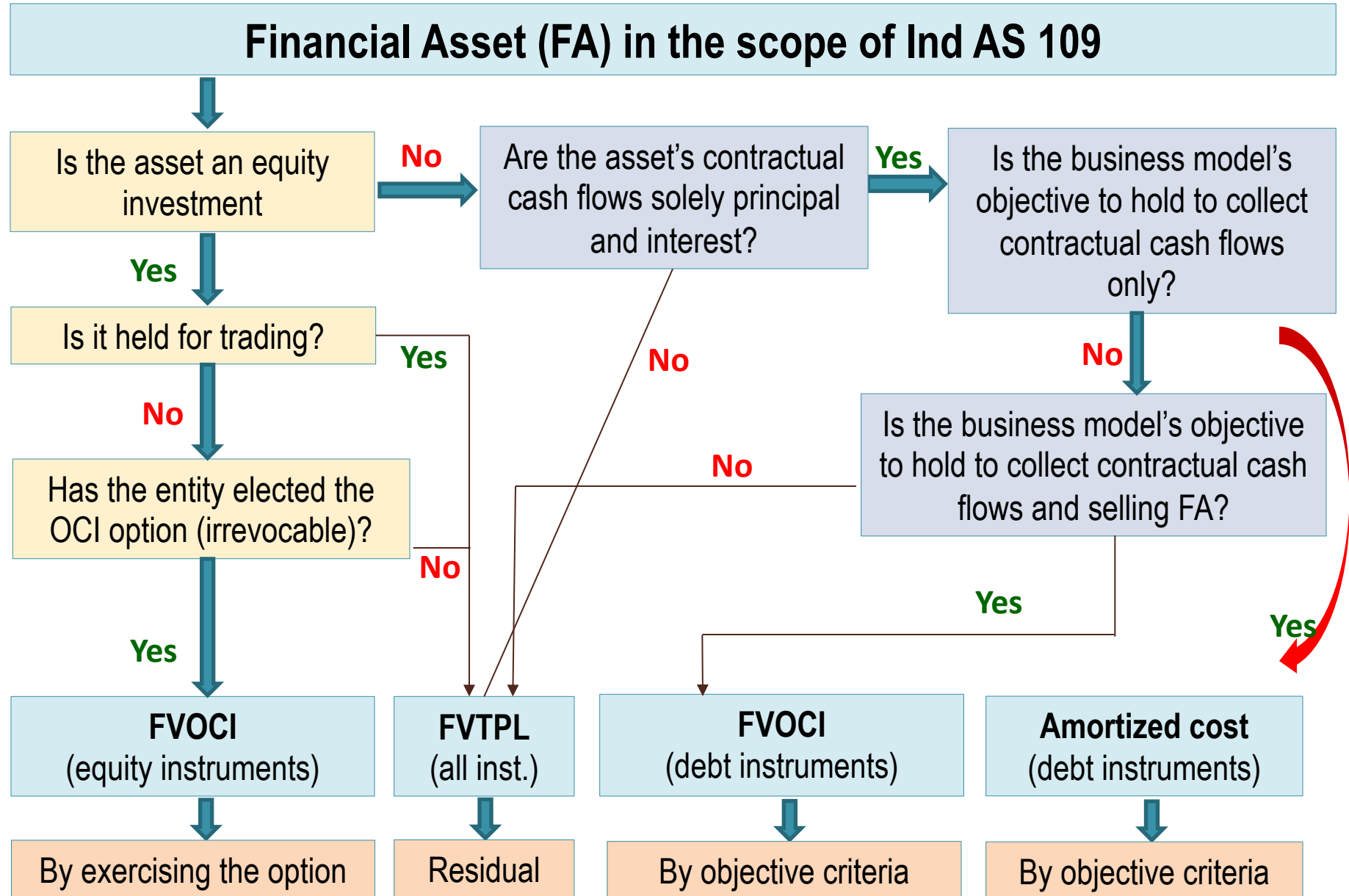


Financial Instruments - Ind AS 109

CA R. Venkata Subramani

Classification of Financial Assets



Financial Assets – Category & treatment

| Category | Treatment |
|-----------------------------------|--|
| FVOCI (Equity instruments) | <ul style="list-style-type: none">• Dividends generally recognized in P&L• Changes in fair value recognized in OCI• No reclassification of gains and losses to P&L on derecognition and no impairment recognized in P&L |
| FVOCI (debt instruments) | <ul style="list-style-type: none">• Interest revenue, credit impairment and foreign exchange gain or loss recognized in P&L (in the same manner as for amortized cost assets)• Other gains and losses recognized in OCI• On derecognition, cumulative gains and losses in OCI reclassified to P&L |
| FVPL | <ul style="list-style-type: none">• Changes in fair value recognized in P&L |
| Amortized cost | <ul style="list-style-type: none">• Interest revenue, credit impairment and foreign exchange gain or loss recognized in P&L• On derecognition, gains or losses recognized in P&L |

Principal & Interest

| | |
|-----------|---|
| Principal | Principal is the fair value of the financial asset at initial recognition. However, principal may change over time – e.g. if there are repayments of principal |
| Interest | <p>Interest is consideration for:</p> <ul style="list-style-type: none">• The time value of money; and• The credit risk associated with the principal amount outstanding during a particular period of time <p>Interest can also include:</p> <ul style="list-style-type: none">• Consideration for other basic lending risks (e.g. liquidity risk) and costs (e.g. administrative costs); and• A profit margin |

Business model - assessment

1. Not dependent on management's intention & ability
2. Not instrument by instrument
3. Assessed at a high level of aggregation
4. Not at the entity level
5. Applied at portfolio or sub-portfolio level
6. May have more than one business model for managing Financial Instruments
7. Matter of fact and is typically observable
8. Standard acknowledges that judgment is needed

Multiple portfolios

An entity may hold

- a) a portfolio of investments that it manages in order to collect contractual cash flows and
- b) another portfolio of investments that it manages in order to trade to realize fair value changes

