

Paradigm Shift In Credit Loss Provisioning

July 2024



CONTENT

Introduction To ECL	3
Incurred Loss Methodology	5
ECL Methodology	6
Outlook	8
Challenges	9
Solutions	10
• How Icra-Analytics Can Contribute	
Conclusion	12

Introduction to ECL

Expected Credit Loss (ECL) is a financial concept used in the measurement and management of credit risk. It refers to the estimated loss a lender anticipates from a financial asset, such as a loan or a portfolio of loans, over a specified period. The estimation is crucial for financial institutions to maintain adequate financial reserves and ensures financial stability.

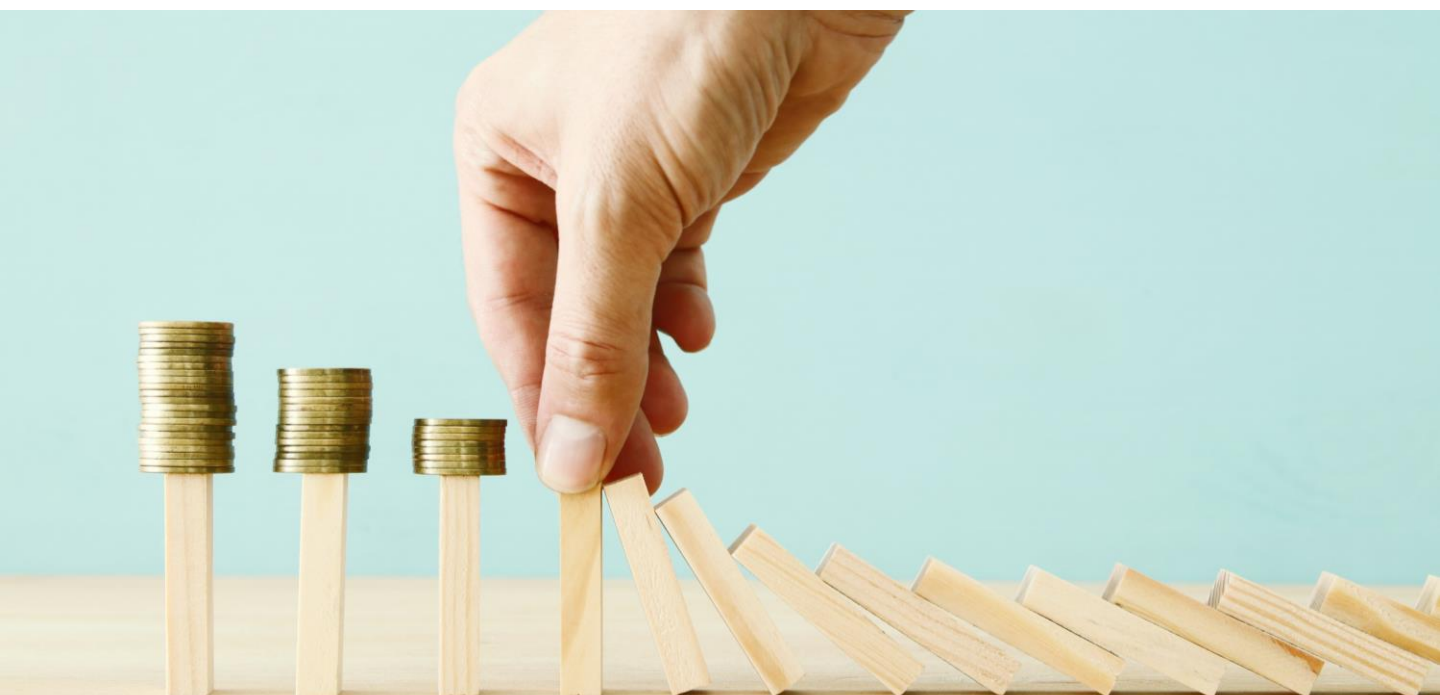
ECL represents the probability-weighted average of credit losses over the life of a financial instruments, considering various scenarios of default and non-default. It incorporates forward looking information, including macro-economic factors to provide a more accurate assessment of potential credit losses.

The International Financial Reporting Standard (IFRS) 9, implemented in January 2018, introduced the ECL model to replace the previous Incurred Loss model. Under IFRS 9, financial institutions must recognize ECL from the point of initial recognition of a financial asset, rather than waiting for an incurred loss event. The Ministry of Corporate Affairs (MCA) in India have notified the Indian Accounting Standards (Ind AS), which are largely converged with

IFRS, including Ind AS, the equivalent of IFRS 9. Ind AS introduces the ECL model for financial instruments.

