



Expected Credit Loss (ECL)

Turning Theory into Action



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1. Introduction

Expected Credit Loss (ECL) was implemented in different countries under IFRS9 standard in 2018. In U.S.A. also, the standard came in effect as part of ASC 326 – Current Expected Credit Loss (CECL) in 2022. In India, Reserve Bank of India (RBI) has deferred the implementation of the standard for banks, but any Non-Banking Financial Company (NBFC) which has transitioned to IndAS, the requirement to compute ECL is applicable as per IndAS 109.

Mostly all major economies are now transitioned to IFRS9 standard as issued by the International Accounting Standards Board (IASB). To transition to ECL from current incurred loss method RBI has issued discussion paper in January 2023¹. In continuation, RBI, on 4 October 2023, had constituted a nine-member committee to recommend framework for ECL loan loss provisioning for Indian Financial Institutions (FIs). Final guidelines basis the recommendations of the committee are expected to be released by RBI and thus it is imperative for all Indian FIs to work towards implementing ECL computation policies and framework.

The paper is organised as follows. **This section** provides the introduction to the paper. The **subsequent section** provides an overview of the ECL framework and key requirements for robust framework implementation. **Section three** provides key components of ECL framework. **Section four** provides an overview of key considerations in validation of different models and framework as per regulatory guidelines and industry best practices. **Section five** provides an overview of key challenges that any FI faces while implementing ECL framework and how those can be overcome. **Section six** provides an overview of key areas impacted due to implementation of ECL framework and how FIs can better prepare for such impacts. **Section seven** provides conclusion on how Indian FIs can implement a robust ECL framework.

1. “Introduction of Expected Credit Loss Framework for Provisioning by Banks” issued by the Reserve Bank of India in January 2023.



2. Expected Credit Loss (ECL) framework

As ECL will impact Financial Statements of the FI, it is imperative that the framework is robust which adheres with applicable regulatory guidelines and industry best practices. Once ECL is implemented, FIs need to compute either 12-month or lifetime ECL for the facility from the day of loan disbursement. This will impact the financial statements of the FI including profitability, capital adequacy and other financial indicators.

Basis our experience, it is important that different departments including underwriting, treasury, finance, risk, IT, and operations should have good understanding of the framework and work closely to ensure that the impact of adoption of such a framework is not large for the bank. Also, as part of Target Operating Model (TOM), there should be clearly defined roles and responsibilities of all these departments to ensure minimum volatility on the statement of profit and loss due to movement of provisions.

Below are the key considerations for effective implementation of ECL framework:

- 01** Business model and Solely Payment of Principal and Interest (SPPI) policy
- 02** Modelling for ECL and its components such as stage, segmentation, PD, LGD, and EAD
- 03** Model document, policies, and SOPs
- 04** Validation of models
- 05** Financial reporting and disclosures
- 06** Governance and controls.

As per IFRS9, FIs can compute ECL basis different methods. Below are three approaches as provided in standard to compute impairment losses basis underlying asset:

General Measurement Model (GMM)

Under this approach, FIs have to assess the stage of the facility and accordingly compute ECL for next 12-month or lifetime. ECL for most of the assets such as retail loans, corporate loans, and bonds will be computed under this approach

Simplified approach

Under this approach, stage assessment is not required and lifetime ECL is computed. Generally, this approach is used for assets such as trade receivable, and lease receivable where there is no significant financing component

Purchased or Originated Credit-Impaired (POCI)

This approach is applicable for assets which are credit impaired either at origination or purchased as credit impaired. Generally, lifetime ECL is computed for such assets and credit adjusted effective interest rate (CEIR) is used to discount the ECL.

In the next section of the paper, we have elaborated on key components for the most common approach as used for impairment calculation i.e., PD, LGD approach, which forms a part of GMM.



3. Development of different ECL components

In general, different ECL frameworks (IFRS9, IndAS 109, ASC 326) are principal based and do not prescribe a single method that is to be used for ECL computation. As per ASC 326-20, "an entity may use discounted cash flow methods, loss-rate methods, roll-rate methods, probability-of-default methods, or methods that utilise an aging schedule to compute allowance for credit loss.²

In our experience, most common approach to compute ECL is based on PD, LGD and EAD estimation. Under this approach, FIs can compute ECL basis below formula:

$$ECL = \sum_{t=1}^T PD_t \cdot LGD_t \cdot EAD_t \cdot D_t$$

Where;

PD is probability of default which defines the likelihood that the borrower will default on its obligations when they come due within specific time.

LGD is loss given default which defines the amount that the FI will lose in case a borrower defaults on its obligations.

EAD is exposure at default which defines the exposure that will be at risk in case a borrower defaults on its obligations. This will include principle outstanding, accrued interest and future interest that the FI is expecting to receive during the lifetime of the contract.

D is discount rate which can be computed as Effective Interest Rate (EIR) under GMM and Simplified approach or Credit-Adjusted Effective Interest Rate (CEIR) under POCI approach.



2. "Financial Instruments—Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments" issued by the Financial Accounting Standards Board (FASB) in June 2016.

Below we will discuss on different key components to be considered by FIs while computing ECL using this method:

3.1 Definition of default

FIs should have clear and consistent default definition. We have noted that many FIs do not either have defined definition or have different default definition for different purposes such as internal credit risk management, regulatory reporting, financial reporting, ECL computation, capital adequacy and any other internal monitoring purposes. An FI can use guidelines as issued by RBI as well as other regulators such as European Banking Authority (EBA) for this purpose.