Example

- An entity has a portfolio of financial assets classified as amortized cost
- A change in the regulatory treatment of these assets has caused the entity to significantly rebalance its portfolio in a particular period
- However, the entity need not change its assessment of the business model, as the selling activity is considered as an isolated – i.e. one-time – event

Example – Sales held-to-collect business model

- By contrast, suppose that the company is required by its regulator to routinely sell financial assets from a portfolio to demonstrate that the assets were liquid, and that the value of the assets sold was significant
- In this case, the entity's business model for managing that portfolio cannot be classified as held-to-collect (amortized cost)

Exceptions

- An entity need not hold all of those instruments until maturity.
- An entity's business model can be to hold financial assets to collect contractual cash flows even when sales of financial assets occur

The entity may sell a financial asset if: [Exceptions]

- a) the financial asset no longer meets the entity's investment policy (e.g. the credit rating of the asset declines below that required by the entity's investment policy);
- b) an insurer adjusts its investment portfolio to reflect a change in expected duration (i.e. the expected timing of payouts); or
- c) an entity needs to fund capital expenditures

Effective Interest Rate

- Investment Rs.85; Coupon 6%; Maturity 5 years; Held to Maturity (not for trading purposes)

| As per AS (iGAAP) | | | |
|-------------------|-------------|-----------------|---------------|
| Year | Invest-ment | Interest income | Capital Gains |
| 0 | 85 | | |
| 1 | | -6 | 0 |
| 2 | | -6 | 0 |
| 3 | | -6 | 0 |
| 4 | | -6 | 0 |
| 5 | -100 | -6 | -15 |

| Cost | 85 | IRR | 9.95% |
|------|-----------|-----------------|----------------------------------|
| Year | Cash flow | Interest income | Carrying amount (Amortized cost) |
| 0 | -85 | | 85.00 |
| 1 | 6 | 8.46 | 87.46 |
| 2 | 6 | 8.70 | 90.16 |
| 3 | 6 | 8.97 | 93.14 |
| 4 | 6 | 9.27 | 96.41 |
| 5 | 106 | 9.59 | 0.00 |

Classification & measurement of Financial Liabilities

CA R. Venkata Subramani

Classification of financial liabilities

| | Financial liabilities | Classification |
|---|--|----------------|
| 1 | All liabilities other than 2 & 3 below | Amortized cost |
| 2 | Held for trading – including derivatives | FVTPL |
| 3 | Designated as at FVPL on initial recognition | FVTPL |

Fair Value Option for Financial Liabilities

Eligibility criteria

1. Reduce measurement or recognition inconsistency
2. Managing a group of Financial Liabilities or Financial Assets/Financial Liabilities on a fair value basis
3. Embedded derivatives & host is not a Financial Asset as per Ind AS 109 then the entire hybrid can be designated as FVTPL

Accounting treatment

1. Fair value changes due to credit risk taken to OCI
2. Fair value changes not due to credit risk taken to Profit or loss

Presentation of changes in FV

As per Ind AS 109:

1. FV changes attributable to changes in the credit risk is presented in OCI
2. Remaining presented in P&L
3. Amounts presented in OCI is never reclassified to P&L
4. May transfer the cumulative gain/loss within equity

Measured at amortized cost

- An entity shall classify all financial liabilities as subsequently measured at **amortized cost** using the effective interest method, **except** for:
 - a) financial liabilities at **fair value through profit or loss**. Such liabilities, including derivatives that are liabilities, shall be subsequently measured at fair value
 - b) financial liabilities that arise when a transfer of a financial asset does not qualify for derecognition or when the continuing involvement approach applies

Accounting treatment - Amortized cost Category

| | |
|---------------------------|-----------|
| Issued at Par (Liability) | 01-Jan-18 |
| Date of Maturity | 31-Dec-27 |
| Coupon rate SA | 5% Fixed |

Amount in Rupees Crores

| Date | Principal | Benchmark rate | Own Credit risk | Total | Fair Value (Not relevant) | Amortized Cost | Profit / (Loss) |
|-----------|-----------|----------------|-----------------|-------|------------------------------|----------------|-----------------|
| 01-Jan-18 | 100.00 | 3.00% | 2.00% | 5.00% | 100.00 | 100.00 | Nil |
| 31-Jan-18 | 100.00 | 3.50% | 2.00% | 5.50% | 98.00 | 100.00 | Nil |
| 28-Feb-18 | 100.00 | 4.00% | 2.00% | 6.00% | 96.50 | 100.00 | Nil |
| 31-Mar-18 | 100.00 | 3.75% | 2.00% | 5.75% | 97.25 | 100.00 | Nil |
| 30-Apr-18 | 100.00 | 3.25% | 2.00% | 5.25% | 99.00 | 100.00 | Nil |
| 31-May-18 | 100.00 | 3.00% | 2.00% | 5.00% | 99.90 | 100.00 | Nil |
| 30-Jun-18 | 100.00 | 3.00% | 2.00% | 5.00% | 99.90 | 100.00 | Nil |

The FV shown are for illustrative purposes only and does not represent the correct FV based on the discounted value of cash flows

Accounting treatment - FVO Category

| | |
|---------------------------|-----------|
| Issued at Par (Liability) | 01-Jan-18 |
| Date of Maturity | 31-Dec-27 |
| Coupon rate SA | 5% Fixed |

Amount in Rupees Crores

| Date | Principal | Benchmark rate | Own Credit risk | Total | Fair Value | Amortized Cost (not relevant) | FV Changes Profit / (Loss) FVO Category |
|-----------|-----------|----------------|-----------------|-------|------------|----------------------------------|---|
| 01-Jan-18 | 100.00 | 3.00% | 2.00% | 5.00% | 100.00 | 100.00 | - |
| 31-Jan-18 | 100.00 | 3.50% | 2.00% | 5.50% | 98.00 | 100.00 | 2.00 |
| 28-Feb-18 | 100.00 | 4.00% | 2.00% | 6.00% | 96.50 | 100.00 | 1.50 |
| 31-Mar-18 | 100.00 | 3.75% | 2.00% | 5.75% | 97.25 | 100.00 | (0.75) |
| 30-Apr-18 | 100.00 | 3.25% | 2.00% | 5.25% | 99.00 | 100.00 | (1.75) |
| 31-May-18 | 100.00 | 3.00% | 2.00% | 5.00% | 99.90 | 100.00 | (0.90) |
| 30-Jun-18 | 100.00 | 3.00% | 2.00% | 5.00% | 99.90 | 100.00 | - |