RBI initially planned to implement IFRS 9, which includes ECL framework, starting from April 1, 2018. However, implementation was postponed, and financial institutions were given time extension for the transition.

The Official implementation date was set for April 1, 2020. Despite further delays due to the Covid-19 pandemic, many financial institutions in India have started to align their credit loss provisioning with ECL framework.



Key Concepts of ECL under Ind AS 109

- **Three-Stage Model:** Like IFRS 9, Ind AS 109 employs three-stage approach to calculate ECL.

Stage 1

For financial instrument with no significant increase in credit risk since initial recognition, 12-month ECL is recognized.

Stage 2

For financial instruments with a significant increase in credit risk. Lifetime ECL is recognized.

Stage 3

For credit-impaired financial instruments. Lifetime ECL is recognized, and interest revenue is calculated on the net carrying amount.

- **Forward-Looking Information:** Incorporation of Macro-Economic variables and forecast to adjust ECL estimates, reflecting future economic conditions.
- **Probability of Default (PD):** Likelihood that the borrower will default within a specified period.
- **Loss Given Default (LGD):** Proportion of the exposure that is expected to be lost in the event of default.
- **Exposure At Default (EAD):** Amount expected to be outstanding at the time of default.

This document is the first part of the ECL series and there are many more parts (e.g. ECL Adoption by NBFCs in India etc.) are yet to be published soon.

Incurred Loss Methodology

In Incurred loss model all loans are assumed to be repaid until it defaults (known as a loss or trigger event) is identified. Only at that point, it is considered as impaired loan (or portfolio of loans) which can be written down to a lower value.

A loan becomes impaired when the loan, for any reason, becomes worth less than the market is willing to pay for it.

The incurred loss model requires an entity:

- (a) to recognize an impairment loss if a credit loss has been incurred
- (b) not to recognize an impairment loss for losses 'expected because of future events' or 'future credit losses that have not been incurred'.

Loan losses occur because of a series of events. It is quite complicated to pinpoint a single event and assert that loss occurred at that specific moment.

The Incurred Loss Methodology had several notable limitations. These limitations are as follows:

1 Backward-Looking Nature:

- **Delayed Recognition:** Losses are recognized only when they are incurred, which means the methodology is reactive rather than proactive. This can lead to significant delays in recognizing losses, especially in deteriorating economic conditions.
- **Insufficient Anticipation of Future Losses:** The Methodology does not incorporate future expectations or changes in economic conditions, making it less effective in predicting and preparing for upcoming credit losses.

2 Dependence on Historic data:

- **Historical Bias:** Heavy reliance on historical data assumes that past patterns will continue, which may not hold true in changing economic environments. This can lead to inaccurate loss estimates if future deviates significantly from past.
- **Inadequate for New Risk:** New types or risks or changes in borrower behavior may not be captured accurately if they have not been experienced in the past.

3 Impact on Financial Stability and Reporting:

- **Earnings Volatility:** Recognizing losses only after they occur can lead to significant volatility in financial results, especially during economic downturns when large losses may be recognized suddenly.
- **Capital Adequacy:** Failure to anticipate and provide for future losses adequately can affect a bank's capital planning or regulatory capital requirements, potentially leading to under provisioning and capital shortfalls.

4 Lack of Forward-Looking Information

- **Economic Conditions:** The methodology does not consider current and expected macro-economic conditions that could affect future credit losses.
- **Emerging Risks:** It fails to adequately address emerging risks and changes in the creditworthiness of borrowers before they manifest as losses.

ECL Methodology

The calculation of Expected Credit Loss (ECL) involves three main components i.e. Probability of Default (PD), Loss Given Default (LGD) and Exposure at Default (EAD).

ECL is computed as the product of these components, incorporating both historical data and forward-looking information. Here's detailed explanation of each component:

Components of ECL:

1. Probability of Default (PD):

- PD represents the likelihood that a borrower will default on their obligations within a given time frame (usually 12 months or over the lifetime of the loan).
- It is typically derived from historical data, credit scoring models, and forward-looking information (economic forecasts by using macro-economic variables)

2. Loss Given Default (LGD):

- LGD is the percentage of the exposure that is expected to be lost if a default occurs.
- It considers factors such as collateral value, recovery rates, and cost associated with the recovery process.

3. Exposure At Default (EAD):

- EAD represents the total value of exposed to default at the time of default.
- It includes the outstanding loan balance, interest accrued, and any undrawn commitments that are likely to be utilized before default.