Some of the parameters that can be considered as part of default definition are listed below:

1. Counterparty classified as NPA
2. Exposure to counterparty is restructured or modified due to financial difficulties
3. Counterparty facing financial difficulty and is unlikely to pay which can be assessed basis different parameters.

In our view, FIs should assess different portfolios and finalise definition of default. Once the definition is finalised, FIs can move to next steps of data collection basis good and bad customers. Also, any change in default definition should be applied prospectively for computation purposes.

3.2 Segmentation

Segmentation or pooling refers to dividing the portfolio basis homogenous risk characteristics. All facilities should have homogenous risks within a segment/pool and heterogenous risks between any two segments/pools. Some of the parameters that can be considered for creating segments are:

1. **Geography** such as base country or continent (India, Rest Asia, Europe), region (north, south, east, west), city (tier one, tier two, metro)
2. **Portfolio type** such as corporate, NBFC, SME, retail, home loan, trade receivables
3. **Borrower characteristics** such as salaried, business, age, gender, income, risk (rating, score)
4. **Portfolio characteristics** such as secured, unsecured, vintage basis month of book, maturity of loan
5. **Portfolio management** such as internal policy for credit screening/underwriting/monitoring, credit policy, business projections
6. **Quantitative methods** such as K-means clustering, Principal Component Analysis (PCA), Classification and Regression Tree (CART).

In general, we have seen FIs perform segmentation basis portfolio type only without any further analysis which in our view will not suffice the regulatory requirement. FIs should perform further quantitative and qualitative analysis basis different parameters to segment/pool the portfolio.

3.3 Significant Increase in Credit Risk (SICR)

Under ECL requirements, FIs will need to compute ECL for either next 12-month or for remaining lifetime depending on the change in credit risk since initial recognition of the facility. FIs need to classify the facilities in either of the three stages as highlighted below:

Stage 1 – facilities which do not have significant increase in credit risk and thus 12-month ECL to be computed for such facilities

Stage 2 – facilities which have significant increase in credit risk and thus lifetime ECL to be computed for such facilities

Stage 3 – facilities which are in default basis default definition or serving cool-off period.

FIs can use different quantitative and qualitative parameters to assess change in credit risk. Some of the quantitative and qualitative parameters that can be used to assess increase in credit risk are:

- PD comparison (lifetime or 12-month PD comparison at inception and reporting date)
- Rating/PD movement beyond certain threshold/notch
- Regulatory backstop of 30 and 90 DPD
- Restructured/modified due to financial difficulties.
- Watchlist or Special Mentioned Accounts (SMA)
- Breach of any covenant
- Relevant early warning indicators (macro and micro).

Currently, many FIs only use backstop and SMA flag for SICR assessment. For corporate customers, rating notch movement is also used but FIs do not conduct internal analysis to identify PD threshold basis which notch movement will be decided.

In our view, FIs should conduct an analysis to identify thresholds basis which notch movement

should be decided. Additionally, FIs should identify other relevant parameters to assess SICR and accordingly classify facilities in different stages.

FIs should also conduct regular back testing as part of the validation of SICR criteria and add/remove any parameter basis the same. Some of the methods that FIs can use for back testing are:

1. Type I and Type II error to identify false positive and false negative in assessment of credit risk
2. Roll forward/backward analysis of facilities moving in different stages should be relatively stable
3. SICR in facilities should be aligned with relevant macroeconomic variable outlook.

Since stage assessment have material impact on provision requirement, in our view, FIs should have comprehensive staging policy to ensure accuracy of credit risk assessment in timely manner. This policy should also be validated as part of the model validation exercise performed by the FI.



3.4 Probability of Default (PD)

In general, there are two types of PD:



Through The Cycle (TTC) PD which estimates the probability of default over a longer time horizon, typically across the entire economic cycle. It smoothens out the short-term fluctuations in the economic environment by considering a full business cycle, which includes periods of both economic growth and recession



Point in Time (PiT) PD which estimates the probability of default based on the current economic conditions and the borrower's present financial health. It is more sensitive to the short-term changes in the economy and the borrower's situation.

As per regulatory requirement, FIs need to use PiT PD for ECL computation. FIs can compute either TTC PD and convert that to PiT PD with macroeconomic overlay or directly compute PiT term structure with macroeconomic overlay basis remaining lifetime of the facility.

ECL guidelines are generally principal based and provide leeway to FIs in selecting the methodology it wants to adopt for computation purposes. Some of the methodologies that FIs can use to compute PD are:

- Gross flow rate method
- New flow rate method
- Application/behaviour scorecard
- Internal/external rating-based approach
- Pluto Tasche approach
- Vasicek single factor model
- Markov chain
- Weibull model
- Credit Index
- Super panel hazard model
- Asset based Merton model
- Machine learning based models such as XGBoost.

In our view, FIs should select methodology considering factors such as portfolio, data availability (both historic, current, and future economic data) as needed for that methodology. Using a single approach for all portfolios/segments might not be in line with the industry practice.