The FV shown are for illustrative purposes only and does not represent the correct FV based on the discounted value of cash flows

Accounting treatment - FVO (During 2008)

| | |
|---------------------------|-----------|
| Issued at Par (Liability) | 01-Jan-08 |
| Date of Maturity | 31-Dec-17 |
| Coupon rate SA | 5% Fixed |

Amount in Rupees Crores

| Date | Principal | Benchmark rate | Own Credit risk | Total | Fair Value | Amortized Cost | FV Changes Profit / (Loss) FVO Category |
|-----------|-----------|----------------|-----------------|--------|------------|----------------|---|
| 01-Jan-08 | 100.00 | 3.00% | 2.00% | 5.00% | 100.00 | 100.00 | - |
| 31-Jan-08 | 100.00 | 3.50% | 3.00% | 6.50% | 97.00 | 100.00 | 3.00 |
| 28-Feb-08 | 100.00 | 4.00% | 4.00% | 8.00% | 94.50 | 100.00 | 2.50 |
| 31-Mar-08 | 100.00 | 3.75% | 5.00% | 8.75% | 93.00 | 100.00 | 1.50 |
| 30-Apr-08 | 100.00 | 3.25% | 6.00% | 9.25% | 92.50 | 100.00 | 0.50 |
| 31-May-08 | 100.00 | 3.00% | 7.00% | 10.00% | 91.25 | 100.00 | 1.25 |
| 30-Jun-08 | 100.00 | 3.00% | 8.00% | 11.00% | 90.10 | 100.00 | 1.15 |

The FV shown are for illustrative purposes only and does not represent the correct FV based on the discounted value of cash flows

Treatment of FVO Liabilities as per Ind AS 109

As per Ind AS 109:

1. FV changes attributable to changes in own credit risk is presented in Other Comprehensive Income
2. Remaining (FV changes other than own credit risk) presented in P&L
3. Amounts presented in OCI is **never reclassified** to P&L
4. FV Option once exercised is irrevocable
5. Should be designated at the inception
6. FVO will be allowed only to rectify an accounting mismatch

Accounting treatment FVO

| | |
|------------------|-----------|
| Issued at Par | 01-Jan-08 |
| Date of Maturity | 31-Dec-17 |
| Coupon rate SA | 5% Fixed |

Amount in Rupees Crores

| Date | Principal | Benchmark rate | Credit risk | Total | Fair Value | Total FV Changes Profit (Loss) | FV Changes Profit (Loss) Other than Own Credit Risk (P&L) | FV Changes Profit (Loss) Own Credit Risk (OCI) |
|-----------|-----------|----------------|-------------|--------|------------|--------------------------------|---|--|
| 01-Jan-08 | 100.00 | 3.00% | 2.00% | 5.00% | 100.00 | - | | - |
| 31-Jan-08 | 100.00 | 3.50% | 3.00% | 6.50% | 97.00 | 3.00 | 1.40 | 1.60 |
| 28-Feb-08 | 100.00 | 4.00% | 4.00% | 8.00% | 94.50 | 2.50 | 1.10 | 1.40 |
| 31-Mar-08 | 100.00 | 3.75% | 5.00% | 8.75% | 93.00 | 1.50 | (0.40) | 1.90 |
| 30-Apr-08 | 100.00 | 3.25% | 6.00% | 9.25% | 92.50 | 0.50 | (0.70) | 1.20 |
| 31-May-08 | 100.00 | 3.00% | 7.00% | 10.00% | 91.25 | 1.25 | (0.75) | 2.00 |
| 30-Jun-08 | 100.00 | 3.00% | 8.00% | 11.00% | 90.10 | 1.15 | - | 1.15 |

The FV shown are for illustrative purposes only and does not represent the correct FV based on the discounted value of cash flows

FV changes attributable to credit risk

A) Instances where OCI should not be reclassified:

1. Ind AS 109: Gains or losses due to changes in own credit risk (financial liabilities) designated at fair value (FVO)
2. Ind AS 109: Gains or losses on investments in equity instruments measured at fair value through OCI (FVOCI)

B) Instances where OCI should be reclassified:

1. Ind AS 21: The effects of changes in Foreign Exchange Rates Exchange differences on translation of foreign operations
2. Ind AS 109: Gains or losses on investments in debt securities classified as FVOCI
3. Ind AS 109: Gains or losses due to changes in fair values of cash flow hedging instruments [Cash Flow Hedge]

Impairment Model – as per Ind AS 109

CA R. Venkata Subramani

New requirements of impairment model

- Based on entity's expected credit losses on financial instruments
- Recognize expected credit losses at all times and update the changes in the credit risk of financial instruments
- Model is forward-looking
- Eliminates the threshold for the recognition of expected credit losses
- More timely information provided about expected credit losses
- Same impairment model applied to all financial instruments

Scope of impairment

In scope

- Financial assets – debt instruments measured at Amortised Cost or FVOCI including loans, trade receivables and debt securities
- Loan commitments – not measured at FVPL
- Financial guarantee contracts – not measured at FVPL
- Lease receivables in the scope of Ind AS 116
- Contract assets in the scope of Ind AS 115

Out of scope

- Equity investments
- Loan commitments - measured at FVPL
- Other financial instruments measured at FVPL

Equity investments

- Investments in equity instruments are outside the scope because they are accounted for either
 - At FVTPL or
 - At FVOCI with no reclassification of any fair value gains or losses to P&L
- Accordingly equity investments are no longer tested for impairment
- [‘Significant or prolonged’ decline test has proved difficult to apply]

General approach to impairment

- Incurred loss model replaced with expected credit loss model
- Expected losses are the present value of all cash shortfalls over the expected life of the financial instruments
- Requires entities to recognize expected credit losses in P&L for all financial assets
- Akin to day one loss

Cash shortfall: Difference between the cash flows due to the entity in accordance with the contract and the cash flows that the entity expects to receive

Expected credit loss model

Impairment is measured as either

- 12 month expected credit losses or
- Lifetime expected credit losses

12-month expected credit losses

- **Definition:** The portion of lifetime expected credit losses that represents the expected credit losses that result from **default events on the financial instrument that are possible within the 12 months** after the reporting date

When to recognize lifetime ECL?

