The survey includes the views of 54 banks from Europe, the Middle East & Africa, Asia Pacific and the Americas. We received responses from 14 of the 29 global systemically important financial institutions (G-SIFIs) and 25 of the top 50 global banking groups measured by total assets listed in the Banker Top 1000 World Banks 2013.

Some key findings as a starter:

- **Banks require 3 years implementation time so may come under pressure even with a 2018 effective date.**
- **Increasing expectations that banks’ pricing will be affected by accounting change.**
  - 2011 – 9%
  - 2014 – 56%
- **Over half of banks surveyed believe that the expected loss approach will result in banks’ provisions increasing by up to 50% across all loan asset classes.**
- **70% of banks surveyed anticipate their IFRS 9 expected loss provision to be higher than current regulatory expected loss. However, capital planning uncertainty is set to continue as regulators’ responses to changes are not yet known.**
- **Co-ordinating multi-disciplinary effort including finance, credit, risk and IT and resource constraints cited as the key IFRS 9 Implementation challenge.**
- **56% of banks surveyed are concerned about credit data reconciliation and credit data quality.**
How much time do you require to implement the standard?

Banks require 3 years implementation time so may come under pressure even with a 2018 effective date.

Cumulative number of banks with the 3 phases implemented:
- Ready: 0
- 1 year: 6
- 2 years: 17
- 3 years: 39
- >3 years: 54

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Fourth Global IFRS Banking Survey

Assuming today’s credit environment were to apply, how is your bank’s total impairment provision likely to change on transition to IFRS 9?
Overview

The IASB has issued the final version of **IFRS 9 Financial Instruments** on 24 July 2014 – Mandatory retrospective application **2018**

- Classification and Measurement
- Impairment
- General Hedge Accounting
- Macro Hedge Accounting
- Separate project
## Overview

### Major changes introduced by IFRS 9

<table>
<thead>
<tr>
<th>Changes compared to IAS 39?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scope</td>
</tr>
<tr>
<td>Recognition &amp; derecognition</td>
</tr>
</tbody>
</table>
| **Classification and measurement of financial assets** | New model regarding the classification and measurement based on:
- The entity’s business model (portfolio perspective) and
- The contractual cash flow characteristics (CCC criterion) of the individual financial asset |
| Classification and measurement of financial liabilities | 
- No amendments regarding classification
- New requirements for the accounting of changes in the fair value of an entity’s own debt where the FVO has been applied ("own credit issue") |
| Embedded derivatives | Bifurcation of embedded derivatives needs to be assessed for hybrid contracts containing a host that is a financial liability or a host that is not an asset within the scope of IFRS 9 (hybrid contracts with a financial asset as a host contract are classified in their entirety based on the CCC criterion) |
| Amortised cost measurement | None |
| **Impairment** | Change to expected loss model |
| **Hedge Accounting (HA)** | 
- New model more closely aligns HA with risk management activities
- Accounting policy choice to apply the hedge accounting model in IAS 39 in its entirety or the accounting for portfolio fair value hedges under IAS 39 if applying IFRS 9 hedge accounting
- Separate active project on accounting for macro hedging activities (currently not part of IFRS 9) |
Classification and Measurement of Financial Assets
Classification of financial assets

Business Model

- **Held to collect** contractual cash flows
- **Held to collect** contractual cash flows and for **sale**

Contractual Cash Flow Characteristics

- **Principal**
  - Interest on the principal amount outstanding
  - Time value of money
  - Credit risk
  - Other basic lending risks or costs

- **Amortised Cost**
  - Fair Value Option (\(\Delta\) OCI)
  - Fair Value Option in case of an accounting mismatch
  - Fair Value (\(\Delta\) P&L)
  - Fair Value changes for investments in equity instruments that are not held for trading

- **Impairment**
- **Foreign exchange gains/losses**
- **(other) Fair value changes**

P&L  OCI
Business model is determined by the entity’s key management personnel (as defined in IAS 24)

A business model can typically be observed through the activities that an entity undertakes to achieve its business objective, e.g.

- Evaluation of performance of the business model and internal reporting
- Risk that affect the performance of the business model and management of those risks
- How managers are compensated (e.g. based on fair value)
Business model “Held to collect”

Objective of the business model is to hold assets in order to collect contractual cash flows.

Sales are not an integral part of the AC business model but may be consistent with it if:

- Insignificant even if frequent
- Infrequent even if significant in value
- Close to maturity
- Due to an increase in credit risk (or other reason consistent with the business model)

Regardless of whether caused internally or externally

Consequences of inconsistent sales:

- **No reclassification** without a change in business model of the existing financial assets
- **No error** according to IAS 8

- **Business model for new financial instruments may have changed**
Both collecting contractual cash flows and selling financial assets are integral to achieving the objective of the business model.

Consideration of frequency, value and reason of sales not necessary.

Typically involves greater frequency and value of sales compared to a “Held to collect“ business model.

Objective is achieved by both collecting contractual cash flows and selling financial assets.

