SLFRS 9 Financial Instrument

Presenter : Rajith Perera
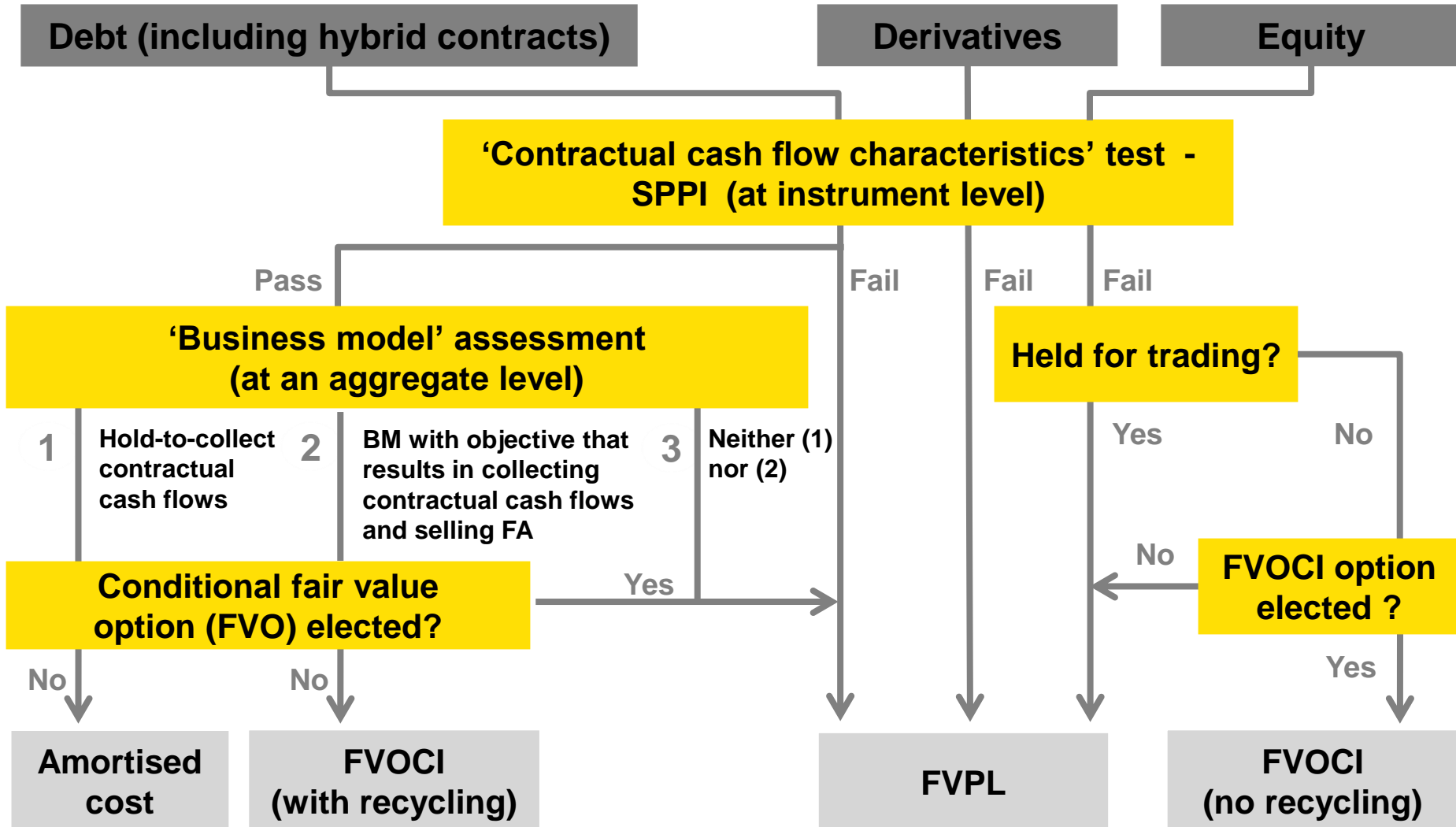
EY
Building a better
working world

Classification of Financial Instrument

SLFRS 9 Financial Asset Classification Model

Debt (including hybrid contracts)	Derivatives	Equity

'Contractual cash flow characteristics' test - SPPI (at instrument level)

Pass | **Fail** | **Fail** | **Fail**

'Business model' assessment (at an aggregate level)

Held for trading?

1 Hold-to-collect contractual cash flows

2 BM with objective that results in collecting contractual cash flows and selling FA

3 Neither (1) nor (2)

Yes | **No**

Conditional fair value option (FVO) elected?

Yes

No

FVOCI option elected ?

No | **No** | **Yes**

Amortised cost	FVOCI (with recycling)	FVPL	FVOCI (no recycling)

Classification & measurement
Key changes to LKAS 39

Equity securities	Measured at FVPL unless entity decides to present fair value changes in OCI (No Recycling)
Debt instruments (including loans and hybrid contracts)	New measurement categories classified on the basis of: ► The contractual cash flow characteristics of the instrument ► The business model under which those instruments are held
Debt Instruments	Recognition of Expected credit losses in P&L
Fair value option	Slight change in scope as instruments failing the SPPI test and instruments managed on a fair value basis are at FVPL per default
Embedded derivatives	Derivatives embedded in financial asset hosts are no longer separated

Classification & measurement
What remains the same?