- When the credit risk on a financial instrument has increased significantly since initial recognition

Definition of significant increase in credit risk

- No definition in the standard
- Entity uses the change in the risk of default occurring over the expected life of the financial instrument
- Whether risk of default has increased significantly since initial recognition
- There is a rebuttable presumption that the credit risk on a financial asset has increased significantly since initial recognition when contractual payments are more than 30 days past due

Definition of default

- No definition of the term default
- Each entity should do so
- Should be consistent with that used for internal credit risk management purposes
- Qualitative indicators – breaches of covenants to be considered
- Standard contains a rebuttable presumption that default does not occur later than 90 days past due

Definition of credit-impaired asset

- An asset is credit-impaired if one or more events have occurred that have detrimental impact on the estimated future cash flows of the asset

Example of such events:

- Significant financial difficulty of the issuer or the borrower
- A breach of contract – e.g. a default or past due event
- A lender having granted a concession to the borrower that the lender would not otherwise consider
- The borrower is likely to enter bankruptcy or other financial reorganization
- Disappearance of an active market because of financial difficulties
- Purchase of a financial asset at a deep discount reflecting incurred credit losses

Overview of the ECL Model – as per Ind AS 109

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- 12 month expected credit losses recognized in profit or loss through a loss allowance from the first reporting period onwards
- Proxy for initial expectation of credit losses
- For financial assets, interest revenue is calculated **on the gross carrying amount (before adjusting for the expected credit losses)**
- Stage 1 includes financial instruments that have not had a significant increase in credit risk since initial recognition or that have low credit risk at the reporting date
- For these assets, 12-month expected credit losses ('ECL') are recognized and interest revenue is calculated on the gross carrying amount of the asset (that is, without deduction for credit allowance)

- 12-month ECL are the expected credit losses that result from default events that are possible within 12 months after the reporting date
- It is not the expected cash shortfalls over the 12-month period but the entire credit loss on an asset weighted by the probability that the loss will occur in the next 12 months, over the entire life of the asset

- If the credit risk increases significantly and the resulting credit quality is not considered to be low credit risk, full life-time expected credit losses are recognized
- For financial assets, interest revenue is calculated **on the gross carrying amount (before adjusting for the expected credit losses)** – Same as for Stage 1
- Stage 2 includes financial instruments that have had a significant increase in credit risk since initial recognition (unless they have low credit risk at the reporting date) but that do not have objective evidence of impairment
- For these assets, lifetime ECL are recognized, but interest revenue is still calculated on the gross carrying amount of the asset

- Lifetime ECL are the expected credit losses that result from all possible default events over the expected life of the financial instrument
- Expected credit losses are the weighted average credit losses with the probability of default ('PD') as the weight
- There is a rebuttable presumption that the credit risk on a financial asset has increased significantly since initial recognition when contractual payments are more than 30 days past due

- If the credit increases to the point that it is considered credit-impaired, full life-time expected credit losses are recognized – Same as in Stage 2
- For financial assets, interest revenue is calculated **on the amortized cost (gross carrying amount less life-time expected credit losses)**
- Financial assets in Stage 3 will generally be individually assessed
- Stage 3 includes financial assets that have objective evidence of impairment at the reporting date
- For these assets, lifetime ECL are recognised and interest revenue is calculated on the net carrying amount (that is, net of credit allowance)

Collective assessment

- An entity can group financial instruments on the basis of shared credit risk characteristics
- To enable significant increases in credit risk to be identified on a timely basis
- The entity should not obscure this information by grouping financial instruments with different risk characteristics

Shared credit risk characteristics

- Examples of shared credit risk characteristics:
 - instrument type;
 - credit risk ratings;
 - collateral type;
 - date of initial recognition;
 - remaining term to maturity;
 - industry;
 - geographical location of the borrower; and
 - the probability of a default occurring (for example, non-recourse loans in some jurisdictions or loan-to-value ratios)

Probability-weighted outcome

- The risk of an outcome other than the probability-weighted expected outcome is only relevant for particular purposes, such as determining the extent of economic or regulatory capital requirements
- The objective of the impairment requirements is to capture lifetime expected credit losses on all financial instruments that have significant increases in credit risk, regardless of whether it is on an individual or a collective basis

Forward-looking & segmentation

- Credit risk information is forward-looking and is updated on a timely basis at the individual instrument level
- The delay is more apparent for portfolios of financial instruments that are managed based on past due information
- The segmentation of portfolios based on shared credit risk characteristics may assist in determining significant increases in credit risk for groups of financial instruments

Appropriate grouping - importance

- *The appropriate level of grouping is expected to change over time in order to capture all significant increases in credit risk*
- An entity should not group financial instruments at a higher level of aggregation if a subgroup exists for which the recognition of lifetime expected credit losses is more appropriate
- Proposal to recognise lifetime expected credit losses only when the credit risk of a financial instrument has increased significantly since initial recognition

No specific method to assess credit risk

- Ind AS 109 does not prescribe a specific or mechanistic approach to assess changes in credit risk and that the appropriate approach will vary for different levels of sophistication of entities, the financial instrument and the availability of data
- The use of the term 'probability of a default' occurring was intended to capture the concept of the risk of a default occurring

