traps, etc.
- Given the possibilities of strong credit ratings for such innovative instruments with robust credit protection features, it may not, therefore, be necessary to lower the credit ratings-based investment threshold for public insurers from AA to A.

Public discourse in policy making leading to better informed and participatory decisions:

- As public funds will be utilised both for debt assistance and equity participation for the RE target, public comments may be invited and space be created for engagement on material changes to investment guideline for public money entities such as The Insurance Regulatory and Development Authority of India (IRDAI), The Pension Fund Regulatory & Development Authority (PFRDA), Employee Provident Funds Organisation (EPFO), etc.

THANK YOU

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