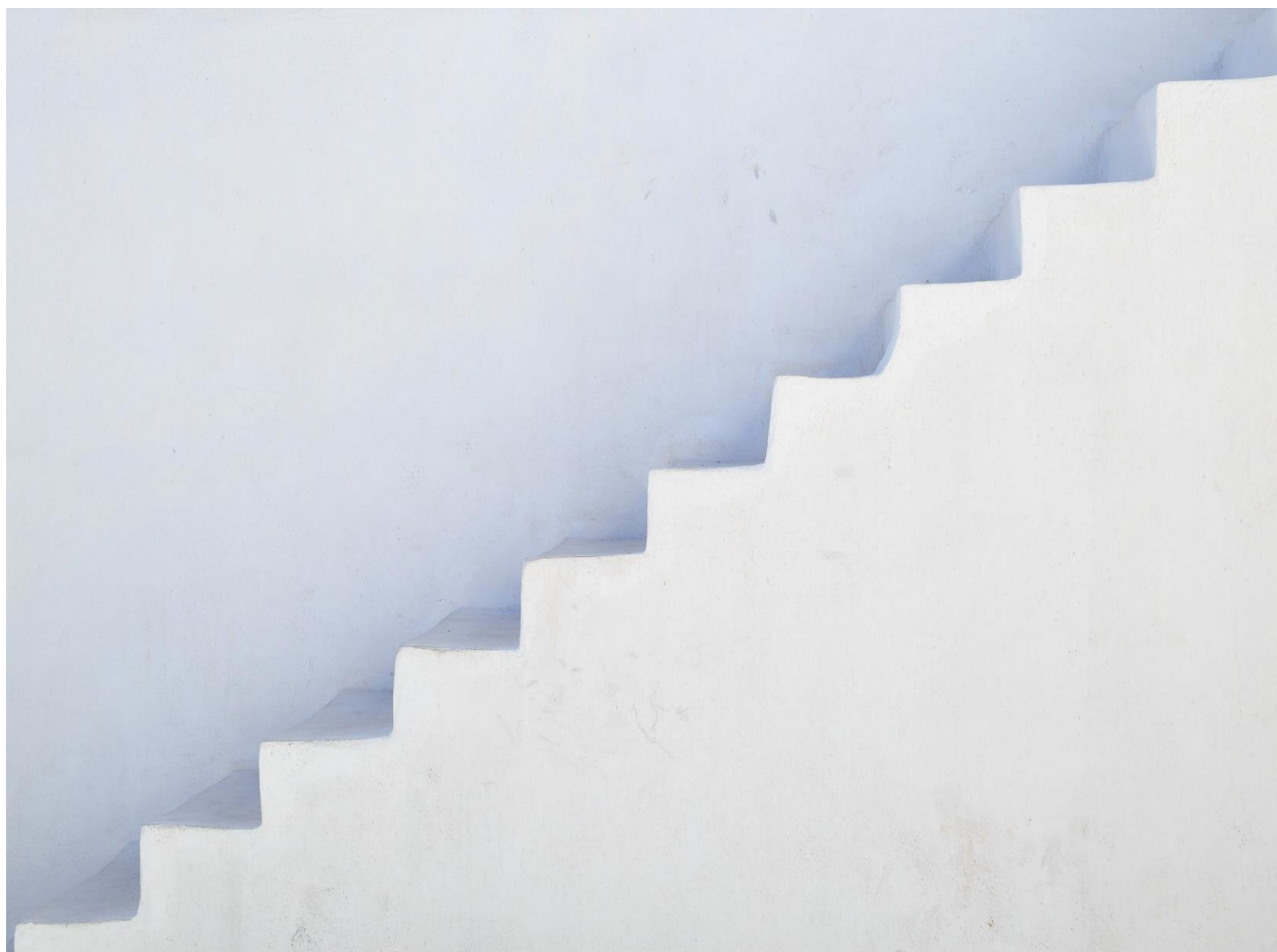


# EL vs ECL

Different concepts, serving different needs

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## EL and ECL are not one and the same

The Expected Loss (EL) scale, an innovative credit framework for operational infrastructure projects, was launched by CRISIL Ratings in 2017 in consultation with the Ministry of Finance and other stakeholders.

It was launched in response to the pitch made by the then finance minister, late Arun Jaitley, in his February 2016 budget speech when he urged the new rating scale should factor in the in-built structural safeguards of the infrastructure projects.

Operational infrastructure projects such as roads, transmission assets, renewables assets and airports have, by nature, several in-built structural safeguards. These are in the form of legal contracts mostly with government entities, thereby providing strong cash flow visibility. These contracts also ensure entry barrier and give monopolistic position to the assets. Some of the infrastructure projects such as roads also have a termination clause that is the equivalent of a collateral in a manufacturing plant.