Example liquidity portfolio:
Frequent sales to actively manage the return on the portfolio which consists of collecting contractual payments as well as gains and losses from sales.
Contractual cash flow characteristics

- **Principal**
  - Interest on the principal amount outstanding

- **Consideration for the passage of time**
  - Time value of money
  - Credit risk
  - Other basic lending risks or costs

- **Fair Value at initial recognition**

  For example:
  - Liquidity risk
  - Administrative costs
  - Profit margin
  - Etc.
Modified time value of money element

Benchmark instrument without modification

Comparison of the contractual cash flows regarding the modified time value of money element (cumulative and periodic)

Financial asset with modification

1M Euribor, reset monthly

6M Euribor, reset monthly

Significantly different

Significantly different

CCC criterion fulfilled?

X

✓

X
Interest rates set by regulatory authorities

Regulatory authority/government sets interest rates

Loan

Principal

Interest on the principal amount outstanding

Time value of money

Credit risk

Other basic lending risks or costs

Acceptable proxy for the time value of money element if it is broadly consistent with the passage of time

Financing
Prepayment and extension options

Prepayment option

Contractual cash flows are solely:
- Payments of principal
- Interest on the principal amount outstanding
- Reasonable additional compensation for early termination

Extension option

Resulting contractual cash flows:
- Principal
- Interest on the principal amount outstanding

Financial asset is acquired or originated at a premium or discount

Additional criterion:
Fair value of the prepayment feature on initial recognition is insignificant
De Minimis and Not Genuine Characteristics

**De minimis**
Characteristic has only 'de minimis' effect on the contractual cash flows

**Not genuine**
Characteristic affects the contractual cash flows only on the occurrence of an event that is extremely rare, highly abnormal and very unlikely to occur

**Characteristics which are not principal or interest**

- **Principal**
- **Interest on the principal amount outstanding**

- **Time value of money**
- **Credit risk**
- **Other basic lending risks or costs**
Is it possible to identify the underlying pool of instruments that are creating the cash flows (look through)?

Do the contractual terms of the tranche fulfill the CCC criterion?

Does the underlying pool contain at least one instrument which fulfills the CCC criterion?

Do all other instruments in the pool reduce the cash flow variability or align the cash flows of the tranche with the cash flows of the pool of underlying instruments?

Collateralization of the pool does not influence the assessment unless the entity acquired the tranche with the intention of controlling the collateral.

Is the exposure to credit risk of the tranche equal to or lower than that of the underlying pool of financial instruments?

Contractual cash flow characteristics (CCC) criterion fulfilled?

Yes
No
Reclassification

1. External or internal changes which are significant to the entity’s operations

2. Entity’s senior management changes business model

3. Reclassification of financial assets prospectively from the reclassification date

The first day of the first reporting period following the change in business model

Demonstrable to external parties
Attention Points

Classification and Measurement of Financial Assets

Critical changes (particularly for financial institutions)

Most preliminary studies are based on IFRS 9 as issued in 2010. Critical changes from there on require further amendments regarding:

- Further guidance regarding the classification to the Amortised Cost Category
- Introduction of the FVTOCI category
- Amendments regarding the CCC criterion especially regarding extension and prepayment options as well as modified time value of money elements

Sales out of the AC business model

Sales may be consistent with an AC business model if they are infrequent or insignificant in value (both individually and in aggregate). Also sales required by external parties (e.g. regulators) need to be assessed on this basis

Classification of the liquidity reserve

Depending on frequency, value and timing of sales, classification of the liquidity reserve into the FVTOCI or FVTPL category may be necessary

Modified time value of money element

Identification of instruments with relevant elements (e.g. 3-M-EURIBOR reset monthly) and operationalization of the Benchmark-Tests

Contingent prepayment options

If certain criteria are fulfilled, also contingent prepayments options may now be in line with the CCC criterion
Transition and Effective Date
Transition and Effective Date

IFRS 9 shall be applied for annual periods beginning on or after 01.01.2018 retrospectively.

Early application permitted (if EU endorsed...)

- New ‘own credit risk’ requirements can be early adopted in isolation
- No need to restate prior periods (no hindsight)
- Application of all requirements of IFRS 9 (2014)
New requirements will generally apply retrospectively…

... with some exceptions and practicability accommodations

- **Business model assessment**
  - Made on Date of Initial Application (DIA)

- **SPPI criterion assessment**
  - Based on facts & circumstances at time of initial recognition

- **Equity instruments FVTOCI**
  - Election made based on facts & circumstances at DIA

- **Fair Value Option**
  - Re-opened in some cases based on facts & circumstances at DIA
Transition – Expected loss impairment model

New requirements will generally apply retrospectively…

… with some exceptions and practicability accommodations

**Significant increase in credit risk**
- Assessed at Date of Initial Application (DIA) since date of initial recognition
- Using reasonable and supportable information available without undue cost or effort

**Not available without undue cost or effort**
- Recognise lifetime expected credit losses until derecognised
- Unless low credit risk at reporting date
Transition from IAS 39 to IFRS 9 hedge accounting

New requirements will apply prospectively…..