Additionally, below we highlight some of the key

issues that we have noticed in the PD computation which we think will not be in line with the industry practice:

- Not using data for an entire business cycle (eight to ten years) or for at least five years, even when such data is available
- Poor data quality with issues such as missing values, outliers, and incorrect data are noted during model development phase
- Some FIs with multiple systems to record data does not have unique identifier to integrate the data for a borrower
- FIs using legacy rating(scorecard) models as developed and implemented 10-15 years ago without conducting comprehensive model validation to ensure model output is appropriate
- FIs using legacy models despite increase/decrease in portfolio which might require further segmentation/pooling analysis and update of models accordingly
- FIs using vendor model which was developed using only external data and/or does not have adequate model development document or validation to ensure model output is accurate
- FIs using methodology which is not appropriate for the underlying portfolio/segment.

As per our view, FIs should validate and redevelop or recalibrate, as required, all the legacy rating(scorecard) models which were developed previously for IRB or ECL disclosure purposes. Additionally, FIs should conduct comprehensive data assessment and ensure quality and completeness of all critical data elements that are needed to compute PD.

3.5 Loss Given Default (LGD)

LGD is an estimate of loss from a facility in case a borrower defaults and can be estimated basis recoveries that can be made after default. Recoveries can be in the form of cash (unsecured recovery) or by possession or sale of collateral (secured recoveries). FIs can use different method to compute LGD. Some of the methods that can be used are:

Workout LGD

where FI's internal data and recovery is used for LGD computation

Market LGD

where market price of defaulted instruments is used to estimate LGD

Asset pricing/implied LGD

where LGD is derived basis credit spreads on the non-defaulted risky bonds or credit derivatives such as CDS

Quantitative models

where LGD is derived basis methods such as linear regressions, fractional logistic, Jacob Frye, and decision tree models

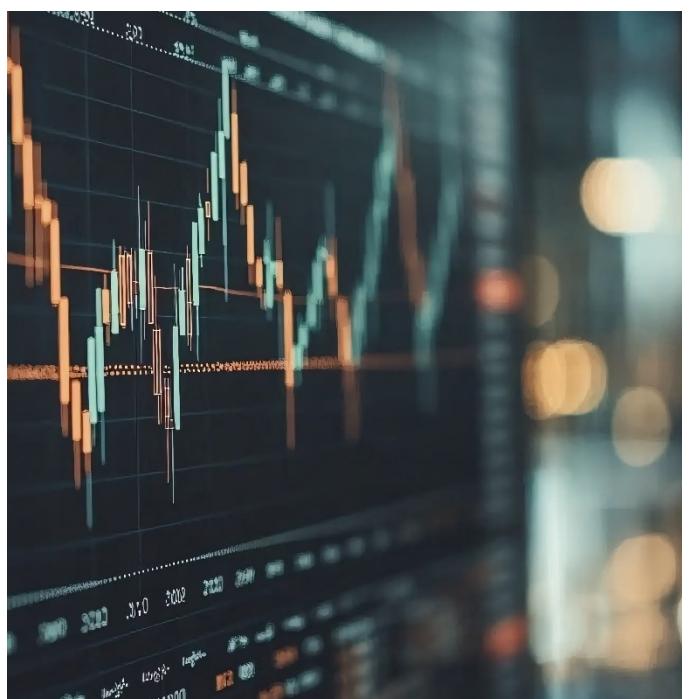
Regulatory LGD

where regulatory prescribed unsecured LGD and collateral haircuts are used to compute secured LGD.

As mentioned earlier from PD perspective, even for LGD, FIs should select the methodology after considering factors such as portfolio, data availability (both historic, current, and future economic data), data accuracy, etc. as needed. Below we highlight some other areas that FIs should consider while developing LGD models:

1. As per current market practice, single unsecured LGD is computed which is applied for all facilities irrespective of stage, or residual life of the facility. As generally been noted, LGD should increase basis credit risk i.e., LGD for accounts in stage three should be higher than for accounts in stage two. Similarly, for stage three accounts also, recovery drops as time elapses and thus accounts with higher vintage in default should have higher LGD. For this, FIs can try to compute progressive LGD or LGD term structure so that appropriate LGD is used for ECL computation
2. FIs can conduct vintage analysis to determine time period in which maximum recovery will occur and accordingly use data for that time period for LGD estimate. FIs can use methods like chain ladder to forecast LGD for recent default cases where recovery has not been completed
3. FIs can also compute cure rate basis accounts which went in default but have paid all arrears and became standard within short period of time such as within three to six months

4. In our experience, FIs can reduce LGD with effective collateral framework including collateral allocation among different facilities of a borrower, and periodic fair valuation of underlying collateral
5. Depending on methodology adopted, FIs should consider all the relevant parameters, cost, and discount rate to compute LGD.



3.6 Exposure At Default (EAD)

As per Global Public Policy Committee (GPPC) paper, as published in June 2016, "EAD is an estimate of the exposure at a future default date, taking into account expected changes in the exposure after the reporting date, including repayments of principal and interest, and expected drawdowns on committed facilities."³ Thus, EAD should consider both principal and future interest along with any amortisation, and prepayment as expected in future.

As FIs need to compute lifetime ECL for stage two and stage three, FIs need to compute lifetime EAD basis either contractual or behaviour maturity assessment of the facility. Additionally, FIs should ensure that cash flow modelling for different purposes such as ALM, financial reporting, and other purposes are aligned.