Ratings assigned under the EL framework are an opinion on the expected loss to be incurred over the life of a debt instrument and account not only for the probability of default, but also post-default recoveries.

Thus, the EL ratings complement conventional credit ratings (based on the probability of default approach) by incorporating the specificities of operational infrastructure projects that contribute towards post-default recovery.

EL ratings focus on recovery of dues to investors and lenders over the life cycle of an infrastructure project by factoring in the possibility of refinance/restructuring and the presence of embedded safeguards (such as termination payment), thus enabling them in the effective pricing of the credit risk.

In January 2021, the Insurance Regulatory and Development Authority recognised the EL scale, followed by the Pension Fund Regulatory and Development Authority in July 2021. The Securities and Exchange Board of India recognised and standardised the scale in July 2021.

Recently, there has been some debate around whether the EL ratings of credit rating agencies (CRAs) and the Expected Credit Loss (ECL)-based provisioning required under the accounting norms are one and the same.

While the two may sound similar and have a mathematical construct that looks same (both are calculated as  $PD \times LGD \times EAD$ ), CRISIL Ratings would like to highlight that **EL is not the same as ECL**.

This article attempts to answer the following questions:

- How different is EL from ECL?
- Is EL of 1% the same as ECL of 1%?
- Utility of EL for the pricing of debt instrument
- Is adoption of Ind-AS accounting a pre-requisite for adopting EL ratings?

## 1 How different are the two?

**EL**, calculated using EL rating methodology, is an independent opinion that can be used for optimal risk-based pricing of any debt instrument. The EL scale is primarily for operational and non-defaulting infrastructure projects.

Conceptually, investors (hereafter, investors and lenders are used interchangeably throughout the article) incur loss when there is default on their credit exposures (covers both loan and bond). This means an investor needs to assess the likelihood of such a default, or PD. Also, a default does not mean total loss – some money could be recovered. In other words, the quantum of loss will depend on the money recovered after a default. This is called the loss given default or LGD.

EL is the product of PD over the life of the instrument and LGD. Mathematically,  $EL = PD \times LGD$ .

As the debt recovery process in India was time-consuming and recoveries were low (at 27 cents per dollar<sup>1</sup>), the credit rating scales of CRAs were designed to address the likelihood of default or PD.

With the advent of Insolvency and Bankruptcy Code (IBC) in the last few years, this situation has improved in many ways. Recovery under IBC rates has been better due to emphasis on faster recoveries and instilling better credit discipline. As per a Reserve Bank of India report, IBC has led to recoveries of 46% (as of fiscal 2020<sup>2</sup>), which is significantly higher than other methods of recovery such as SARFAESI (27%), DRT and Lok Adalat (sub-10%).

The EL ratings build upon the conventional rating scale by considering the recovery prospects in the event of default. In the infrastructure sector, these recovery prospects can be due to cash flow-based recovery, ability to refinance, value of security, termination payments, among others. EL ratings assess the expected losses (EL) over the life of a debt instrument.

The EL ratings highlight the fundamentally low loss levels in a vast majority of operational infrastructure project debt. It brings out the lower risks in operational non-defaulting infra projects more sharply by capturing their attributes, such as high entry barrier, low technological obsolescence risk, low incremental capex or working capital, and fundamental long-term viability. These ensure that losses, even after a default due to temporary liquidity mismatch, are low.

For instance, say a BBB-rated road project has issued a bond that has been assigned a CRISIL EL 2 rating, the second highest on the EL scale. Under the traditional credit rating scale that measures the probability of default or PD, debt instrument is rated CRISIL BBB - several notches below the highest rating level (CRISIL AAA) on the PD scale.

This is because the PD scale, by its construct, addresses only the likelihood of timely debt repayment and cannot factor in the unique aspect of 'high recovery' for operational infrastructure projects. Operational infrastructure projects, especially in the initial few years after completion, typically have large debt and tenures (12-15 years on average) shorter than the concession period (20-30 years). Consequently, cushion available for timely debt repayment is moderate. This results in a lower rating on the conventional PD scale.

However, on the EL scale, it can even attain the second-highest rating of EL 2 because the rating factors in the prospects of recovery after default.

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<sup>1</sup> Source: World Bank Ease of Doing Business 2020

<sup>2</sup> Source: As of September 2021, recovery rate is 36% (Source: Insolvency and Bankruptcy Board of India)

EL ratings (as shown below) are assigned on a seven-point scale, with EL 1 representing the lowest expected loss and EL 7 the highest.