<table>
<thead>
<tr>
<th>Qualified hedging relationships under IAS 39 at the date of initial application</th>
<th>Qualified hedging relationships under IFRS 9 from the date of initial application</th>
<th>Transition requirements at the date of initial application</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓</td>
<td>✓</td>
<td>Continuing hedging relationships (after rebalancing on transition)</td>
</tr>
<tr>
<td>X</td>
<td>✓</td>
<td>A new hedge relationship could be documented prospectively</td>
</tr>
<tr>
<td>✓</td>
<td>X</td>
<td>Mandatory discontinuation of the hedge relationship on transition</td>
</tr>
</tbody>
</table>

With specific exceptions with regard to time value and forward elements…

But... accounting policy options when adopting IFRS 9:

- apply the IAS 39 hedge accounting requirements for Portfolio Fair Value Hedges of Interest Rate Risk (only); or
- continue to apply IAS 39 hedge accounting requirements for all hedges.
Impairment
Scope

Financial assets in the scope of IFRS 9

- Loan commitments (unless @ FVTPL)
- Financial guarantees (unless @ FVTPL)
- Lease receivables (IAS 17)
- Contract assets (IFRS 15)

Subsequent measurement ...

- FVTPL/ FVTOCI Option for certain equity instruments

AC, FVTOCI

Outside the scope of the impairment model

Within the scope of the impairment model

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Impairment Focus Areas

Multiple challenges

1. Impairment Requirements
   New general impairment model create the biggest challenge

   Change in credit risk
   - Stage 1 Initial recognition
   - Stage 2 Significant increase in credit risk
   - Stage 3 Objective Evidence of Impairment

   Loss Allowance
   - 1 year EL
   - Lifetime EL

   Interest revenue
   - Gross basis
   - Net basis

   Accounting Treatment & Disclosure
   - Expected credit loss evaluations
     - Assumptions, methodologies, inputs, techniques and policies
     - Movements between stages
     - Reconciliations
   - Credit risk profile
     - Increased granularity

2. Financial Impact
   Impairment stock anticipated to increase upon transition

   Impairment volatility also to significantly increase post transition

   Changes require early and ongoing quantitative impact assessment to:
   - Prepare communication of change to key stakeholders and
   - Inform key design choices including:
     - Model methodology
     - Stage 2 and 3 cut-offs

3. Implementation complexities
   Complex implications across multiple dimensions of the Operating Model.

   Models
   - Scoring, pricing
   - PD, LGD EAD
   - Behavioral lifetime

   Data
   - Data history
   - Operational data

   IT
   - Source systems
   - Datamarts
   - Calculators

   Controls
   - Governance
   - Model governance
   - Process controls

   Reports
   - Internal & external
   - Quantitative & qualitative

   People
   - Risk & Finance roles & responsibilities
   - Skills and resources
Expected Loss Model
General impairment model

Change of credit risk since initial recognition

- **Stage 1**: 12-month expected credit loss
  - Gross carrying amount

- **Stage 2**: Lifetime expected credit losses
  - Gross carrying amount

- **Stage 3**: Lifetime expected credit losses
  - Net carrying amount

**Objective evidence for impairment?**

**Significant increase in credit risk?**

**Initial recognition**

- **Loss allowance**
- Apply effective interest rate to ...
Impairment Requirements: Change in credit risk

Significant increase in credit risk - Transfer out of Stage 1

Relative model

- Credit risk at initial recognition
- Current credit risk

Initial recognition

Reporting date

General principles

- Comparison of lifetime PDs (not Expected loss)
- Absolute comparisons only are not appropriate. Must consider both initial credit risk and time to maturity
- Principle based approach (no precise definition of increase in credit risk)

- Consider, reasonable and supportable information that is available without undue cost or effort
  - Indicators (multifactor and holistic analysis)
  - Forward looking and past due information
  - At individual level or collectively

Definition: default

- An entity shall apply a default definition that is consistent with the definition used for internal credit risk management purposes for the relevant financial instrument
- Rebuttable presumption that default does not occur later than when a financial asset is 90 days past due

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Impairment Requirements: Change in credit risk

Significant increase in credit risk - Transfer out of Stage 1

Example indicators

- Changes in terms if the instrument would be newly originated
  
  No transfer as long as “low credit risk”

- Significant increase in credit risk on other instruments of the same borrower
  
- Changes in the entity’s credit management (e.g. watch list monitoring)

- Changes in external market indicators (e.g. credit default swaps prices for the borrower)
  
  Adverse changes in business, financial or economic conditions

- Past due information

- Downgrade of the internal or external rating

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Impairment Requirements: Change in credit risk

Significant increase in credit risk - Assumptions and approximations

Policy choice

- Low credit risk
  - e.g. investment grade

Approximation

- 12-month-PD
- Assessment on borrower level
- Consistent thresholds on portfolio level

Rebuttable assumption

- More than 30 days past due
  - Latest point of transfer to stage 2

Significant increase in credit risk?
Impairment Requirements: Change in credit risk

Significant increase in credit risk - Collective Assessment options

Transfer out of stage 1 should be identified on a timely basis with options to consider collective assessment information on portfolio or sub-portfolio level.