Some of the other modelling aspects that need to be done for EAD modelling are:

Credit Conversion Factor (CCF) – ECL framework requires ECL to be computed for non-funded exposure such as Letter of Credit (LC) and Letter of Guarantee (LG). For the same, FIs can use different methods to model CCF basis data availability:

1. Basis internal historical data using methods such as cohort approach or fixed horizon method
2. Regression based model basis relevant factors
3. Monte-Carlo simulation-based models
4. Machine learning based model such as K-Nearest Neighbors (KNN) and Support Vector Machine (SVM)
5. Regulatory prescribed factors.

Amortisation- Basis the capability of the ECL system implemented, FIs can use amortisation schedule as per contractual cash flows i.e., monthly, quarterly, or semi-annually or annually as per terms. As of now, we have seen FIs either do not use amortisation in EAD computation or assume annual amortisation. ECL computed under either of the approaches will be conservative depending upon the stage and residual maturity of the contract. But FIs will need strategic system or models on platforms such as R/SAS/Python which can handle large data set that is required to use actual cash flow or cash flow generated basis models.

Prepayment – Incorporation of prepayment in ECL computation will help FIs rationalise EAD and in turn

ECL which will impact P&L statements. By incorporating prepayments in EAD, FIs can factor in principal repayment that borrower is expected to make over and above the contractual amount and thus reduce ECL charge for stage two accounts with long residual lifetime. FIs can use methods such as:

1. Static models basis historical data and average of the same using Conditional Prepayment Rate (CPR) and Single Monthly Mortality (SMM) is used for prepayment modelling
2. Dynamic models where other factors such as relevant risk characteristics and economic conditions are considered for prepayment modelling
3. Advanced models where advanced quantitative models such as hazard model or machine learning models are used for modelling.

In our view, FIs should model EAD considering above factors so that they can rationalise ECL and are not over and under providing in terms of provisions.



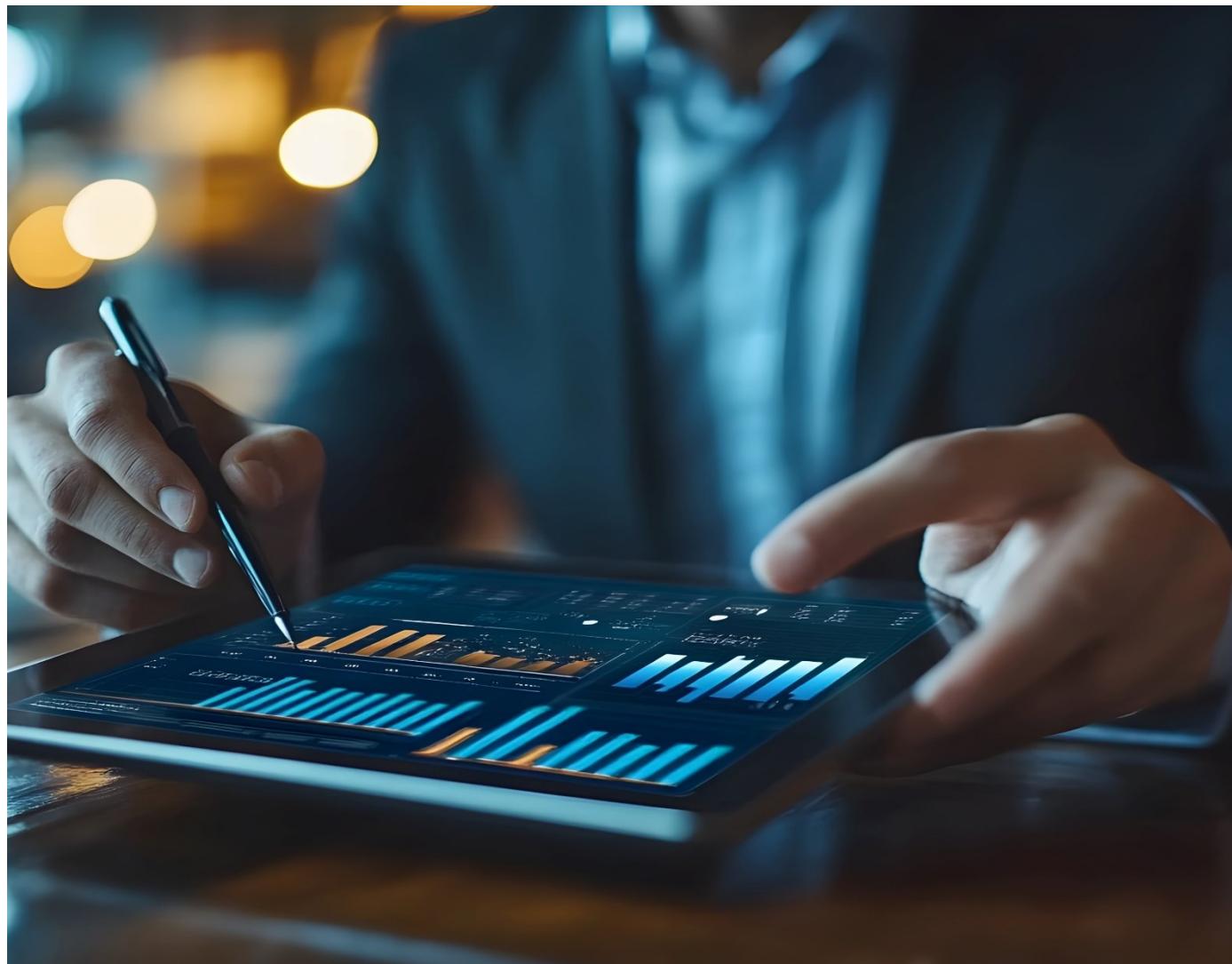
3. "The implementation of IFRS 9 impairment requirements by banks" issued by the Global Public Policy Committee of representatives of the six largest accounting networks in June 2016