Financial assets and liabilities held for trading	Measured at FVPL. Financial instruments held for trading include derivatives
Financial liabilities	Classification and measurement for financial liabilities. Financial liabilities are measured at: ▶ Amortised cost Unless ▶ At FVPL (if held for trading, designated or managed on a FV basis)
Fair value option	Condition of the presence of an accounting mismatch remains the same
Embedded derivatives	Accounting for hybrid contracts without a financial asset host remains the same

An overview – Classifying Financial Asset

		Contractual Cash Flow Characteristics Test	
		Pass	**Fail**
Business model	Held within a business model whose objective is to hold financial assets in order to collect contractual cash flows	Amortised Cost	FVPL
	Held within a business model whose objective is achieved by both collecting contractual cash flows and selling financial assets	FVOCI (debt)	FVPL
	Financial assets which are neither held at amortised cost nor at fair value through other comprehensive income	FVPL	FVPL
Options	Conditional fair value is elected	FVPL	N/A
	Option elected to present change in fair value of an equity instrument not held for trading in OCI	N/A	FVOCI (equity)

Example 2

► Financial institution holds investments to collect their contractual cash flows. The funding needs of the entity are predictable and the maturity of its financial assets is matched to its estimated funding needs.

► The entity performs credit risk management activities with the objective of minimizing credit losses. In the past, sales have typically occurred when the financial assets' credit risk has increased such that the assets no longer meet the entity's documented investment policy. In addition, infrequent sales have occurred as a result of unanticipated funding needs.

Discuss on the most suitable business model?

Example 2 - Solution

► Although the entity considers, among other information, the financial assets' fair values from a liquidity perspective (i.e. the cash amount that would be realized if the entity needs to sell assets), the entity's objective is to hold the financial assets in order to collect the contractual cash flows.

► Sales would not contradict that objective if they were in response to an increase in the assets' credit risk, for example if the assets no longer meet the criteria specified in the entity's documented investment policy. Infrequent sales resulting from unanticipated funding needs (e.g. in a stress case scenario) also would not contradict that objective, even if such sales are significant in value. [SLFRS 9.B4.1.4 Example 1].

EY

Example 3

► A financial institution holds financial assets to meet its everyday liquidity needs. The entity seeks to minimize the costs of managing those liquidity needs and therefore actively manages the return on the portfolio. That return consists of collecting contractual payments as well as gains and losses from the sale of financial assets.

► As a result, the entity holds financial assets to collect contractual cash flows and sells financial assets to reinvest in higher yielding financial assets or to better match the duration of its liabilities. In the past, this strategy has resulted in frequent sales activity and such sales have been significant in value. This activity is expected to continue in the future.
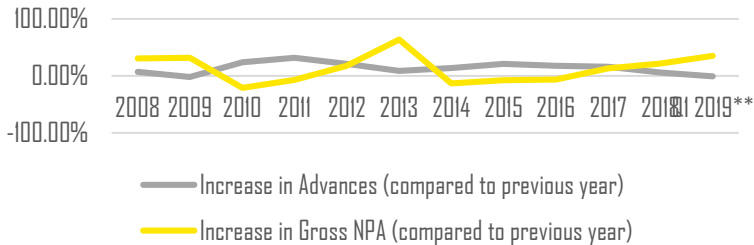
EY

Example 3 - Solution

► The objective of the business model is to maximise the return on the portfolio while meeting everyday liquidity needs and the entity achieves that objective by both collecting contractual cash flows and selling financial assets. In other words, both collecting contractual cash flows and selling financial assets are integral to achieving the business model's objective. [SLFRS 9.B4.1.4C Example 6].

Impairment/Expected Credit Losses

Current State Analysis - Banks

Statistics within the Banking industry were analysed to identify key trends in profitability and capital management[1]

Increase in Advances (compared to previous year)

Increase in Gross NPA (compared to previous year)

% of Risk weighted assets to the Total Assets

% of Risk weighted assets to the Total Assets

https://www.cbsl.gov.lk/en/statistics/statistical-tables/financial-sector
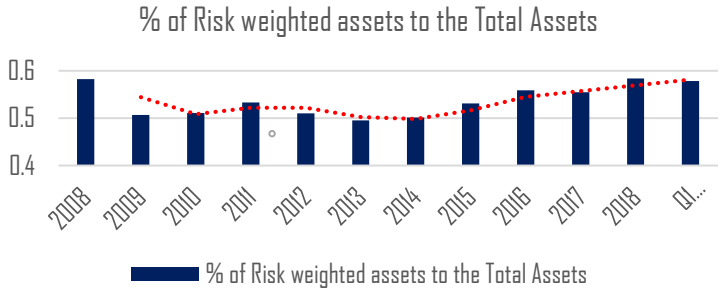
Key Takeaways

1 NPA has increased rapidly during 2017 and half year 2019 which requires further **strengthening the monitoring process and implementation of an Early Warning Signals framework**

2 Increase in NPA which would also result in **increase in the lifetime ECL once the Banks adopts SLRFS**

3 The **Provision Coverage Ratio of the Banks has been deteriorating** year on year on account of increase in the NPA

4 An increasing trend in the banks exposure towards assets with high risk has been noticed which implies that Banks will **need to invest in capital optimisation techniques**

There is a need for the Banks to increase their focus towards **strengthening their Risk Management Practices & Systems such as credit appraisal, underwriting & monitoring processes** which will result in increased profitability & strengthening the capital.