"Bottom up"- Approach

0
Stage 1
Stage 2

Significant increase in credit risk

"Top down"- Approach

0
Stage 1
Stage 2

Significant increase in credit risk

Transfer of a subportfolio

Transfer of a percentage
Lenders grant a concession relating to the borrower’s financial difficulty.

Breach of contract (e.g. past due or default)

Significant financial difficulty of the borrower

Probable bankruptcy or other financial reorganisation

Disappearance of an active market for that financial asset because of financial difficulties

Purchase or origination of a financial asset at a deep discount that reflects the incurred credit losses

Credit-impaired = IAS 39
Impairment Requirements: Loss Allowance

Measurement of expected credit losses (EL)

**Time value of money**
Discounted to the reporting date using the effective interest rate at initial recognition or an approximation thereof

**Information**
All reasonable and supportable information which is available without undue cost or effort including information about past events, current conditions and forecasts of future economic conditions

**Expected value**
The estimate shall always reflect:
- The possibility that a credit loss occurs
- The possibility that no credit loss occurs

**Cash shortfalls**
Shortfalls of principal and interest as well as late payment without compensation

**Level**
Measurement at individual instrument or on portfolio level

**Period**
Maximum contractual period under consideration (incl. extension options)
## Impairment Requirements: Loss Allowance

### Lifetime expected loss versus 12 month expected loss

#### A simplified example

<table>
<thead>
<tr>
<th>Bond</th>
<th>Time (years)</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>coupon</strong></td>
<td></td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td><strong>capital repayment</strong></td>
<td></td>
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<td></td>
<td>1000</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>cash flows</strong></td>
<td></td>
<td>50</td>
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<td>50</td>
<td>50</td>
<td>1050</td>
</tr>
<tr>
<td><strong>Effective interest rate</strong></td>
<td></td>
<td>5%</td>
<td>5%</td>
<td>5%</td>
<td>5%</td>
<td>5%</td>
</tr>
<tr>
<td><strong>DF (EIR)</strong></td>
<td></td>
<td>0,95</td>
<td>0,91</td>
<td>0,86</td>
<td>0,82</td>
<td>0,78</td>
</tr>
<tr>
<td><strong>EAD</strong></td>
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<td>1050</td>
<td>1050</td>
<td>1050</td>
<td>1050</td>
</tr>
<tr>
<td><strong>CDS spread</strong></td>
<td></td>
<td>0,50%</td>
<td>0,60%</td>
<td>0,70%</td>
<td>0,80%</td>
<td>0,90%</td>
</tr>
<tr>
<td><strong>LGD</strong></td>
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<td>60%</td>
<td>60%</td>
<td>60%</td>
<td>60%</td>
<td>60%</td>
</tr>
<tr>
<td><strong>Cumulative survival prob</strong></td>
<td></td>
<td>99,17%</td>
<td>98,02%</td>
<td>96,56%</td>
<td>94,81%</td>
<td>92,77%</td>
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<tr>
<td><strong>Periodic PD</strong></td>
<td></td>
<td>0,83%</td>
<td>1,15%</td>
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<tr>
<td><strong>Expected loss per period</strong></td>
<td></td>
<td>5,23</td>
<td>7,25</td>
<td>9,19</td>
<td>11,05</td>
<td>12,80</td>
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<td><strong>Expected loss per period (discounted at EIR)</strong></td>
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<td>4,98</td>
<td>6,57</td>
<td>7,94</td>
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<tr>
<td><strong>Lifetime expected Loss (discounted)</strong></td>
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<td>38,62</td>
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<td><strong>test (flat PD and constant EAD)</strong></td>
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<td>39,32</td>
<td></td>
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<tr>
<td><strong>12M expected loss</strong></td>
<td></td>
<td>4,98</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Impact can be significant
Impairment Requirements: Loss Allowance

Exemptions from the general model

- Lease receivables
- Contract assets with significant financing component
- Trade receivables with a significant financing component

- Contract assets without significant financing component
- Trade receivables without a significant financing component

Special provisions
- No loss allowance on initial recognition
- Apply a credit-adjusted effective interest rate (based on the expected cash flows at inception including expected credit losses)
Impairment Requirements: Loss Allowance

Modification of cash flows

Significant increase in credit risk

Stage 1

Stage 2

Derecognition

Stage 1

Original credit = credit risk on the date of modification

Gain/loss on derecognition

Stage 2

Initial recognition

Modification

Recalculate gross carrying amount and recognise modification gain/loss

No derecognition

Original credit risk = credit risk on initial recognition
Impairment Requirements: Accounting & Disclosure

Presentation of expected credit losses

- Financial assets @ AC
- Contract assets
- Lease receivables

- Loan commitments
- Financial guarantee contracts

Purchased or originated credit-impaired financial assets

Financial assets @ FVTOCI

Instruments written-off

Expected credit losses

- Loss allowance
- Provision (loss allowance if not separable from the drawn component)
- Credit-adjusted effective interest rate
- Other comprehensive income
- Reduction of the gross carrying amount

Expected loss at initial recognition

Change in estimate of expected losses since initial recognition

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### Presentation of our simplified example

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<tr>
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<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