ECL Calculation Formula:

The general formula for calculating ECL:

$$\text{ECL} = \text{PD} * \text{LGD} * \text{EAD}$$

ECL Methodology is preferred over IL Methodology for the following reasons:

Forward-Looking Approach:

ECL considers expected future credit losses based on current and historical information, economic conditions, and forecasts. This forward-looking perspective allows financial institutions to anticipate and prepare for potential credit losses before they occur.

Investor Confidence:

Investors and Stakeholders generally have more confidence in financial statements prepared using ECL methodology because it provides a clearer picture of the financial health and risk profile of any financial institution.

Comprehensive Risk Assessment:

- I. **Incorporation of Multiple Factors:** ECL model considers a broader range of factors, including historical data, current conditions, and future expectations. This comprehensive approach provides a more holistic assessment of credit risk.
- II. **Probability weighted Outcomes:** ECL model uses probability – weighted outcomes to estimates credit loss under different scenarios. This method captures the variability and uncertainty in credit risk, leading to more robust loss estimations.

Enhance Financial Stability:

By recognizing credit losses earlier, the ECL model ensures that financial institutions maintain adequate capital reserves to absorb potential losses. This enhances the resilience of financial institutions during economic downturns and financial crisis.



Outlook

ECL Adoption

The journey of adoption may not be straightforward as it involves developing, testing, validating, and implementing ECL models, while upskilling credit risk management teams.

The adoption of Expected Credit Loss (ECL) models in Indian Non-Banking Financial Companies (NBFCs) marks a significant shift in how these entities manage and report credit risk. Here's an overview of the key aspects of the adoption:

1. Regulatory Requirements

• IFRS 9 and Ind AS 109:

The adoption of ECL in NBFCs is primarily driven by the implementation of Ind AS 109, which aligns with the International Financial Reporting Standards (IFRS 9). This standard requires financial institutions to move from an incurred loss model to an ECL model for calculating losses.

• RBI Guidelines:

The Reserve Bank of India (RBI) has mandated the implementation of Ind AS for NBFCs with a net worth of INR 500 crores and above from April 1, 2018, and for other NBFCs in a phased manner. These guidelines necessitate the adoption of the ECL model for provisioning against credit risk.

2. Gradual Adoption

While larger NBFCs have made significant progress in implementing the ECL model, smaller NBFCs are still in the process of transitioning. Continuous efforts are being made to enhance data infrastructure and analytical capabilities.

Key RBI Circulars and Guidelines on ECL

1. DBR.BP.BC.No.76/21.07.001/2017-18 (February 22, 2018)

This circular outlines the deferment of the implementation of Ind AS for scheduled commercial banks (excluding regional rural banks) from the original date of April 1, 2018, to April 1, 2019. It also provides instructions for preparing financial statements according to Ind AS and highlights the regulatory expectations regarding the ECL model.

2. DBR.BP.BC.No.29/21.07.001/2018-19 (March 22, 2019)

This circular further defers the implementation of Ind AS for banks from April 1, 2019, to April 1, 2020. It emphasizes the need for banks to be prepared for the transition to Ind AS and the ECL framework.

3. DOR (NBFC). CC.PD.No.109/22.10.106/2019-20 (March 13, 2020)

This circular addresses the implementation of Ind AS for NBFCs and ARCs, which includes the adoption of the ECL model for these entities. It provides specific guidelines on transitioning to Ind AS and the associated requirements.

4. DOR (NBFC). CC.PD.No.117/22.10.106/2019-20 (March 13, 2020)

This circular extends the timeline for the implementation of the Ind AS, including ECL, for certain NBFCs and ARCs. It highlights the readiness of preparatory measures required for a smooth transition.

ECL Implementation

- In ECL methodology, there are two key processes: an assessment of the probability of default (PD) and an estimate of the loss given default (LGD).
- The probability of default (PD) is the estimation of the chances of non-payment of a loan, influenced by factors such as the borrower's ability to repay the loan and willingness to repay.
- Loss given default estimates the extent of the loss the bank will incur if a default takes place, subject to the quality of the security collateral, effectiveness of the recovery process and robustness of the legal frameworks.
- With these two estimates, the financial institution should be able to compute the present value of expected losses over the life of a loan.
- For probability of default (Through the cycle), it is borrower's past records or performance. It can be deduced from bank's historical data on loan performance and its defaults. Or it could be data on borrower ratings for its loans, which may range from AAA or AA+ for the most creditworthy to D for those already in default.
- For loss given default, data on recoveries achieved through mechanisms such as liquidation of secured collateral. LGD estimates should reflect the potential loss, considering the recovery process and value of any collateral.
- Institutions should segment their loan portfolios based on common risk characteristics (e.g. loan type, collateral type, borrower type) to improve the accuracy of LGD estimates. Historical recovery rates should be analyzed, considering the cost associated with recovery process (e.g. legal fees, collection costs etc.)