Summary of expected credit loss model: general model

Initial recognition
(with exceptions)

	'Performing'	'Under-performing'	'Non-performing'
Allowance:	12-month expected credit losses	Lifetime expected credit losses	
Criterion:		The credit risk has increased significantly since initial recognition	+ Objective evidence of impairment
Interest revenue based on:	Gross carrying amount	Gross carrying amount	Net carrying amount

Change in credit quality since initial recognition
improvement → *deterioration*

What does "Significant" mean?

Interpreting « significant » depends on several factors

Type of product	Original credit risk at origination	Expected maturity	Qualitative indicators
	A given PD variation in absolute terms is more significant for assets with better quality at inception	*The probability of default increases with maturity*	*Which can then be translated into PD levels*

S&P rating	PD - Corporates		
	1 Y	**5 Y**	**10 Y**
AAA	0.00	0.36	0.76
AA	0.02	0.39	1.03
A	0.07	0.59	1.71
BBB	0.20	1.73	3.93
BB	0.71	8.05	14.04
B	5.10	22.04	28.87
CCC/C	26.85	46.74	51.13
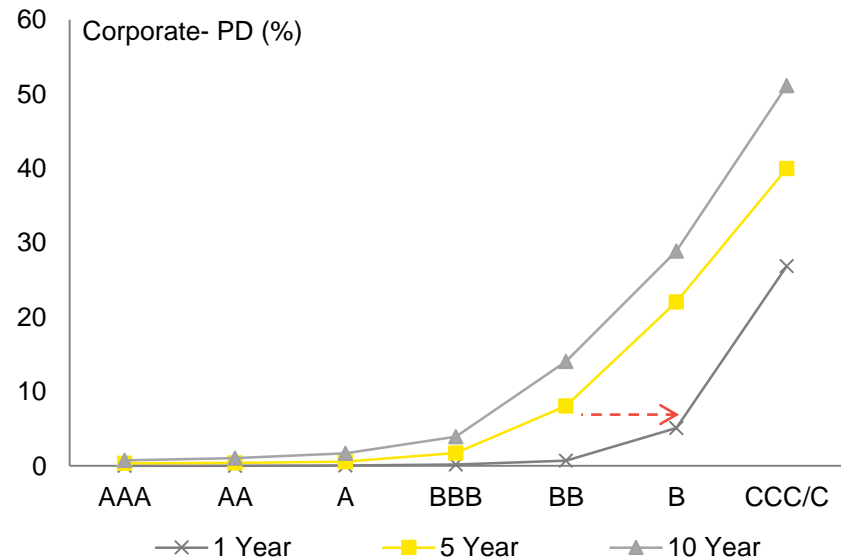
Note: Standard and Poor's Global Corporate Average Cumulative Default Rates by Rating Modifier (1981 – 2012)

How Accounting Standard Looks at It

Why 90 Days?

Mostly Applied

Many Jurisdictions apply 90days to perform Risk Management Activities

Can we rebut 90/30 days presumption?

Yes

Provided you have evidence to prove that default does not trigger on the 90th day.

"It was also noted that the purpose of the rebuttable presumption is not to delay the default event until a financial asset becomes 90 days past due, but to ensure that entities will not define default later than that point without reasonable and supportable information to substantiate the assertion "

"The IASB acknowledges that defining the backstop as 90 days past due is arbitrary, but it considered that any number of days would be arbitrary and that 90 days past due best aligned with current practice and regulatory requirements in many jurisdictions."

How relevant the measurement of credit risk using DPD

Weak

Number of Days past due is a lagging indicator to Ascertain Credit Risk

Can 90 days help entities better manage the Risk?

Yes.

Can be used as an early warning indicator

EY

Simulating the Rebuttal of Default

Loan Balance Rs.1000

	30 Days	60 Days	90 Days	120 Days	150 Days	180 Days	210 Days	240 Days	270 Days	300 Days
# Rentals	1	2	3	4	5	6	7	8	9	10
Cash Inflow	-	-	-	100	100	100	100			
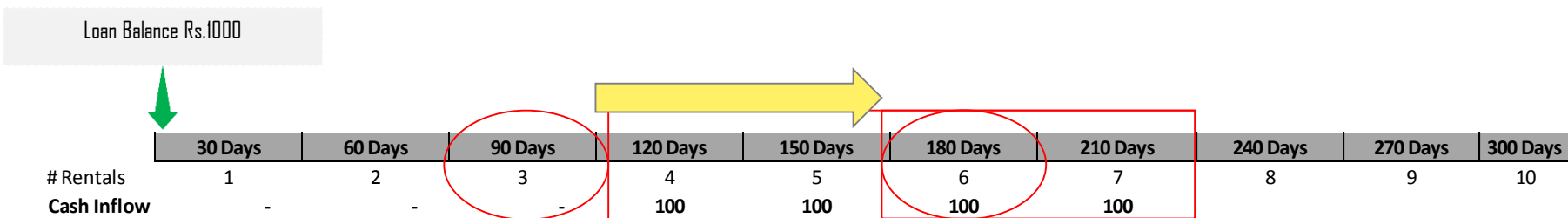
Without Rebuttal for a Customer Aged 90Days