#### Debit | Credit 1/01/2014
---|---
Financial Asset (AC) – B/S | 1000 | 1000
Cash – B/S | | |
Impairment loss – P/L | 4,98 | 4,98
Loss Allowance – B/S | | |
Impairment Requirements: Accounting & Disclosure

One year later: scenario 1 – increase in credit risk without full life time losses

<table>
<thead>
<tr>
<th>Bond (stress after 1 year)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Time (years)</strong></td>
</tr>
<tr>
<td>Coupon</td>
</tr>
<tr>
<td>Capital repayment</td>
</tr>
<tr>
<td>Cash flows</td>
</tr>
<tr>
<td>Effective interest rate</td>
</tr>
<tr>
<td>DF (EIR)</td>
</tr>
<tr>
<td>EAD</td>
</tr>
<tr>
<td>CDS spread</td>
</tr>
<tr>
<td>LGD</td>
</tr>
<tr>
<td>Cumulative survival prob</td>
</tr>
<tr>
<td>Periodic PD</td>
</tr>
<tr>
<td>PD*LGD</td>
</tr>
<tr>
<td>EAD</td>
</tr>
<tr>
<td>Expected loss per period</td>
</tr>
<tr>
<td>Expected loss per period (discounted at EIR)</td>
</tr>
<tr>
<td><strong>12M expected loss</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Debit</strong></th>
<th><strong>Credit</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>31/12/2014</td>
<td></td>
</tr>
<tr>
<td>Impairment loss – P/L</td>
<td>6,9 (= 11,88 - 4,98)</td>
</tr>
<tr>
<td>Loss Allowance – B/S</td>
<td></td>
</tr>
<tr>
<td>Financial Asset (AC) –B/S</td>
<td></td>
</tr>
<tr>
<td>Interest revenue – P/L</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>50</td>
</tr>
</tbody>
</table>
Impairment Requirements: Accounting & Disclosure

One year later: scenario 2 – increase in credit risk with full life time losses

<table>
<thead>
<tr>
<th>Bond (stress after 1 year)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Time (years)</strong></td>
</tr>
<tr>
<td>Coupon</td>
</tr>
<tr>
<td>Capital repayment</td>
</tr>
<tr>
<td>Cash flows</td>
</tr>
<tr>
<td>Effective interest rate</td>
</tr>
<tr>
<td>DF (EIR)</td>
</tr>
<tr>
<td>EAD</td>
</tr>
<tr>
<td>CDS spread</td>
</tr>
<tr>
<td>LGD</td>
</tr>
<tr>
<td>Cumulative survival prob</td>
</tr>
<tr>
<td>Periodic PD</td>
</tr>
<tr>
<td>PD*LGD</td>
</tr>
<tr>
<td>EAD</td>
</tr>
<tr>
<td>Expected loss per period</td>
</tr>
<tr>
<td>Expected loss per period (discounted at EIR)</td>
</tr>
<tr>
<td><strong>Lifetime expected Loss (discounted)</strong></td>
</tr>
</tbody>
</table>

Debit | Credit
--- | ---
Impairment loss – P/L | 47,81 (= 52,79 - 4,98) |
Loss Allowance – B/S | 47,81 |
Financial Asset (AC) –B/S | 50 |
Interest revenue – P/L | 50 |
Impairment Requirements: Accounting & Disclosure

The disclosures shall enable users of financial statements to understand the effect of credit risk on the amount, timing and uncertainty of future cash flows.

1. Credit risk management practices and their relation to the recognition and measurement of expected credit losses

2. Evaluation of expected credit loss amounts in the financial statements arising from

3. Credit risk profile including significant credit risk concentrations
Credit risk management practices and their relation to the recognition and measurement of expected credit losses
Evaluation of the amounts in the financial statements arising from expected credit losses

2

• Reconciliation of the loss allowance
• Reconciliation in the gross carrying amount
• Modifications
• Collateral (and other credit enhancements)
• Write-off

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## Illustrating the application of the reconciliation of the loss allowance

<table>
<thead>
<tr>
<th>Mortgage loans - loss allowance</th>
<th>Stage 1 12-month EL</th>
<th>Stage 2 (collectively assessed)</th>
<th>Stage 2 (individually assessed)</th>
<th>Stage 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Loss allowance as at 01. January</strong></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Changes due to financial instruments recognised as at 01. January:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Transfer to stage 1</td>
<td>X</td>
<td>(X)</td>
<td>(X)</td>
<td>--</td>
</tr>
<tr>
<td>- Transfer to stage 2</td>
<td>(X)</td>
<td>X</td>
<td>X</td>
<td>--</td>
</tr>
<tr>
<td>- Transfer to stage 3</td>
<td>(X)</td>
<td>--</td>
<td>(X)</td>
<td>X</td>
</tr>
<tr>
<td>- Financial assets that have been derecognised during the period</td>
<td>(X)</td>
<td>(X)</td>
<td>(X)</td>
<td>(X)</td>
</tr>
<tr>
<td>New financial assets originated or purchased</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>X</td>
</tr>
<tr>
<td>Write-off</td>
<td>--</td>
<td>--</td>
<td>(X)</td>
<td>(X)</td>
</tr>
<tr>
<td>Changes in models/risk parameters</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Foreign exchange and other movements</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td><strong>Loss allowance as at 31. December</strong></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

(IFRS 7.IG20B)
An entity’s credit risk profile including significant credit risk concentrations

Disclose by credit risk rating grade
• The gross carrying amount of financial assets
• The exposure to credit risk on loan commitments and financial guarantee contracts

Significant concentrations of credit risk by for example:
• Loan-to-value groupings
• Geographical concentrations
• Industry concentrations

Credit risk exposure
Financial Impact: Impact Assessment Process

Using a structured end-to-end process to quantify the financial impacts, understand portfolio drivers and inform senior management strategic decisions.