#### CRISIL EL rating scale for infrastructure projects

Rating	Definition	Indicative EL ranges
<b>CRISIL EL 1</b> (Lowest expected loss)	Instruments rated 'EL 1' are considered to have the lowest expected loss over the life of the instrument	$\leq 1.25\%$
<b>CRISIL EL 2</b> (Very low expected loss)	Instruments rated 'EL 2' are considered to have very low expected loss over the life of the instrument	$1.25\% < X \leq 3.5\%$
<b>CRISIL EL 3</b> (Low expected loss)	Instruments rated 'EL 3' are considered to have low expected loss over the life of the instrument	$3.5\% < X \leq 7.5\%$
<b>CRISIL EL 4</b> (Moderate expected loss)	Instruments rated 'EL 4' are considered to have moderate expected loss over the life of the instrument.	$7.5\% < X \leq 15\%$
<b>CRISIL EL 5</b> (High expected loss)	Instruments rated 'EL 5' are considered to have high expected loss over the life of the instrument	$15\% < X \leq 25\%$
<b>CRISIL EL 6</b> (Very high expected loss)	Instruments rated 'EL 6' are considered to have very high expected loss over the life of the instrument	$25\% < X \leq 35\%$
<b>CRISIL EL 7</b> (Highest Expected Loss)	Instruments rated 'EL 7' are considered to have the highest expected loss over the life of the instrument	$> 35\%$

**ECL**, on the contrary, is an accounting-based concept as per Ind AS 109 framework that enables an entity (corporates/NBFCs/banks) to determine the extent of provisions on its credit exposure.

An entity is required to make ECL estimates based on the historical loss experiences of its portfolio, informed by future expectations and the economic environment it operates in.

Mathematically,  $ECL = PD \times LGD \times EAD$  – which is the same as EL.

However, there are quite a few differences, notable among them being the definition of default. In the case of EL, default is recognised on a 'one day, one rupee' basis, which means even if there is a delay of one day or a shortfall of one rupee in fulfilling debt obligation, an instrument is considered to be in default.

In ECL, default is recognised in an account if it is 90 days past due, as per the market convention.

Also, ECL establishes a 3-stage impairment model defined as follows:

- **Stage 1** includes financial assets that are current or overdue up to 30 days. For these assets, 12-month expected credit losses (ECL) are recognised. Incidentally, Stage 1 assets are estimated to constitute majority (88%<sup>3</sup>) of credit exposures of the banking system.

<sup>3</sup> Source: Report on trend and progress of banking in India 2020-21

- **Stage 2** includes financial assets that are overdue between 30 and 90 days. For such assets, lifetime ECL needs to be recognised.
- **Stage 3** includes financial assets that are overdue beyond 90 days. For such assets, lifetime ECL needs to be recognised.

### Key differences in calculating EL and ECL:

	EL	ECL
Application	Independent pricing tool for debt instruments issued by infrastructure projects	Accounting-based provisioning concept applicable for banks/NBFCs
Default definition	Default is recognised on a 'one day, one rupee' basis	Default is 90 days overdue
Tenure	EL is calculated over the lifetime of the instrument	ECL is calculated for 12 months for stage 1 financial assets, and lifetime for stage 2/3 financial assets

## 2 EL of 1% ≠ ECL of 1%

Let us take an example to illustrate why EL of 1% is not the same as ECL of 1%. Consider a CRISIL BBB-rated debt instrument of Rs 1,500 crore issued by an operational renewable power project. This bond has a door-to-door maturity of 15 years. How will the EL and ECL for the debt instrument be calculated?

### Illustration for EL

**Step 1:** The exposure that is subject to default risk is Rs 1,500 crore.

**Step 2:** PD has to be estimated for the debt instrument over the tenure of the instrument (15 years). Here, the definition of default for PD is on a 'one day, one rupee' basis.

**Step 3:** LGD (20%) is estimated for the debt instrument as this is an operational project with high recovery prospects.

**Step 4:** EL is arrived as the multiplicative factor of PD, LGD and loan exposure.

Exposure	PD	LGD	EL %
Rs 1500 crore	Calculated over the tenure of the assets	20%	1.40%

On a CRISIL EL rating scale, the above-illustrated bond will be rated as 'CRISIL EL 2' as the expected loss is between 1.25% and 3.5% over the tenure of the instrument.

## Illustration for ECL

**Step 1:** The exposure of Rs 1500 crore has to be classified into stage 1, 2 or 3. In this case, since the debt instrument is rated BBB, it is classified as stage 1 asset.