Probability of Default is = 100% on 90 DPD

Recovery After Default = 400

Therefore the Loss = 600 Resulting in a LGD of 60% (600/1000)

Overall Loss Rate = 100% (PD) x 60% (LGD) = 60%

With Rebuttal for a Customer Aged 90Days

Probability of Default is = 100 % on 180 Days Therefore CF recoveries until T6 is Captured in PD

Therefore the PD of 90 Days = 80% (8/10)

Outstanding at the Default Point = 800

Recovery After Default = 200

Therefore the Loss = 600 Resulting in a LGD of 75% (600/800)

Overall Loss Rate = 80% (PD) x 75% (LGD) = 60%

Case 1 - Impairment Provisioning Approach

Financial institution XYZ has following customers.

Customer A – Financial institution recently granted a loan customer A who has an initial rating of 2.

Customer B – This customer has a large manufacturing company in the Asbestos manufacturing industry. Company currently has a rating of 1.

Customer C – This customer currently has a rating of 3. Last year he maintained a rating of 2.

Other information
Financial institution has a rating system of 1-5, Financial institution **does not grant** *loans to customers with an* **initial rating of 3-5.**

Case 1 (Contd..)

Additional Information

- ✓ Manufacturing industry relating Asbestos production is currently facing a business threat on possible closure of operation in 2018.

- ✓ Inline with Internal credit Risk management policies of the Financial institution a single notch downgrade in the rating system Financial institution considers as a significant deterioration in credit risk.

Requirement

- ► Determine whether Financial institution needs to assess 12 months ECL/Life time ECL for each customer.

- ► If the customer belongs to Life time ECL which performance bracket do they belong to? (Stage 2/3)

Case 2 – Loan Product Segmentation for collective assessment

Financial institution XYZ has following products with specified additional information.

Loan product	Additional Information
Term loans	Recently industry analysis suggest that manufacturing and property development sector will be negatively impacted within the next 2-5 years.
Overdrafts	
Leasing	In line with the revised budget proposals LTV ratio is amended as follows. Three wheelers – 25% Cars – 50% Lorries/Trucks – 90%
Housing	According to internal statistics the credit risk behavior of housing would vary based on LTV ratio.

Determine the most appropriate segmentation

Definition of Default/Credit Impaired

EY
Building a better working world

Measurement of expected losses

Summary: Measuring expected credit losses

Unbiased and probability-weighted estimate

Best available information

Information about past events + **Information about current conditions** + **Reasonable and supportable forecasts**

The time value of money

Definition of 12-month and lifetime expected credit losses

Lifetime expected credit losses
*Expected credit losses that result from **all possible default events** over the **expected life** of a financial instrument.*

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

'Default'
*Definition is **not defined** by the standard and there is a **90 days past due rebuttable presumption**.*

In practice

Although 12-month horizon may be consistent with regulatory capital requirements (e.g., Basel), the computation of expected credit losses under SLFRS 9 will differ from regulatory capital calculation.

A generalised equation

$$ECL_{12m} = PD_{12m} \times LGD_{12m} \times EAD_{12m} \times D_{12m}$$

(1) (2) (3) (4)

$$ECL_{LT} = \sum_{t=1}^{LT} PD_t \times LGD_t \times EAD_t \times D_t$$

(5)

① PD
- ► Probability of defaulting in period t
- ► Expected to be unbiased, i.e. not down turn or best estimate

② LGD
- ► Forecasted economic loss if default happens in period t
- ► Expected to be unbiased
- ► Includes discounting at the EIR

③ EAD
- ► Projected exposure if default occurs in period t
- ► Behavioural payments capped at the contractual lifetime unless revolving

④ D
- ► Discount factor to discount cashflows (effectively in this case losses) to the reporting date
- ► Discounts at EIR

⑤ LT
- ► Summation of individual period (typically year) ECLs to arrive at lifetime ECL
- ► Required provision balance for stage 2 & 3 assets

Transition criteria
- ► Determine transition from stage 1 to stage 2 (or 3)
- ► Based on changes in default (not loss) likelihood since origination