1. Extract and Profile
   - Define data and risk metrics
   - Extract available data
   - Assess data constraints
   - Execute data profiling

2. Visualise and Analyse
   - Illustrate portfolio risk profile
   - Analyse inter-segment variances and correlations
   - Segmented impairment analysis

3. Methodology and Statistics
   - Select methodology and assumptions e.g. stage definitions
   - Calculate IFRS 9 impairment
   - Complete “what if analysis”

4. Impact and Sensitivity
   - Calculate segmented historic risk profile
   - Create bespoke lifetime default profile
   - Overlay projected loss estimates

5. Planning and Stress Testing
   - Link to macroeconomic scenarios
   - Project provisions with IFRS 9
   - Inform Basel II stress testing

6. Implement and Report
   - Monitor ongoing impact
   - Develop data process and controls
   - Establish reporting requirements

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Financial Impact: Industry wide analysis

Our industry analysis included an impact benchmark study and Global Survey. The study showed significant increases in impairment rates under IFRS 9.

1. Our Impact Study sourced data from 15 banks and financial institutions across Europe/Canada found Retail and Specialised Lending portfolios already impaired could see a 70-100% increase.

2. The IASB fieldwork found
   - Transition impact ranges from a 20% to 250% increase
   - Stressed Impairments increased by more (up to 400%)
   - SME portfolios are expected to increase by between 0 and 50%

3. The Self assessments provided in our IFRS 9 Global Survey indicated that participants expect an increase across all portfolios, with unsecured products expected to be impacted most heavily.
Financial Impact: Volatility considerations

IFRS 9 Impairment volatility increases in our example although the volatility post transition depends on multiple design decisions

At Transition: Increase driven by status and product

<table>
<thead>
<tr>
<th>Year</th>
<th>Status</th>
<th>Stage</th>
<th>IFRS 9</th>
<th>IAS 39</th>
<th>Variance</th>
<th>IFRS 9</th>
<th>IAS 39</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>EL (£)</td>
<td>LEL (£)</td>
<td>Total (£)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>At Origination</td>
<td>1</td>
<td>5</td>
<td>38</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>Performing</td>
<td>2</td>
<td>8</td>
<td>50</td>
<td>8</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>Downgrade</td>
<td>3</td>
<td>48</td>
<td>121</td>
<td>48</td>
<td>0</td>
<td>40</td>
</tr>
<tr>
<td>4</td>
<td>Missed Payment</td>
<td>2</td>
<td>126</td>
<td>209</td>
<td>126</td>
<td>83</td>
<td>161</td>
</tr>
<tr>
<td>5</td>
<td>Default</td>
<td>3</td>
<td>600</td>
<td>600</td>
<td>600</td>
<td>0</td>
<td>391</td>
</tr>
</tbody>
</table>

P&L Impairment Charge

- IFRS 9 EL (£) 5 8 48 126 3 3 5 5 5 3 40 114 40
- IAS 39 LEL (£) 38 50 121 209 0 161 87 78
- Total (£) 43 55 169 335 5 191 84 117

Volatility: P&L movement increase is policy driven

Transition from IAS 39 to IFRS 9

1. Stage 2 migration can result in earlier recognition of increased impairment stock with “Credit deterioration” options available including:
   - Current PD (relative to risk appetite or origination)
   - Delinquency and forbearance
   - Lifetime PD changes from origination

2. Stage 1 impact for secured is limited in this example as 12 month EL is already used for performing assets

3. Assets in Stage 2 at transition will have an increased impairment stock as a full lifetime Expected Loss is used

P&L volatility post transition to IFRS 9

1. IAS 39 recognises losses later than IFRS 9 so P&L volatility is driven by migration to credit deterioration (e.g. rating downgrade) pre subsequent deterioration to default

2. All IFRS 9 options recognise loss earlier with delinquency a required Stage 2 trigger (see IFRS 9 Option 1) which will drive account level P&L movement when LEL is recognised

3. Defining credit deterioration earlier (e.g. using PD downgrade in IFRS 9 Options 2) increases P&L volatility year on year but reduces the impact at arrears

4. Variances at write off remain constant with the end cash flow position under IAS 39 and all IFRS 9 options
Financial Impact: Range of results

Leveraging our Loan Impairment Valuation Engine (LIVE), we have estimated IFRS 9 financial impacts across different model methodology and impairment choices plus assumptions to inform firm’s key design decisions.