Challenges

Implementation of ECL methodology depends on the availability of high-quality information. Common features of quality information for ECL estimation are granularity, frequency, variety, and standardization. Similarly, a high periodicity of data update is desirable. And a certain level of standardization is key to desired information.

Rating agencies publicly releases default probabilities or transition probabilities for the different ratings they rate, based on historical data. In the absence of publicly available data from the rating companies on default probabilities for loans, financial institutions have no alternative but to rely on their own customer historic data to compute this probability of default.

Challenges In Implementation

Data Quality and availability:

The largest Indian bank holds about a quarter of the market share in bank loans, and most of the approximately 150 scheduled commercial banks possess single-digit market shares. Consequently, the individual datasets of financial institutions are inadequate to generate reliable estimates of default probabilities.

- Need for high quality, granular data on loan performance, default rates and economic indicators.
- Smaller financial institutions face difficulties in accessing historical data.

Incorporation of Forward-Looking Approach:

- Challenges in accurately forecasting macro-economic variables and incorporating them into ECL models.
- Requires robust scenario analysis and stress testing frameworks.

Regulatory Compliance:

- Ensuring alignment with RBI guidelines and continuous updates to meet evolving regulatory guidelines.
- Detailed disclosures and documentation as mandated by Ind AS 109.

Lack of Standardization of the rating scale:

An additional issue pertains to the lack of standardized ratings. Loans rated the same by different companies can exhibit significantly different default probabilities. This disparity becomes more pronounced as one descends the rating scale, particularly for BBB and BB-rated bonds.

Lack of standardization of the rating scale, combined with the limitation of data, would lead financial institutions to miscalculate default probabilities, ultimately resulting in inaccurate capital levels.

Macro-Economic factor:

Economic conditions and market cycles can significantly impact LGD and PD. Estimating how changes in economic factors affect the chances of default (PD) and recovery rates of defaulted loans that involves economic forecasting and scenario analysis, which adds another layer of complexity.

Solutions

For Inadequate historical data on defaults and recoveries:

Data Collection Initiatives: Establish Industry-wide data collection initiatives to gather historical data on defaults, recoveries, and other relevant factors. Collaborate with other financial institutions and regulatory bodies to share data.

For lack of comprehensive data on macro-economic indicators:

Use of External Data sources: Leverage external data sources, such as credit bureaus and economic forecasting agencies, to supplement internal data. Integrate these sources into the ECL modelling process.

For Complexity of ECL Models:

Invest in building internal expertise in credit risk modelling. Hire or train staff with skills in statistical modelling, econometrics, and machine learning.

Establish comprehensive model validation frameworks that include back-testing, sensitivity analysis, and independent review. Use scenario analysis to test model performance under different economic conditions.

For Incorporation of Forward-Looking information:

Develop and use scenario analysis tools to incorporate multiple economic scenarios (e.g. base, optimistic, and pessimistic) into the ECL models. Assign probabilities to each scenario based on expert judgement and historical trends.

Seek and follow regulatory guidance on incorporating forward-looking information. Regulators can provide standardized scenarios or methodologies to reduce subjectivity and ensure consistency.

For Regulatory and Compliance:

Establish dedicated teams to monitor regulatory developments and ensure compliance. These teams can act as a liaison between the institution and the regulatory bodies.

Implement automated systems for regulatory reporting and compliance management. These systems can help in tracking compliance requirements and generating necessary reports.



How ICRA-Analytics can contribute:

iECL

iECL is web-based solution by IAL for implementing Expected Credit Loss (ECL) which offers variety of services to its user.

Features of iECL:

- User friendly interface and streamlined process flow.
- Leading modelling techniques with front end customization capabilities.
- Web based interface to ingest large dataset.
- Centralized monitoring of calculations: tracking and comparisons of model iterations.
- Rich and standardized reporting capabilities.
- iECL leverages the power of Python-based data analytics frameworks such as Pandas, NumPy and Scikit-Learn to implement its methodologies.
- The frameworks are scalable and are integrable with other systems and solutions. The application can be hosted in any on-prem/cloud windows server.
- There is no data transfer over the web as the tool uses a common server for computation and storage, and only user inputs are shared through front end application. iECL is a highly secure application to protect customer data as it has gone through a VAPT testing.