ECL Modelling

Portfolio Decomposition

Portfolio delinquency

Maturation

Maturation profile

Vintage

Vintage Quality: 12m and 24m Delinquency Rate

Environment

Environment (exogenous)
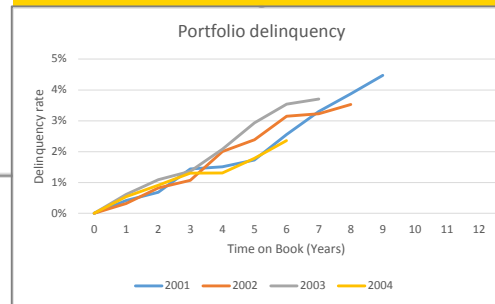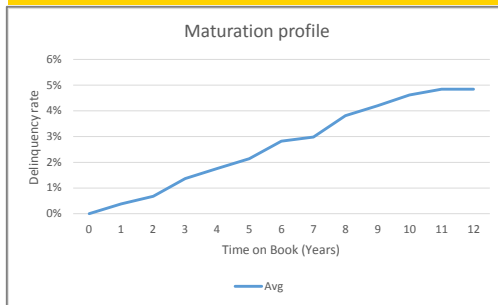
Each product type will have their own maturation profile, typically reaching a plateau in default rates as the asset / population matures.
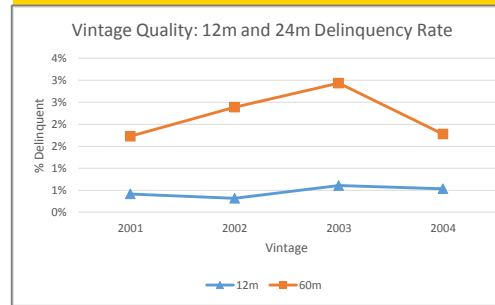
The credit quality of different vintages will reflect the risk appetite, market conditions and lending standards in place at the time of origination.
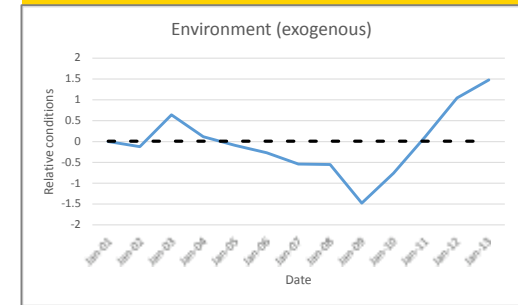
The remaining exogenous component reflects seasonality, economic fluctuations etc. Economic forecast scenarios can be directly applied.

EY

Key Modelling Aspects
ECL calculation: 12-month and Lifetime LGD

Segmentation

- Only default population for estimation
- Identification of population sub-segments where different models can be developed per segment (e.g. Secured/Unsecured, Modified/Non Modified exposures).

LGD Estimation

The two main parameters are:

- Loss Given Loss, which for secured exposures is an estimate of collateral liquidation, while for unsecured exposures, estimation is performed via cash payments of non-cured exposures.
- Cure Rate based on an estimated workout period, where segmentation or behavioural models are typically developed.

Macroeconomic Adjustment

- Factors for secured lending include house prices, CRE prices,
- Typical macro economic factors for cure rate and unsecured lending.

Indicative Data Needed

- Collateral information:
  - NPL facilities/Settlements
  - CF Records
  - Write-off's
  - Deem Write-off
- Post-default payment behaviour
- Time to recovery
- Cash recoveries
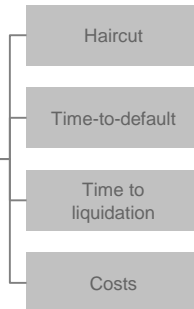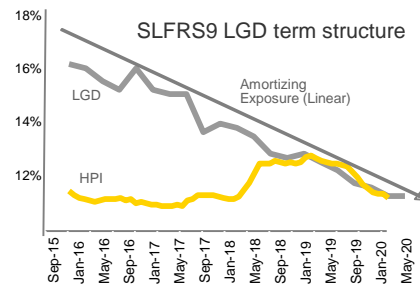
What is not Compliant

- Using regulatory LGD values without analyzing whether adjustments are required

SLFRS9 LGD term structure

Treatment of limits and lifetime of revolving products

EY
Building a better working world

SLFRS 9 Requirements

SLFRS 9 paragraph 5.5.19

*The maximum period to consider when measuring expected credit losses is the **maximum contractual period** (including extension options) over which the entity is exposed to credit risk and not a longer period, even if that longer period is consistent with business practice.*

SLFRS 9 paragraph 5.5.20

*However, some financial instruments include both a loan and an undrawn commitment component and the entity's contractual ability to demand repayment and cancel the undrawn commitment **does not limit the entity's exposure to credit losses to the contractual notice period**. For such financial instruments, and only those financial instruments, the entity shall measure expected credit losses **over the period that the entity is exposed to credit risk** and expected credit losses would not be mitigated by credit risk management actions, even if that period extends beyond the maximum contractual period*

Generalized calculation of forward-looking EAD

Amortization method for closed-end product

For amortization schedule of closed-end loan (e.g., mortgage), the principal is paid down over the life of the loan. There is an option to consider prepayment model to reflect behavioral maturity.