**Step 2:** PD has to be estimated for a 12-month period. The 1-year PD (with default being defined on a single-rupee single day basis) for a BBB-rated instrument is 0.75%<sup>4</sup>. For estimating ECL, default is recognised when the debt repayments remain overdue for more than 90 days, i.e., when the instrument turns into an NPA (non-performing asset). Hence, PD for the purpose of ECL (i.e., probability of turning NPA) is estimated at one-third of the PD where default is defined on a single-rupee single day basis. This results into a PD (for ECL estimate) of 0.25% (= 0.75%/3).

**Step 3:** LGD (20%) is estimated for the debt instrument as this is an operational project with high recovery prospects.

**Step 4:** ECL is arrived as the multiplicative factor of PD and LGD

Exposure	PD	LGD	ECL %
Rs 1500 crore	0.25%	20%	0.05%

Any financial institution that has invested in the bond has to provide 0.05% ECL-based provisioning.

In the above illustration, for the same bond of Rs 1,500 crore, while EL is calculated as 1.40%, ECL is estimated at a much lower level of 0.05%. This implies that EL and ECL indicate different concepts and cannot be compared even if their numerical values are the same.

It can also be noted that for operational infrastructure projects that are not defaulting, the value of EL will be higher than that of ECL.

<sup>4</sup> <https://www.crisil.com/content/dam/crisil/our-analysis/publications/default-study/crisil-ratings-default-and-rating-transition-study-fy-2021.pdf>

### 3 Utility of EL for the pricing of debt instrument

The illustration below indicates how EL ratings help evaluate optimal borrowing rates and bring in risk-based approach to differentiate between projects having similar ratings on conventional rating scale but with distinct recovery prospects.

#### Illustration of debt instruments rated 'BBB-' and EL rating of CRISIL EL 1<sup>5</sup> and CRISIL EL 4

	Instrument 1 (BBB-, CRISIL EL1)	Instrument 2 (BBB-, CRISIL EL 4)
<b>Rate of interest per annum</b>	11%	11%
<b>Expected Loss (EL)</b>	0.625% (A1)	11.25% (A2)
<p>Typically, long-term infrastructure debt instruments have a long tenor (12-15 years) but are amortising in nature. They have an average duration of 6-7 years. Let us assume that average duration for both the instruments considered in illustration is 7 years (B)</p>		
<b>Factoring EL on annualised basis</b>	10 bps (C1= A1/B)	160 bps (C2 = A2/B)
<p>Apart from the expected loss, lenders also price in unexpected loss (UEL), losses on account of market risk, illiquidity, etc. On an annualised basis, the unexpected loss that needs to be factored into the spread for a BBB- instrument would be around 110 bps (D = a risk weight of 100% for the 'BBB-' credit quality * capital adequacy of 9% * return on capital of 12%)</p>		
<b>Factoring UEL on annualised basis</b>	110 bps (D)	110 bps (D)
<b>Factoring other factors like illiquidity</b>	20 bps (E)	20 bps (E)
<b>Overall Credit spread</b>	140 bps (C1 + D + E)	290 bps (C2 + D + E)
<b>Borrowing Cost (Credit spread + risk free rate)</b>	9.4% (1.4% + 8%)	10.9% (2.9% + 8%)

As observed in the above illustration, both projects having identical rating of BBB- on the conventional rating scale and are charged an interest rate of 11%. However, the overall risks are quite different on account of distinct post-default recoveries. This feature is adequately reflected in the EL ratings of the debt instruments and is an important consideration in determining the borrowing costs for the instruments. Hence, the instrument rated EL 1 ought to have a lower borrowing cost than instrument rated EL 4, even though both instruments have similar rating on the conventional rating scale.

As seen above, lenders and investors can factor the expectation of losses they may incur over the life of instruments in the form of credit spreads over risk-free instruments when pricing their investment decisions. This expectation of losses incorporates both conventional credit rating and post-default recoveries, allowing a clear distinction to be made between entities with favourable fundamentals and recovery prospects and those without.

<sup>5</sup> The range of EL over lifetime of the debt instrument is 0-1.25% for EL 1 and 7.5-15% for EL 4. For the purpose of this illustration, the mid-point of the ranges has been considered, i.e., 0.625% for EL 1 and 11.25% for EL 4.



## 4 Is adoption of Ind AS accounting a pre-requisite for adopting EL ratings?

Given that EL and ECL are different concepts, the application of EL is not dependent on implementation of ECL-based provisioning norms.

To conclude, there is no requirement of adoption of Ind AS-based accounting by banks, financial institutions, mutual funds, and insurance companies as a pre-requisite for adoption of EL-based rating. In addition, EL-based rating will not have any adverse impact on capital adequacy norms or any other aspects that govern bank credit and risk management as this is only a pricing tool. Adoption of EL ratings will go a long way in ushering in the much-desired risk-based pricing of credit exposures in the Indian financial system.

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