3.7 Effective Interest Rate (EIR)

Effective interest rate is the rate that exactly discounts estimated future cash payments or receipts through the expected life, or when appropriate, a shorter period of the financial asset or financial liability to the gross carrying amount of a financial asset or to the amortised cost of a financial liability. As per the framework, for POCI assets, FIs

should compute CEIR and for other assets, it should compute EIR. The calculation of EIR includes all fees, transaction costs, and all other premiums or discounts which are directly related to the acquisition of financial assets. Below are some key considerations for computation of EIR:

- ? How to evaluate whether amortisation of transaction cost/fees will be on EIR/SLM basis
- ? How to evaluate whether volume-based incentives will form part of EIR
- ? How to evaluate whether to use expected life vs contractual life (E.g., housing loan, instruments with call /put options, prepayment clause)
- ? How to determine whether interest income/expenses will be presented on gross basis
- ? How to compute EIR for floating rate instruments.



3.8 Macroeconomic (MEV) Overlay and Weighted ECL

FIs need to compute ECL considering historical information, current economic conditions, as well as future macroeconomic outlook. Additionally, the framework requires FIs to compute ECL under different macroeconomic forecast and compute weighted ECL basis different macroeconomic conditions. Some of the points that FIs should note in selection and modelling for weighted ECL are listed below:

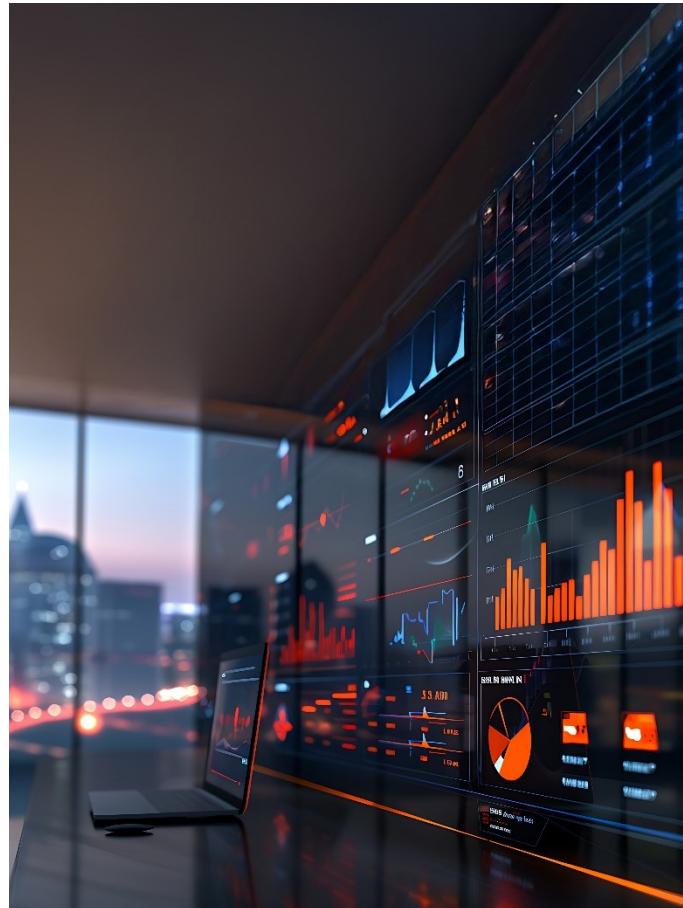
01	FIs can either forecast MEV basis internal models or use external forecast published by reputable agencies	02	Relevant macroeconomic models for different segments/pools should be selected basis quantitative and qualitative analysis
03	FIs should select same variables as far as possible for ECL computation and other risk management and stress testing purposes	04	MEV forecast for the variables should be used consistently in different risk purposes such as ALM and stress testing
05	Assumptions and limitations in selection and computation of forward looking ECL should be identified and validated	06	Rationale for weights used for different macroeconomic scenarios should be documented and validated as part of model validation.

In our view, not incorporating forecasted MEV in ECL computation will not comply with the regulations. FIs should select relevant MEV and incorporate these while modelling ECL.

3.9 Post Model Adjustment (PMAs) and Overlays

Post model adjustments and overlays are used where the risks and uncertainties cannot be correctly predicted or quantified basis model. Overlays are the adjustments made to the existing models' output, and these adjustments can be subjective or judgmental or at times both. These risks are not captured by the models because they are not designed to address uncertainties, such as those seen during the global financial crisis of 2007-08, COVID-19 pandemic or recent interest rate hikes. The key considerations for computation of PMA and overlays are:

- The approach for applying PMAs should be appropriate and clearly understandable, ensuring that these adjustments effectively address the limitations of the model
- The methodology for computing and applying PMAs must be thoroughly documented
- There should be defined governance structure to incorporate such PMAs
- FIs should conduct back testing to validate for relevance and adequacy of PMAs.