No specific method to assess credit risk

- A specific probability of default measure is one way in which that could be assessed, but not considered as it would not be appropriate to require particular sources of information to be used to make the assessment
- Credit analysis is a multifactor and holistic analysis
- The requirements for when to recognise lifetime expected credit losses should be clear but also be broadly defined and objective based

Probability-weighted outcome

- The estimates of cash flows are expected values
- Hence, estimates of the amounts and timing of cash flows are based on probability-weighted possible outcomes
- The term 'expected' as used in the terms 'expected credit losses', 'expected value' and 'expected cash flow' is a technical term that refers to the probability-weighted mean of a distribution and should not be confused with a most likely outcome or an entity's best estimate of the ultimate outcome

Cash short falls – (Loss given default)

- Cash short falls represent the difference between the contractual cash flows and the estimated cash flows
- The present value of the contractual cash flows based on the **term structure** of each loan is computed
- Similarly the present value of the collateral is also computed for each and every loan
- Appropriate 'hair cut' is taken into account while computing the present value of the estimated cash flows

Macro economic indicators

- Forward looking macro economic indicators should be considered
- Use the best information that is available without undue cost and effort when measuring expected credit losses
- For loan repayment the following factors may be relevant
 - Consumer Price Index
 - Unemployment
 - Interest rates
 - Gross Domestic Product
 - Any other data from reliable source?

Macro economic indicators

- Last few quarters ECL before considering the macro economic indicators to be considered
- The appropriate macro indicator should be considered
- Apply statistical tests and obtain the intercept and slope for each independent variable considered
- Consider two/three scenarios each one with adjusted macro indicator along with the probability of such occurrence
- Get the weighted average ECL based on the above

Increase in credit risk since initial recognition



| Stage 1 | Stage 2 | Stage 3 |
|---|---|--------------------------------------|
| Impairment recognition | | |
| 12-month expected credit losses | Lifetime expected credit losses | Lifetime expected credit losses |
| Interest revenue | | |
| Effective interest on gross carrying amount | Effective interest on gross carrying amount | Effective interest on amortized cost |

Case Studies

ECL Computation

Expected Credit Loss

Project Loan – Transition Matrix Method

Case study – Project Loan – two scenarios

| Particulars | | Case 1 | Case 2 |
|---------------------------|---------------|---------------|---------------|
| | | Credit Rating | Credit Rating |
| Project Loan outstanding | Rs. 23,00,000 | | |
| Recovery rate (RR) | 25% | | |
| Loss Given Default (1-RR) | 75% | | |
| Date of Acquisition | 01-Apr-18 | AA | B |
| Maturity date | 31-Mar-22 | | |
| Valuation date | 31-Mar-19 | B | B |
| Balance tenor to maturity | 3 years | | |

- The Loan is appraised by CRISIL and the credit ratings at the respective dates are given above
- Calculate the Expected Credit Loss for both the scenarios for the project loan

Solution – Case 1

- The original credit rating of the loan is AA. On the date of valuation, the credit rating is B. **So the credit risk has increased significantly since the date of acquisition of the loan.** Hence, the life time default probability should be considered.
- The One year transition matrix as provided by CRISIL based on 10 year average is given below:

[illegible]

Solution – Case 1

- The remaining period to maturity is 3 years.
- Hence the one year transition matrix is raised to the power of 3 to arrive at the life time default probability
- The probability that the loan currently rated at B, can transition to 'D' or 'Default' rating is 21.91%
- ECL would be 21.91% of the loan outstanding as reduced by the recovery rate
- $21.91\% \times 23,00,000 \times 0.75 = \text{Rs.}3,77,948/-$ [two more scenarios with probability weighted average to be computed]

[illegible]

Solution – Case 2

- The original credit rating of the loan is B. On the date of valuation, the credit rating is B. So the credit risk has not increased significantly since the date of acquisition of the loan. Hence, 12 Month default probability should be considered.
- The One year transition matrix as provided by CRISIL based on 10 year average is given below:

[illegible]

Solution – Case 2

- The remaining period to maturity is 3 years. However we need to consider only 12 Month default probability
- Hence the one year transition matrix is used as the default probability.
- The probability that the loan currently rated at B, can transition to 'D' or 'Default' rating is 8.27%
- ECL would be 8.27% of the loan outstanding as reduced by the recovery rate
- $8.27\% \times 23,00,000 \times 0.75 = \text{Rs.}1,42,658/-$ [two more scenarios with probability weighted average to be computed]

[illegible]

Expected Credit Loss

Discounted Cash Flow method

ECL based on discounted cash flow – Scenario 1

| Scenario 1 - Base scenario - Proabaility 50% | | | | |
|--|-------------------------|--|------------------------|-----------|
| Loan# | ABC 001 | | | - |
| Category | CONSTRUCTION EQUIPMENTS | | Monthly Default Rate | 0.0051430 |
| Product | Own - Standard | | Monthly Discount Rate | 0.750% |
| Principal Outstanding | 23,00,000 | | Monthly Coupon Rate | 0.750% |
| Discount Rate | 9.00% | | Net Rate | 0.750% |
| Term Months | 10 | | | |
| Coupon | 9.00% | | Principal Outstanding | 23,00,000 |
| Probability Default (percentage) | 6.00 | | Fair Value (Credit PV) | |
| Loss Given Default | 24.00% | | Expected credit loss | |
| Collateral Value | - | | | |

- Based on applying the regression analysis it was found that two additional scenarios should be considered – one with a PD of 8% having a probability weight of 10% and another scenario with a PD of 4% having a probability weight of 40%. The base scenario with PD of 6% has a probability weight of 50%.