**Transition Impact – Impairment Stock Change**

<table>
<thead>
<tr>
<th>Scenario</th>
<th>53-67%</th>
<th>67-83%</th>
<th>83-90%</th>
</tr>
</thead>
<tbody>
<tr>
<td>PD Modelling</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dynamic PD</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LGD Modelling</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant LGD</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prepayment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prepayment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 days past due (current)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 day past due (current)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No forbearance trigger</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High risk forbearance (current)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No credit risk grade trigger</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High credit risk grades, but within risk appetite</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IAS 39 estimate</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant LGD</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forward looking LGD</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Volatility Impact – Ongoing P&L Volatility**

- **High**
- **Medium**
- **Low**

**Example Mortgage Portfolio**
- 1,728 simulations generated
- Transition impact ranged from 52.5% to 90.2%
- Conservative selection of Stage 2 triggers results in higher impairment stock but also attracts lower ongoing P&L volatility due to more stable Stage 1 assets

**Other Portfolios**
- Transition impact highest for Credit Card portfolios (200-260%), Loans (85-120%) and Current Accounts (25-80%)
- Variable for Commercial portfolios
- Volatility is highest for portfolios with longer behavioural lives
Financial Impact: Accounting and capital interaction

**Standardised approach**

Any impairment loss on a loan taken to the income statements has a 1:1 impact on Core Tier 1 capital as it reduces retained earnings. However, the cumulative collective impairment provisions can be eligible to count as Tier 2 capital resources up to a “ceiling” of 1.25% of Risk Weighted Assets (RWAs) calculated under the standardised approach. An example of such impairment provisions would be those held to cover latent (incurred but not reported) losses on a pool of performing residential mortgages.

**IRB approach**

The IRB approach uses a one-year time horizon, and introduces the concept of Unexpected Loss (UL) and Expected Loss (EL) over that period. In essence, in the definition of eligible capital resources, the EL replaces the stock of accounting impairment provisions on portfolios subject to measurement on the IRB approach (as long as the EL exceeds accounting impairment). However, in scenarios where the accounting impairment stock is greater than the EL, the surplus over the EL is allowable to count as Tier 2 capital resources up to a ceiling of 0.6% of RWAs.

**Expected position under IFRS9 if no change to Basel rules**

*Basel III treatment: Scenario 1: One-year EL higher than provisions*

- One year Expected Loss Amount
- Stock of relevant provisions
- Deduction from Core Tier 1 Capital

*Basel III treatment: Scenario 2: Provisioning stock higher than one-year EL*

- One-year Expected Loss Amount
- Count as Tier 2 capital (up to a limit)
- Stock of relevant provisions

The results of our recent survey showed the following:

- 11% of participants expected impairment provision to be lower than regulatory EL
- 13% of participants expected impairment provision to be between 0-10% higher than IRB
- 9% of participants expected impairment provision to be between 10-20% higher than regulatory EL
- 7% of participants expected impairment provision to be more than 20% higher than regulatory EL
- 60% of participants do not yet know
Financial Impact: Accounting and capital interaction

Under the Standardised Approach, new capital may be required to replenish Tier 1 capital and a potential reduction in the leverage ratio.

<table>
<thead>
<tr>
<th>CRD IV Requirements</th>
<th>CRD IV Capital Impact</th>
<th>Leverage Ratio Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Common Equity Tier 1 (CET1)</td>
<td>4.5%</td>
<td>Capital position worsens in terms of capital quality, due to the ‘re-tiering’ effect</td>
</tr>
<tr>
<td>Additional Tier 1</td>
<td>1.5%</td>
<td>1. Provision stock increases upon IFRS 9 transition</td>
</tr>
<tr>
<td>Tier 2</td>
<td>2%</td>
<td>2. If new provision stock required, core Tier 1 capital reduces, but if classified as ‘collective’ can be counted as Tier 2 capital (‘re-tiering effect’)</td>
</tr>
<tr>
<td>Capital Conservation Buffer</td>
<td>2.5%</td>
<td>3. Tier 1 capital and exposure reduce equally and therefore the leverage ratio will decrease</td>
</tr>
<tr>
<td>Counter-cyclical Capital Buffer</td>
<td>0-2.5%*</td>
<td></td>
</tr>
</tbody>
</table>

* Upper bound may increase further on supervisor discretion

Tier 1 Capital

Gross Exposure

- Tier 1 Capital

- Tier 2 Capital

- Provision stock

Leverage ratio declines

Net Exposure

- Tier 1 Capital

- Provision stock deduction

- Provision stock increase upon IFRS 9 transition

- Tier 1 capital and exposure reduce equally and therefore the leverage ratio will decrease

- The change in Tier 2 would be $\Delta$Provision assuming the 1.25% RWA cap on Provisions counting towards Tier 2 capital is not modified or exceeded

- Collective provisions on standardised portfolios that are freely and fully available, can be counted as Tier 2 capital (limited to 1.25 % of RWAs)

- Specific provision reduce the asset balance and associated risk weighted assets. However, if the loan is 3 months past due and provision covers less than 20% of net exposure, risk weights on 'un-provisioned' balance increases

- At transition to IFRS 9, some capital instruments will be reallocated from Tier 1 to Provision Fund Tier 2 which may require new Tier 1 capital instruments to replenish
**Financial Impact: Accounting and capital interaction**

Under the Internal Ratings Based (IRB) Approach, the excess expected loss absorbs any potential capital impact, unless it is fully eroded in a downturn.