4. Validation of the models

As per RBI guidelines, FIs should have independent three lines of defence to manage model risk and as per that, all ECL models should be independently validated⁴ before deployment as well as periodically monitored and validated as per MRM policy of the FI.⁵ Additionally, entire process of model development and validation has to be reviewed by internal audit (third line of defence) to ensure both

first line (model developer) and second line (model validator) have performed due diligence and complied with all applicable internal policies and procedures as well as regulatory guidelines.

Model validator to conduct comprehensive check on entire model development process and challenge model developer. Some of the key areas that validator should check are:



Data: Complete data steps including extraction of data from various sources, data massaging, imputations, and feature engineering as used to prepare modelling data should be assessed.



Methodology: Model methodology should be assessed basis portfolio/segment as well as regulatory requirement and industry benchmark.



Assumptions and Limitations: All assumptions (subjective or analytical) and limitations in data, methodology should be assessed, along with rationale and any controls that are placed to mitigate risk arising from use of such assumptions and limitations.



Documentation: As mentioned in RBI guidelines, model document should be detailed enough so that it provides good understanding of model to any independent reader.



Implementation: In case of any system or stand-alone codes, validator should assess robustness of system implementation or code development to ensure output from these is accurate.



Controls: Validator should assess controls in ECL computation process to ensure no inadvertent changes are done in model which might result in inaccurate output.



Overrides: All the management overrides such as those in selection of variable, in binning of score, and weightage of variable, should be validated along with their impact on model output.



Sensitivity and back testing: Validator should conduct sensitivity and back testing analysis to test model robustness and accuracy of output and accordingly raise an issue in case the results are not in line with the expectations.



PMA: Any overlay/adjustments over and above the model output should be assessed by the validator to evaluate the need for such overlays and the appropriateness of methodology. The validator shall also back test the adjustments to ensure that provisions are adequate.

Overall, in our view, FIs should have independent model validation team or hire external consultants who will perform validation of these models both pre-deployment as well as going forward. Additionally, depending on the methodology used for modelling of various components, rigor and tests will vary. For example, validation requirement for

AI/ML based model or advanced statistical models or for simple average based model will be different and can be defined in model validation policy. As prescribed in RBI draft circular on model risk management in credit, such validation rigor will also be applicable for third-party, or consultant developed models.

4. Model Risk Management issued by KPMG in India in November 2024.

5. Draft Circular - Regulatory Principles for Management of Model Risks in Credit" issued by the Reserve Bank of India in August 2024.

5. Key challenges

Below are the key challenges, grouped into different categories, that we have noticed while assisting different FIs globally in their journey of IFRS9/IndAS109/ASC 326 implementation and subsequent validation:

Data

Basis our experience, data is biggest challenge for ECL computation. Some of the data challenges we noticed are in terms of historical data availability, data quality, data integration across various systems, data volume, and lack of availability of critical data in digital format in the system. Due to such issues, many FIs go for regulatory backstop for different components which might result in conservative ECL estimation

Methodology

Many FIs do not select model methodology basis availability of volume and quality of data, or considering process, IT, and people capability. In our view, using appropriate methodology is critical in having robust ECL framework and thus it is selected after due considerations on various aspects. Also, to avoid undue volatility in provisions, model methodology selected should be robust and should not require frequent changes

Process

ECL computation requires coordination among different departments and thus having robust process for entire ECL computations i.e., data extractions, model running, computation and reporting is critical. Additionally, as the numbers are reported in financial statements, any delay or break in the process might result in inaccurate or delay in statements which might impact reputation of the FI. Implementing Target Operating Model (TOM) and Business as Usual (BAU) process requires a lot of deliberation among different stakeholders

People

Having adequate resources in different departments with relevant knowledge and experience is critical both during development of framework and as part of BAU. Many a times we find that FIs have key man risk in critical departments. FIs can take help of consultants as and when required for this purpose

IT System

Many FIs still rely on spreadsheets for ECL computation which might not be optimum given the volume of data that needs to be processed for both - computation of different components and final ECL estimates at each reporting date. In our view, FIs should invest in either strategic or tactical system depending on volume of data that is expected to be handled

Governance and controls

Defining appropriate governance with clear roles and responsibilities for all the stakeholders is critical and requires deliberations with different teams. Also, appropriate Turnaround Time (TAT) and escalation matrix should also be defined so that there is no delay in financial reporting. Additionally, as the numbers are reported in the financial statements, designing, and implementing effective controls for the entire ECL framework process became paramount

MIS

There is no MIS report/dashboard so that senior management have adequate oversight on movement of ECL provisions and can intervene in timely manner before provisions breach risk thresholds.

In our view, FIs should assess all such areas to ensure they have robust ECL framework which can work efficiently as part of BAU process. Additionally, there should be clear plan on how any gaps and challenges will be addressed within stipulated timelines. To emphasise again, as ECL provisions need to be reported in the financial statements along with change in provision at each reporting date, FIs should strive to have robust ECL framework so that volatility in provisions is reduced which will give confidence to regulators, shareholders, potential investors, and other stakeholders.