ECL based on discounted cash flow – Scenario 1

| Scenario 1 - Base scenario - Proabaility 50% | | | | | | | |
|--|--------------------|----------|---------|--------|----------|----------------------|------------|
| Term No | Amortizing Balance | Payment | Default | Losses | Recovery | Principal & Interest | Fair Value |
| 1 | 23,00,000 | 2,39,594 | 11,829 | 2,839 | 8,990 | 2,47,440 | 2,45,598 |
| 2 | 20,65,827 | 2,38,230 | 10,625 | 2,550 | 8,075 | 2,45,159 | 2,41,522 |
| 3 | 18,33,610 | 2,37,004 | 9,430 | 2,263 | 7,167 | 2,43,023 | 2,37,636 |
| 4 | 16,02,073 | 2,35,785 | 8,239 | 1,977 | 6,262 | 2,40,896 | 2,33,803 |
| 5 | 13,71,213 | 2,34,572 | 7,052 | 1,693 | 5,360 | 2,38,778 | 2,30,022 |
| 6 | 11,41,024 | 2,33,365 | 5,868 | 1,408 | 4,460 | 2,36,669 | 2,26,293 |
| 7 | 9,11,502 | 2,32,164 | 4,688 | 1,125 | 3,563 | 2,34,568 | 2,22,614 |
| 8 | 6,82,642 | 2,30,969 | 3,511 | 843 | 2,668 | 2,32,476 | 2,18,986 |
| 9 | 4,54,441 | 2,29,780 | 2,337 | 561 | 1,776 | 2,30,392 | 2,15,408 |
| 10 | 2,26,894 | 2,28,595 | 1,167 | 280 | 887 | 2,28,315 | 2,11,877 |
| | Total | | | | | | 22,83,760 |

ECL based on discounted cash flow – Scenario 1

| Scenario 1 - Base scenario - Proabaility 50% | | | | |
|--|-------------------------|--|------------------------|-----------|
| Loan# | ABC 001 | | | - |
| Category | CONSTRUCTION EQUIPMENTS | | Monthly Default Rate | 0.0051430 |
| Product | Own - Standard | | Monthly Discount Rate | 0.750% |
| Principal Outstanding | 23,00,000 | | Monthly Coupon Rate | 0.750% |
| Discount Rate | 9.00% | | Net Rate | 0.750% |
| Term Months | 10 | | | |
| Coupon | 9.00% | | Principal Outstanding | 23,00,000 |
| Probability Default (percentage) | 6.00 | | Fair Value (Credit PV) | 22,83,760 |
| Loss Given Default | 24.00% | | Expected credit loss | 16,240 |
| Collateral Value | - | | | |

ECL based on discounted cash flow – Scenario 2

| Scenario 2 - Probability 10% | | | | |
|----------------------------------|-------------------------|--|------------------------|-----------|
| Loan# | ABC 001 | | | - |
| Category | CONSTRUCTION EQUIPMENTS | | Monthly Default Rate | 0.0069244 |
| Product | Own - Standard | | Monthly Discount Rate | 0.750% |
| Principal Outstanding | 23,00,000 | | Monthly Coupon Rate | 0.750% |
| Discount Rate | 9.00% | | Net Rate | 0.750% |
| Term Months | 10 | | | |
| Coupon | 9.00% | | Principal Outstanding | 23,00,000 |
| Probability Default (percentage) | 8.00 | | Fair Value (Credit PV) | 22,78,267 |
| Loss Given Default | 24.00% | | Expected credit loss | 21,733 |
| Collateral Value | - | | | |

ECL based on discounted cash flow – Scenario 2

| Scenario 2 - Proabability 10% | | | | | | | |
|-------------------------------|--------------------|----------|---------|--------|----------|----------------------|------------|
| Term No | Amortizing Balance | Payment | Default | Losses | Recovery | Principal & Interest | Fair Value |
| 1 | 23,00,000 | 2,39,594 | 15,926 | 3,822 | 12,104 | 2,50,158 | 2,48,296 |
| 2 | 20,61,730 | 2,37,757 | 14,276 | 3,426 | 10,850 | 2,47,068 | 2,43,403 |
| 3 | 18,26,699 | 2,36,111 | 12,649 | 3,036 | 9,613 | 2,44,184 | 2,38,771 |
| 4 | 15,93,179 | 2,34,476 | 11,032 | 2,648 | 8,384 | 2,41,319 | 2,34,213 |
| 5 | 13,61,160 | 2,32,852 | 9,425 | 2,262 | 7,163 | 2,38,474 | 2,29,729 |
| 6 | 11,30,632 | 2,31,240 | 7,829 | 1,879 | 5,950 | 2,35,647 | 2,25,316 |
| 7 | 9,01,585 | 2,29,638 | 6,243 | 1,498 | 4,745 | 2,32,840 | 2,20,974 |
| 8 | 6,74,008 | 2,28,048 | 4,667 | 1,120 | 3,547 | 2,30,051 | 2,16,702 |
| 9 | 4,47,892 | 2,26,468 | 3,101 | 744 | 2,357 | 2,27,281 | 2,12,499 |
| 10 | 2,23,225 | 2,24,899 | 1,546 | 371 | 1,175 | 2,24,528 | 2,08,363 |
| | Total | | | | | | 22,78,267 |

ECL based on discounted cash flow

| Scenario 3 - Base scenario - Probability 40% | | | | |
|--|-------------------------|--|------------------------|-----------|
| Loan# | ABC 001 | | | - |
| Category | CONSTRUCTION EQUIPMENTS | | Monthly Default Rate | 0.0033961 |
| Product | Own - Standard | | Monthly Discount Rate | 0.750% |
| Principal Outstanding | 23,00,000 | | Monthly Coupon Rate | 0.750% |
| Discount Rate | 9.00% | | Net Rate | 0.750% |
| Term Months | 10 | | | |
| Coupon | 9.00% | | Principal Outstanding | 23,00,000 |
| Probability Default (percentage) | 4.00 | | Fair Value (Credit PV) | 22,89,213 |
| Loss Given Default | 24.00% | | Expected credit loss | 10,787 |
| Collateral Value | - | | | |