$$EAD = Current\ Balance$$

Principal Outstanding for closed-end loan
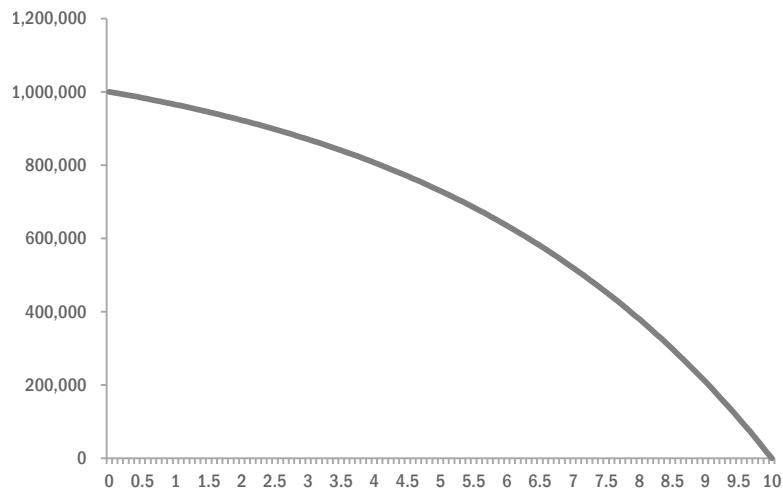
## Credit conversion factors method for irrevocable commitment loan

For irrevocable undrawn commitment, the entity shall measure expected credit losses over the period that the entity is exposed to credit risk and expected credit losses would not be mitigated by credit risk management

$$EAD = Current\ Balance + CCF \times undrawn\ portion$$

Principal Outstanding for revolving product
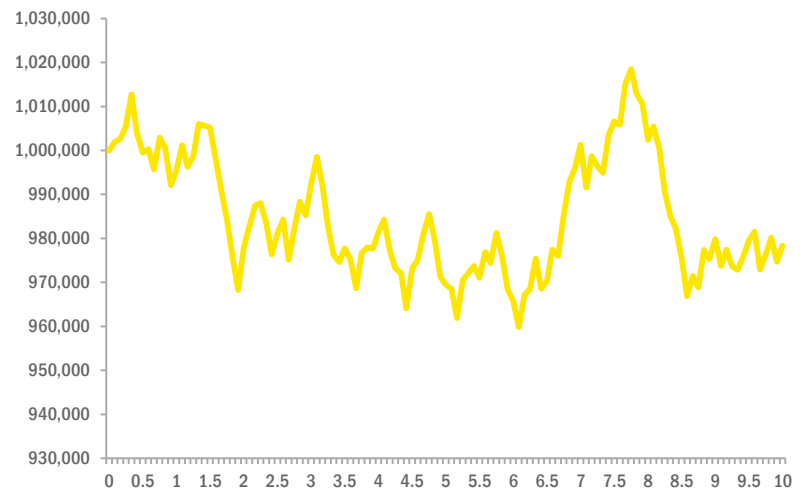
CCF approach to estimate EAD
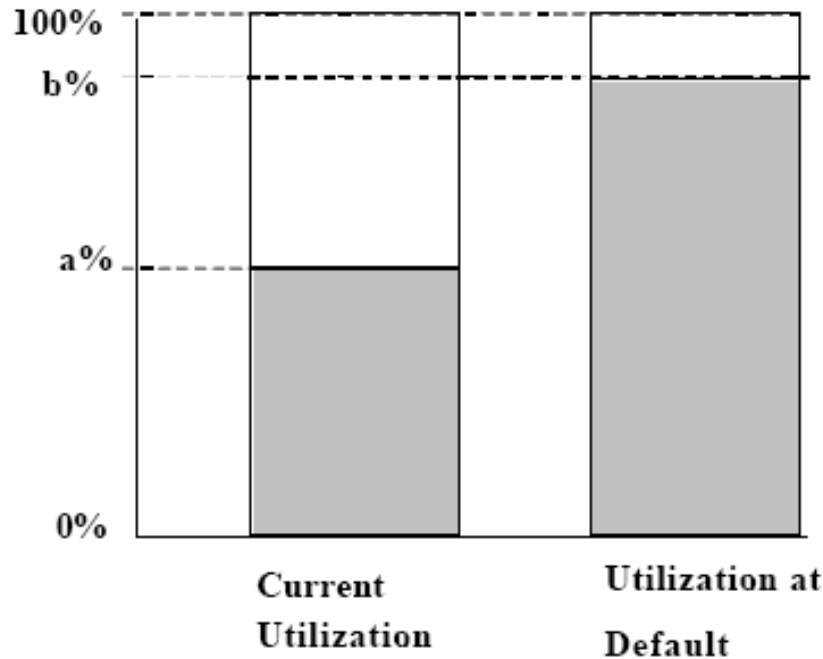
$$CCF = \frac{b\% - a\%}{100\% - a\%}$$

Potential risk factors in CCF estimation

► Type of obligor

► Relationship between the Financial institution and obligor in adverse circumstances

► Alternative sources of funds available to the obligor

► Covenants (which restrict future draw-downs in cases where the credit quality has declined)

► Historical payment difficulties

► Time to maturity

EY

Forward looking considerations

EY

Building a better working world

Multiple scenarios versus most likely outcome

Example:	Scenario unemployment	Scenario likelihood	Scenario ECL (CU)
Approach 1: Most likely economic scenario considered			
Upside	4%	20%	30
Approach 2: Probability weighted average of plausible economic scenarios underpinning the central scenario			
Central / most likely	5%	50%	70
Downside	6%	30%	170
Probability weighted average			**92**