6. Key impacted areas

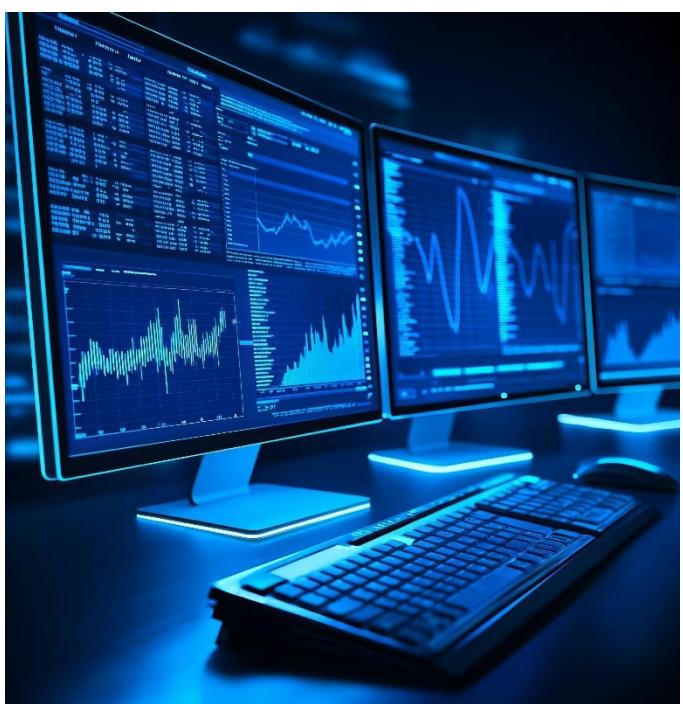
In our experience, ECL implementation will not only impact complete credit lifecycle but also other functions and departments and thus it is imperative that different stakeholders understand the requirements and enhance process accordingly. Key areas that will be directly impacted are listed below:

- 1. Pricing:** As ECL impact need to be recorded in the books from day one, it is imperative that FIs factor in such cost while pricing the loans. In our view, FIs should implement risk-based pricing with expected provision as one of the factors in determining the rate of interest at which it will offer loans to the borrower
- 2. Liquidity:** As provisions will hit P&L, increase in provisions will result in reduced profitability and retained earnings which will directly impact capital available with the FIs and will impact liquidity ratios such as Liquidity Coverage Ratio (LCR) and Net Stable Funding Ratio (NSFR). This might result in impact on capital and funds requirement planning of the FIs, and they may require raising capital from alternate methods
- 3. ALM:** As ECL framework requires computation of provisions on future cash flows, any increase in provisions will reduce assets and might create asset liability mismatch. Additionally, FIs may face potential mismatch in case different assumptions for cash flow modelling (such as prepayment, and amortisation) are used for ECL computation and ALM
- 4. Operational:** As ECL computation will require significant modelling and system requirement, this increases chance of operational risk event such as system failure, manual error, and regulatory or auditor finding on framework
- 5. ICAAP:** With high reliance on models to compute ECL provisions, there will be increase in model risk faced by FIs which may qualify as material risk under Pillar 2 of ICAAP exercise. In that scenario, FIs will need to consider it while performing ICAAP assessment and might need to maintain certain capital under the framework
- 6. Regulatory compliance:** Basis our experience, ECL provisions always qualify as material risk for both statutory auditor and regulator and will be the focus area of both the auditor and the regulator. Any issue identified in the process might create a compliance issue
- 7. Reputation:** As there are many areas that will be impacted by implementation of ECL framework,

any major failure might have adverse reputational impact. Also, as ECL provisions will need to be disclosed on each reporting date, any undue increase in provisions might also create reputational risk event for the FI

- 8. Risk appetite and limits:** As provisions will impact financial statements, it is imperative that FIs should update risk appetite and limit framework to minimise impact of provisions on the FI. Also, this framework should be dynamic and should be updated basis factors such as macroeconomic conditions, strategic visions, and business focus
- 9. Stress testing:** FIs should add relevant scenarios/sensitivities that will impact ECL provisions as part of stress test framework
- 10. Other Fair Value regulations:** As ECL framework comes into effect, other regulatory requirements such as disclosures (IFRS7/IndAS 107) and regulation related to FV hierarchy (IFRS13/IndAS 113) may also come into effect. These regulations will on one hand increase transparency in reporting but on another hand, it also increases compliance requirements.