ECL based on discounted cash flow

| Scenario 3 - Base scenario - Probability 40% | | | | | | | |
|--|--------------------|----------|---------|--------|----------|----------------------|------------|
| Term No | Amortizing Balance | Payment | Default | Losses | Recovery | Principal & Interest | Fair Value |
| 1 | 23,00,000 | 2,39,594 | 7,811 | 1,875 | 5,936 | 2,44,775 | 2,42,953 |
| 2 | 20,69,845 | 2,38,693 | 7,029 | 1,687 | 5,342 | 2,43,277 | 2,39,669 |
| 3 | 18,40,402 | 2,37,882 | 6,250 | 1,500 | 4,750 | 2,41,871 | 2,36,510 |
| 4 | 16,10,831 | 2,37,074 | 5,470 | 1,313 | 4,158 | 2,40,467 | 2,33,386 |
| 5 | 13,81,128 | 2,36,268 | 4,690 | 1,126 | 3,565 | 2,39,066 | 2,30,299 |
| 6 | 11,51,292 | 2,35,465 | 3,910 | 938 | 2,971 | 2,37,666 | 2,27,247 |
| 7 | 9,21,319 | 2,34,665 | 3,129 | 751 | 2,378 | 2,36,269 | 2,24,229 |
| 8 | 6,91,206 | 2,33,867 | 2,347 | 563 | 1,784 | 2,34,874 | 2,21,246 |
| 9 | 4,60,950 | 2,33,071 | 1,565 | 376 | 1,190 | 2,33,481 | 2,18,296 |
| 10 | 2,30,547 | 2,32,276 | 783 | 188 | 595 | 2,32,088 | 2,15,379 |
| | Total | | | | | | 22,89,213 |

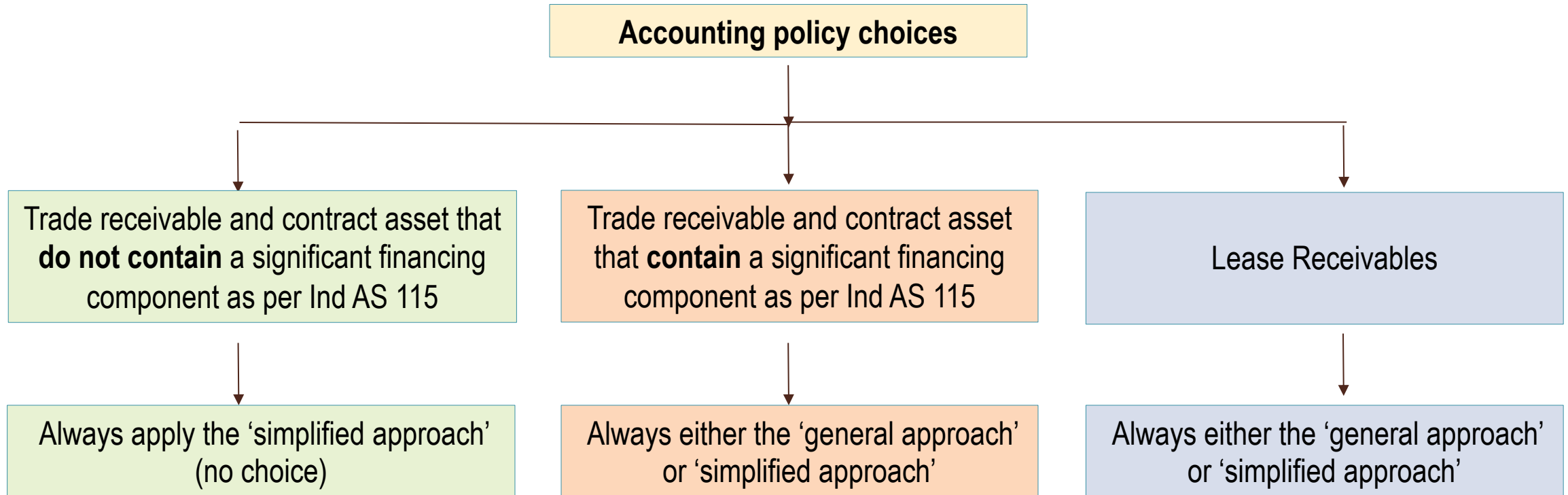
ECL – Probability weighted average

| Scenario | Probability of occurrence | Expected credit Loss |
|-------------------|---------------------------|----------------------|
| Scenario 1 (Base) | 50% | 16,240 |
| Scenario 2 | 10% | 21,733 |
| Scenario 3 | 40% | 10,787 |
| Weighted average | | 14,608 |

Expected Credit Loss

Receivables

Accounting Policy Choices



Applying the 'simplified approach' – Step 1

Step 1

- Determine the appropriate groupings of receivables based on
 - geographical region
 - product type
 - customer rating
 - collateral
 - trade credit insurance
 - type of customer say wholesale /retail
- Aggregate receivables into groups that share similar credit risk characteristics

Applying the ‘simplified approach’ – Step 2

Step 2

- Determine the period over which historical loss rates are appropriate
- Historical loss data should be collected for each sub-group
- Judgment is needed to determine the period over which reliable historical data can be obtained that is relevant to the future period over which the trade receivables will be collected
- The period should be reasonable – not an unrealistically short or long period of time
- In practice, the period could span two to five years

Applying the 'simplified approach' – Step 3

Step 3

- Determine the historical loss rates
- Determine the loss rates for each sub-group sub-divided into past-due categories
- Example, loss rate for balances that are 0 days past due, a loss rate for 1-30 days past due, a loss rate for 31-60 days past due and so on

Applying the 'simplified approach' – Step 4

Step 4

- Consider forward looking macro-economic factors to arrive at the appropriate loss rates
- The historical loss rates are a starting point for identifying expected losses
- They are not necessarily the final loss rates that should be applied to the carrying amount
- Determined the adjusted loss rates under economic conditions that are representative of those expected to exist during the exposure period for the portfolio at the balance sheet date

Applying the 'simplified approach' – Step 5

Step 5

- Calculate the expected credit losses
- The expected credit loss of each sub-group is calculated by multiplying the current gross receivable balance by the adjusted loss rate as per Step 4
- The specific adjusted loss rate should be applied to the balance of each age-band for the receivables in each group
- Add all the expected credit losses of each age-band for the total expected credit loss of the portfolio