Portfolio segmentation and Staging policy is based on user defined logic and according to user's portfolio of loans. For PD, 12-month and lifetime PD will be calculated with the adjustments of macro-economic variables to follow forward-looking approach (to convert through the cycle PD into Point in time PD).

Loss Given Default calculation is based on recovery cashflows, write-offs, one-time settlements, and collateral value approach. Future recovery is discounted with effective interest rate to get the present value. There is separate module for Effective Interest Rate (EIR).

Exposure at Default includes outstanding loan and interest accrued on it.

It provides the probability weighted ECL solution and reporting to its users.

Conclusion

Expected Credit Loss (ECL) is a critical concept in modern financial risk management, providing a forward-looking approach to estimating potential credit losses. By incorporating probability of default (PD), loss given default (LGD) and exposure at default (EAD), the ECL Model offers a comprehensive framework for assessing and managing credit risk, ensuring financial stability and regulatory compliance.

The adoption of the Expected Credit Loss (ECL) methodology under Ind AS 109 represents a significant step forward for the Indian Banking Industry. While the transitions pose some challenges, particularly in data quality, model complexity and regulatory compliance, the benefits in terms of proactive risk management, financial stability and alignment with international standards are substantial.

As financial institutions continue to refine their ECL models and processes, they will be better equipped to navigate the dynamic economic environment and manage credit risk effectively.

In summary, the introduction of Expected Credit Loss (ECL) framework in India, aligned with IFRS 9 through Ind AS 109, represents a significant step towards financial reporting and credit risk management practices. Despite challenges, ECL's forward-looking approach provides substantial benefits in terms of risk management, transparency, and financial stability.

Overall, this document refers to the shift in credit risk management from the previous methodology i.e. Incurred Loss to Expected Credit Loss. It is initial part of the ECL series, hence more parts are yet to be released.

Authors:

Mr. Vivek Singh Gusain

(Lead Financial Analyst)

E-mail: vivek.gusain@icraanalytics.com

Business Contacts:

Mr. Vipin Saboo (Senior Director - Business Development)

E-mail: vipin.saboo@icraanalytics.com | Phone: +91 9820779873

Mr. Sujit Agarwal (Associate Director, Business Development)

E-mail: sujit.agarwal@icraanalytics.com | Phone: +91 9321568621

Mr. Atul Sharma (Associate Director, Business Development)

E-mail: atul.sharma@icraanalytics.com | Phone: +91 9619112544

Mr. Saugat Acharya (Associate Director Business Development)

E-mail: saugat.acharya@icraanalytics.com | Phone: +91 9820974940

Mr. Joe Prasanna (Associate Director, Business Development)

E-mail: joe.prassana@icraanalytics.com | Phone: +91 9884991735

Our Offices:

Kolkata

(Registered & Corporate Office)

Infinity Benchmark,
17th Floor, Plot – G-1, Block GP, Sector V,
Salt Lake, Kolkata – 700091, West Bengal, India

Gurugram

Building No. 8, 2nd Floor,
Tower A, DLF Cyber City, Phase II,
Gurugram - 122 002, Haryana, India

Mumbai

3rd Floor, Electric Mansion, Appasaheb
Marathe Marg, Prabhadevi,
Mumbai - 400 025, Maharashtra, India

Chennai

5th Floor, Karumuttu Centre,
634 Anna Salai, Nandanam
Chennai- 600 035, Tamil Nadu, India



Helpdesk: 9354738909



www.icraanalytics.com



[ICRAAnalyticsLtd](https://www.icraanalytics.com)



[ICRAAnalytics](https://www.icraanalytics.com)



[ICRAAnalyticslimited](https://www.icraanalytics.com)

© Copyright, 2023 ICRA Analytics. All Rights Reserved.

All information contained in this document has been obtained by ICRA Analytics Limited from sources believed by it to be accurate and reliable. Although reasonable care has been taken to ensure that the information herein is true, such information is provided 'as is' without any warranty of any kind, and ICRA Analytics Limited in particular, make no representation or warranty, express or implied, as to the accuracy, timeliness or completeness of any such information. All information contained herein must be construed solely as statements of opinion, and ICRA Analytics Limited shall not be liable for any losses incurred by users from any use of this document or its contents in any manner. Opinions expressed in this document are not the opinions of ICRA Analytics Limited's holding company, ICRA Limited (ICRA), and should not be construed as any indication of credit rating or grading of ICRA for any instruments that have been issued or are to be issued by any entity. Readers are requested to [click here for ICRA Analytics Ltd disclaimer](#).