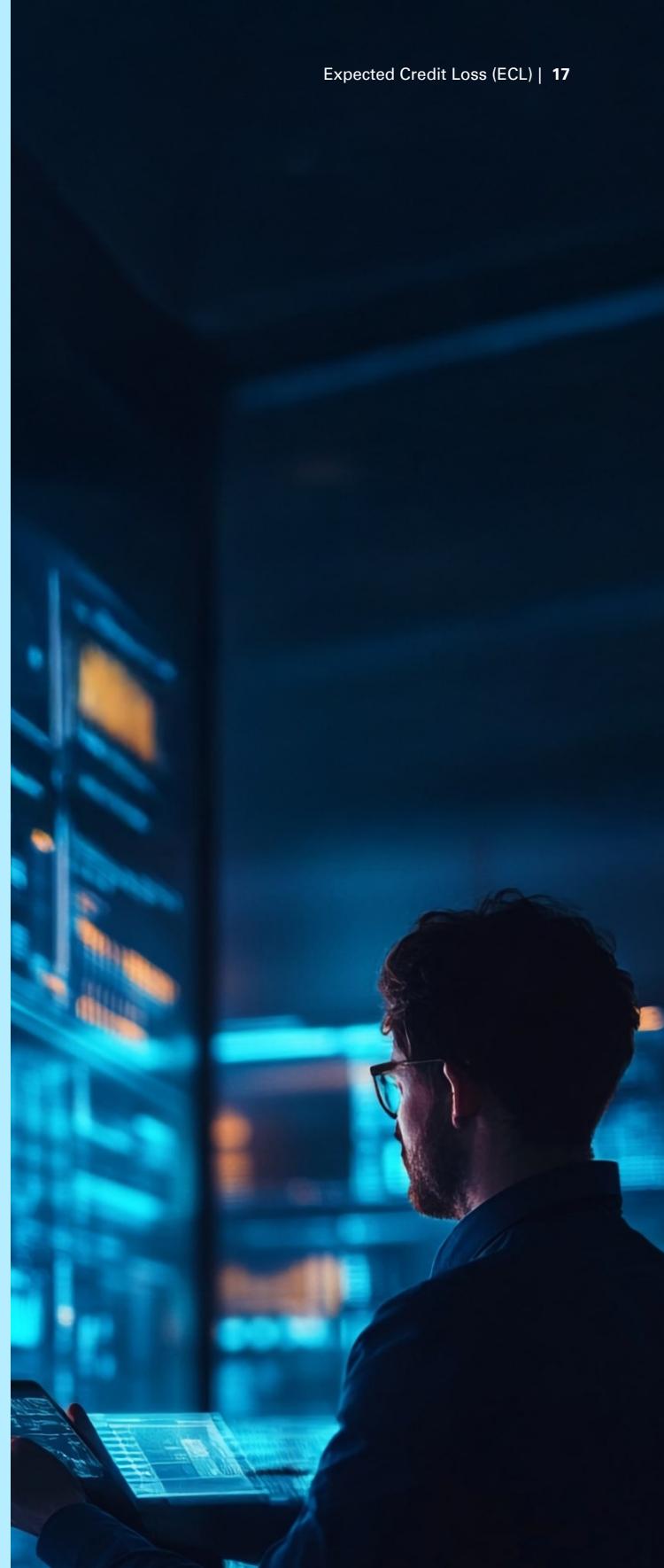
In our view, FIs should perform a holistic review of ECL computations and its impact on various functions. Accordingly, FIs can plan to address any gaps, and high impact areas which might be at risks once ECL framework is implemented.



7. Conclusion

As highlighted in this paper, ECL provisions requirements will not only impact credit department but all other aspects of business and risk management of the FIs. Thus, it is imperative that FIs should design TOM in such a way that the framework is robust as well as optimise provision as a part of BAU process. Key points that FIs should note for such frameworks are:

- Every process takes time to settle and thus it is advisable that FIs to conduct multiple dry runs of proposed framework and enhance as per gaps identified
- Identify all gaps and challenges and put in place a plan to resolve them. The plan should be tracked at central level with involvement of senior management
- Allocate adequate resources (both human and capital) to design and implement the framework.
- Key decisions related to model methodology, and system (strategic or tactical) should be taken after considering data as well as medium- and long-term strategic vision
- Training sessions not only for junior staff but also senior management should be conducted
- Wherever required, external consultants should be onboarded to assist in the process
- Holistic view should be taken while developing the framework after considering the potential impact on other areas and how it can be minimised
- Model methodology and assumptions should be aligned so that there is no mismatch in the same component used for different purposes.



Glossary

ECL	Expected Credit Loss
IFRS	International Financial Standards
CECL	Current Expected Credit Losses
FI	Financial Institution
PMA	Post Model Adjustment
RBI	Reserve Bank of India
IASB	International Accounting Standards Board
LGD	Loss Given Default
PD	Probability of Default
EAD	Exposure at Default
GMM	General Measurement Model
POCI	Purchased or Originated Credit-Impaired
ICAAP	Internal Capital Adequacy Assessment Process
SICR	Significant Increase in Credit Risk
CEIR	Credit adjusted Effective Interest Rate
SPPI	Solely Payment of Principal and Interest
SOP	Standard Operating Procedures
EBA	European Banking Authority
NPA	Non-performing Assets
PCA	Principal Component Analysis
CART	Classification and Regression Tree
ALM	Asset Liability Management
SMA	Special Mentioned Accounts
TTC	Through the cycle
PiT	Point-in Time
IRB models	Internal Rating Based models
BAU	Business As Usual
TAT	Turnaround Time
GPPC	Global Public Policy Committee
CCF	Credit Conversion Factor
LC/LG	Letter of Credit/Letter of Guarantee
KNN	K-Nearest Neighbors (KNN)
SVM	Support Vector Machine (SVM)
CPR	Conditional Prepayment Rate
SMM	Single Monthly Mortality
MIS	Monthly Information System
EIR	Effective Interest Rate
MEV	Macroeconomic variable
PMA	Post Model Adjustments
LCR	Liquidity Coverage Ratio
NSFR	Net Stable Funding Ratio
FV	Fair Value
IndAS	Indian Accounting Standard
NBFC	Non-Banking Financial Company
SME	Small and Medium Enterprise

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