Computation of ECL for receivable – Data provided

| Period | Region | Sales (in Rs) |
|---------|-------------|---------------|
| 2017-19 | Maharashtra | 3,81,80,565 |
| 2017-19 | Tamilnadu | 6,81,80,565 |

| Collection Data (in Rs) | | |
|-------------------------|-------------|-------------|
| Buckets | Maharashtra | Tamilnadu |
| 0-30 | 1,17,74,914 | 2,17,74,900 |
| 31-60 | 1,18,47,624 | 2,18,47,624 |
| 61-90 | 49,65,995 | 1,49,65,995 |
| 91-120 | 42,32,191 | 42,32,000 |
| 121-150 | 22,08,486 | 22,08,500 |
| 151-180 | 18,56,122 | 18,56,122 |
| Above 180 | 8,94,467 | 7,94,500 |
| Total | 3,77,79,801 | 6,76,79,642 |

| Outstanding Receivable Data (in Rs) | | |
|-------------------------------------|-------------|-----------|
| Buckets | Maharashtra | Tamilnadu |
| 0-30 | 19,99,458 | 55,99,458 |
| 31-60 | 19,62,047 | 10,62,047 |
| 61-90 | 1,35,830 | 6,35,830 |
| 91-120 | 28,537 | 1,28,537 |
| 121-150 | 50,883 | 1,50,883 |
| 151-180 | 30,546 | 1,20,546 |
| Above 180 | 25,156 | 1,20,156 |
| Total | 42,32,458 | 78,17,458 |

ECL for receivable – Compute the loss rate

| FY 2017-19 - Maharashtra Region | | | | |
|---------------------------------|---------------------------|-------------------|-----------|--------------------------|
| Collections | Collection Received (Rs.) | Outstanding (Rs.) | Loss Rate | Remarks |
| Sales Made | | 3,81,80,565 | 1.05% | Not due |
| 0-30 | 1,17,74,914 | 2,64,05,651 | 1.52% | Overdue Beyond 0 Days |
| 31-60 | 1,18,47,624 | 1,45,58,027 | 2.75% | Overdue Beyond 30 Days |
| 61-90 | 49,65,995 | 95,92,031 | 4.18% | Overdue Beyond 60 days |
| 91-120 | 42,32,191 | 53,59,840 | 7.48% | Overdue Beyond 90 days |
| 121-150 | 22,08,486 | 31,51,354 | 12.72% | Over due Beyond 120 days |
| 151-180 | 18,56,122 | 12,95,231 | 30.94% | Over due Beyond 150 days |
| Above 180 | 8,94,467 | 4,00,765 | 100.00% | Over due Beyond 180 days |

Adjust for macro economic factors – Compute ECL

| Trade Receivable Ageing as on 31st March 2019 | | | | | |
|---|--------------|-----------|------------------------------------|--------------------|----------|
| Ageing Schedule | Amount (Rs.) | Loss rate | Adjustment for Macro economic data | Adjusted Loss Rate | ECL |
| 0-30 | 19,99,458 | 1.52% | 0.25% | 1.77% | 35,345 |
| 31-60 | 19,62,047 | 2.75% | 0.25% | 3.00% | 58,918 |
| 61-90 | 1,35,830 | 4.18% | 0.25% | 4.43% | 6,015 |
| 91-120 | 28,537 | 7.48% | 0.25% | 7.73% | 2,205 |
| 121-150 | 50,883 | 12.72% | 0.25% | 12.97% | 6,598 |
| 151-180 | 30,546 | 30.94% | 0.25% | 31.19% | 9,528 |
| Above 180 | 25,156 | 100.00% | | 100.00% | 25,156 |
| Total | 42,32,458 | | Total ECL Allowance | | 1,43,765 |

ECL for receivable – Compute the loss rate

| FY 2017-19 - Tamil Nadu Region | | | | |
|--------------------------------|---------------------------|-------------------|-----------|--------------------------|
| Collections | Collection Received (Rs.) | Outstanding (Rs.) | Loss Rate | Remarks |
| Sales Made | | 6,81,80,565 | 0.73% | Not due |
| 0-30 | 2,17,74,900 | 4,64,05,665 | 1.08% | overdue Beyond 0 Days |
| 31-60 | 2,18,47,624 | 2,45,58,041 | 2.04% | overdue Beyond 30 Days |
| 61-90 | 1,49,65,995 | 95,92,046 | 5.22% | overdue Beyond 60 days |
| 91-120 | 42,32,000 | 53,60,046 | 9.35% | Overdue Beyond 90 days |
| 121-150 | 22,08,500 | 31,51,546 | 15.89% | Over due Beyond 120 days |
| 151-180 | 18,56,122 | 12,95,424 | 38.67% | Over due Beyond 150 days |
| Above 180 | 7,94,500 | 5,00,924 | 100.00% | Over due Beyond 180 days |

Adjust for macro economic factors – Compute ECL

| Trade Receivable Ageing as on 31st March 2019 | | | | | |
|---|-----------|-----------|------------------------------------|--------------------|----------|
| Ageing Schedule | Amount | Loss rate | Adjustment for Macro economic data | Adjusted Loss Rate | ECL |
| 0-30 | 55,99,458 | 1.08% | 0.45% | 1.53% | 85,641 |
| 31-60 | 10,62,047 | 2.04% | 0.45% | 2.49% | 26,442 |
| 61-90 | 6,35,830 | 5.22% | 0.45% | 5.67% | 36,066 |
| 91-120 | 1,28,537 | 9.35% | 0.45% | 9.80% | 12,591 |
| 121-150 | 1,50,883 | 15.89% | 0.45% | 16.34% | 24,661 |
| 151-180 | 1,20,546 | 38.67% | 0.45% | 39.12% | 47,156 |
| Above 180 | 1,20,156 | 100.00% | | 100.00% | 1,20,156 |
| | 78,17,458 | | Total ECL allowance | | 3,52,713 |