► Responsiveness of credit outcomes to macro-economic factors is often non-linear meaning considering a single most likely outcome may not Standard's requirements for an **unbiased** probability weighted measure

Potential approach I
► Model multiple outcomes using macro-economic regression models and take a probability weighted average

► Computationally intensive
► Requires judgement in determining and weighting scenarios

Potential approach II
► Model a single outcome and apply judgemental adjustments to reflect differing future outcomes & non-linearity

► May not require regression models
► More judgement required and increased burden to justify outcomes

EY

Economic Factor Adjustment

► Quantitative & Qualitative factors have been considered for the assessment of Economic Factor Adjustment :

Quantitative	Qualitative
GDP Growth	Government Policies
Inflation	Status of the Industry Business
Average LTV	Regulatory Impact
Interest Rate	
Exchange Rate	
Unemployment	

► Publically available data on economic forecasts have been extracted from World Bank/IMF websites. Where ever reliable estimates were unavailable such economic conditions were forecasted using statistical methods.

► The multiple economic scenarios were considered with following probability weighted outcomes :

  ► Base Case   : 50%

  ► Best Case   : 25%

  ► Worst Case   : 25%

EY

Economic Outlook – Futuristic
Based on Probability Weighted Multiple Outcomes

GDP Growth

Inflation (YoY) (CCPI)

Interest Rate (AWPLR)

Exchange Rate (US$:LKR)

Unemployment
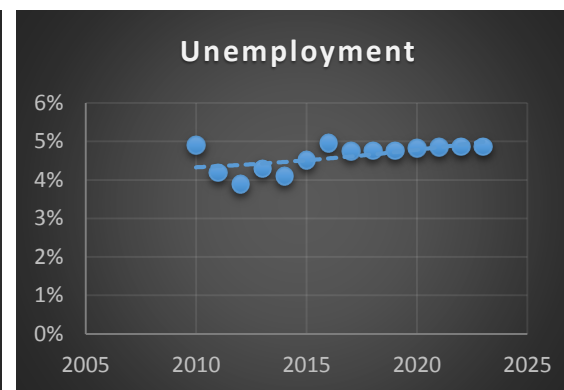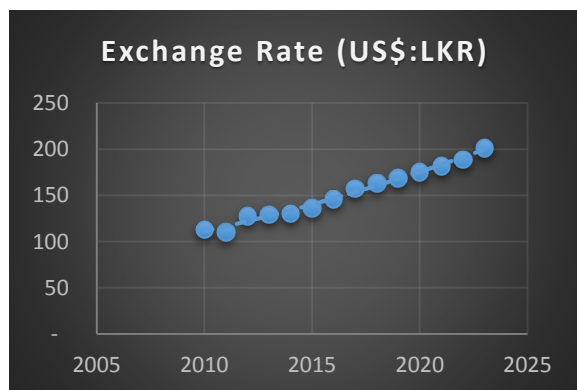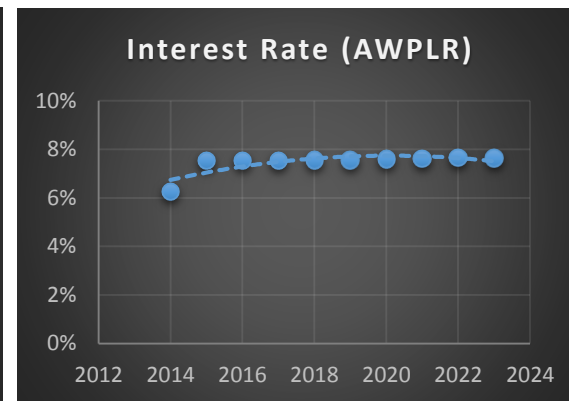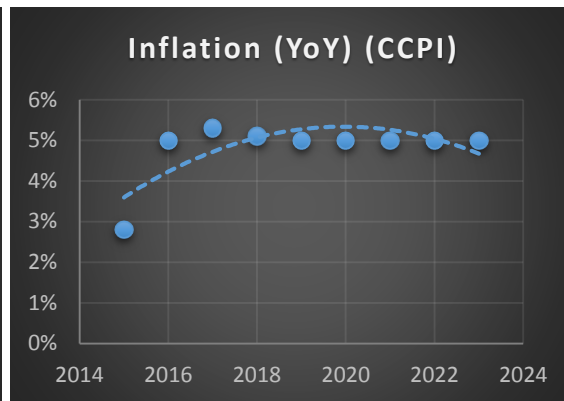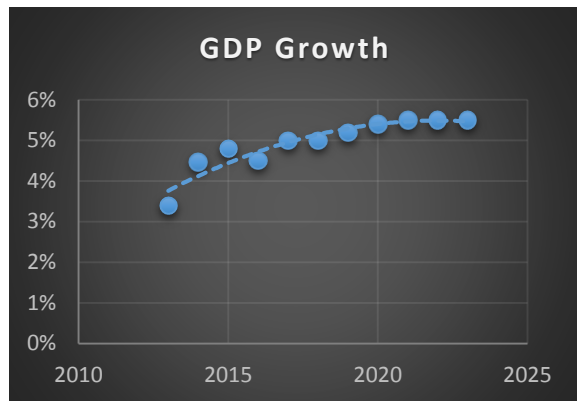
Important Consideration

▸ Historical Behavior cycles of the economy was analyzed during the post war period, Mean reversal method have been considered to establish the behavior cycles based on the past trend based on the standard deviation/volatility

▸ To establish the worst case & best case historical moving averages of the standard deviation using the **"Bollinger Bands Theory"** was considered and applied a ceiling/floor to the worst case/best case

▸ Binomial Behavioral cycles/lattice cycles using expected values have been considered to replicate the future economic outlook

EY

Probability Weighted Multiple Economic Scenario

Probability Weighted Multiple Economic Scenario									
Basecase Forecast 50%	2016	2017	2018	2019	2020	2021	2022	2023	**Remarks**
GDP Growth	4.50%	5.00%	5.00%	5.20%	5.40%	5.50%	5.50%	5.50%	
Inflation (YoY) (CCPI)	5.0%	5.3%	5.1%	5.0%	5.0%	5.0%	5.0%	5.0%	
Average LTV									
Interest Rate (AWPLR)	7.53%	7.53%	7.53%	7.53%	7.53%	7.53%	7.53%	7.53%	
Exchange Rate (US$:LKR)	145.80	152.33	159.16	166.29	173.74	181.52	189.65	198.15	
Unemployment	4.96%	4.96%	4.96%	4.96%	4.96%	4.96%	4.96%	4.96%	
Best Case Forecast 25%	2016	2017	2018	2019	2020	2021	2022	2023	**Remarks**
GDP Growth	6.82%	7.32%	7.32%	7.52%	7.72%	7.82%	7.82%	7.82%	
Inflation (YoY) (CCPI)	2.6%	2.9%	2.7%	2.6%	2.6%	2.6%	2.6%	2.6%	
Average LTV									**Std**
Interest Rate (AWPLR)	7.53%	7.20%	6.89%	6.59%	6.30%	6.03%	5.77%	5.52%	**Deviation**
Exchange Rate (US$:LKR)	147.26	148.73	150.22	151.72	153.24	154.77	156.32	157.88	**+1**
Unemployment	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	
Worstcase Forecast 25%	2016	2017	2018	2019	2020	2021	2022	2023	**Remarks**
GDP Growth	2.18%	2.68%	2.68%	2.88%	3.08%	3.18%	3.18%	3.18%	
Inflation (YoY) (CCPI)	7.4%	7.7%	7.5%	7.4%	7.4%	7.4%	7.4%	7.4%	
Average LTV									**Std**
Interest Rate (AWPLR)	7.53%	7.87%	8.23%	8.60%	9.00%	9.40%	9.83%	10.02%	**Deviation**
Exchange Rate (US$:LKR)	168.26	175.79	183.67	191.90	200.50	209.48	218.86	252.57	**-1**
Unemployment	5.10%	5.10%	5.15%	5.15%	5.44%	5.50%	5.55%	5.55%	

EY

Individual Vs Collective

Summary of expected credit loss model: general model

Initial recognition
(with exceptions)

'Performing' 'Under-performing' 'Non-performing'

Allowance:

12-month expected credit losses **Lifetime expected credit losses**

Criterion:

The credit risk has increased significantly since initial recognition

+

Objective evidence of impairment

Interest revenue based on:

Gross carrying amount **Gross carrying amount** **Net carrying amount**

Change in credit quality since initial recognition
improvement *deterioration*

Case 4

Financial institution XYZ has 10 large corporate customers which amounts to approximately 40% of the total loan portfolio of the Financial institution.

Requirement

1. Do you require to perform Individual Impairment for these 10 customers?

2. What will happen to customers who does not have an objective evidence of impairment?

3. What will happen to customers who has objective evidence of Impairment, but no Impairment provision?

Interpretation and implementation issues in measuring expected credit losses

In practice

Reasonable and supportable information

▶ Interpreting the term 'undue cost or effort'

▶ Adjusting historical information to reflect current conditions and forecasts of future conditions (e.g., use of econometric model, base-case model, data used for budgeting and capital planning)

▶ Translating macroeconomic factors into expected credit losses

▶ Leveraging on calculation, stress testing and information used for Basel regulatory requirements

Interpretation and implementation issues in measuring expected credit losses (cont.)

In practice

Discounting

▶ Interpreting the term 'approximation' of the effective interest rate

▶ Calculating the effect of discounting

Collateral

▶ Including cash flows from the realisation of the collateral and other credit enhancements only if they are part of the contractual terms and not recognised separately

Disclosures

Objective: Enable users to understand entity's **estimate of expected credit losses** and **changes in credit risk**

► Reconciliation of opening and ending gross carrying amount and credit loss allowance or provision
  ► Financial instruments measured at 12-month ECL
  ► Financial instruments measured at lifetime ECL
  ► Financial instruments with objective evidence of impairment
  ► Credit-impaired financial assets
► Inputs, assumptions and techniques
► Collateral information
► Disaggregation by credit risk rating grades
► Write-off policy
► Assets evaluated on individual basis

Questions & Answers