<table>
<thead>
<tr>
<th>CRD IV Requirements</th>
<th>CRD IV Capital Impact</th>
<th>Leverage Ratio Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Common Equity Tier 1 (CET1)</td>
<td>4.5%</td>
<td>Capital position remains unchanged / improves in downturn</td>
</tr>
<tr>
<td>Additional Tier 1</td>
<td>1.5%</td>
<td>1. Provision stock increases upon IFRS 9 transition</td>
</tr>
<tr>
<td>Tier 2</td>
<td>2%</td>
<td>2. IRB EL unchanged as it is uses gross exposures (assuming the additional provisions do not trigger an IRB default)</td>
</tr>
<tr>
<td>Capital Conservation Buffer</td>
<td>2.5%</td>
<td>3. Provision shortfall and Tier 1 capital reduction cancel out</td>
</tr>
<tr>
<td>Counter-cyclical Capital Buffer</td>
<td>0-2.5%*</td>
<td>4. Tier 2 capital increases if a provision surplus exists</td>
</tr>
</tbody>
</table>

* Upper bound may increase further on supervisor discretion

| Tier 1 Capital Exposure | 3% |

**If provision stock < IRB EL – Provision Shortfall**
- Mortgage focused IRB banks have substantial provision shortfall, resulting in a capital deduction. It is likely, that under the current macroeconomic outlook, this shortfall will decrease but remain a capital deduction.

**If provision stock > IRB EL – Provision Surplus**
- In an economic downturn, IFRS 9 provision stock could exceed the IRB EL
- CRD IV only covers the possibility of accounting for a provision shortfall but does not specify the requirements for provision surplus
- EEL difference can be added back to Tier 2 Capital (limited to 0.6% RWA: GENPRU) resulting in stronger Tier 2 capital but not impacting leverage ratio
Implementation Complexities: Firm-wide Impact

IFRS 9 creates wider challenges for organisations beyond the direct, quantifiable impact on impairment and P&L with indirect but material impacts on a wide range of factors contributing to shareholder value.

Risk adjusted pricing
Risk and Finance operating model efficiency
• People
• Processes
• Data & systems
• Policies
• Models
• MI & Reporting

Pillar 1 and 2A capital requirements
Pillar 2B capital planning buffer for drawn down in a stress
Basel 3 Tier 1 and Tier 2 capital instruments and leverage ratio
P&L impact of IFRS 9 provisioning, including on-going volatility
Balance sheet impact of IFRS 9 provisioning, including step change upon introduction

IFRS 9

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Implementation Complexities: Timeline

The Study Phase is a starting point of the IFRS 9 journey and should focus on understanding the IFRS 9 financial and operational implications, with outcomes being key inputs to the design and build planning phase.

Most banks believe that three years is the necessary lead time for all phases of IFRS 9. Typically banks are implementing the components of IFRS 9 as a related set of work streams, particularly as the judgments made for classification and measurement purposes will determine whether instruments are held at fair value or amortized cost, and hence which financial instruments will be subject to impairment testing.
Implementation Complexities: LEL Model Options

Forward looking lifetime expected loss impairment models will introduce operational complexity across risk and finance with specific challenges for firms offering multiple credit products:

\[ \sum_{k=1}^{t} \frac{EAD_k \cdot LGD_k \cdot SR_{k-1} \cdot PD_k}{(1 + r)^k} \]

<table>
<thead>
<tr>
<th>Component Metric</th>
<th>Modelling Options</th>
<th>Portfolio priorities (varies per jurisdiction)</th>
<th>Macroeconomic Adjustments</th>
<th>Modelling Risks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Probability of Default (PD)</td>
<td>Constant: Extrapolate long run IRB PD output minus SR</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Risk tree: Calibrate Hazard function per risk segment</td>
<td></td>
<td></td>
<td>High / Medium / Low</td>
</tr>
<tr>
<td></td>
<td>Regression: Develop “default in ever” scorecard</td>
<td></td>
<td></td>
<td>Build Complexity</td>
</tr>
<tr>
<td></td>
<td>Migration Matrix: Create Markov Chain per grade</td>
<td></td>
<td></td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>Market implied: Extrapolate data e.g. CDS spreads</td>
<td></td>
<td></td>
<td>Accuracy</td>
</tr>
<tr>
<td></td>
<td>Simulation: Monte Carlo default distribution estimate</td>
<td></td>
<td></td>
<td>High</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Volatility</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Poor</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Usability</td>
</tr>
<tr>
<td>Loss Given Default (LGD)</td>
<td>Constant: Recalculate downturn output to PIT result</td>
<td></td>
<td></td>
<td>High / Medium / Low</td>
</tr>
<tr>
<td></td>
<td>Risk tree: Calibrate average loss risk per risk segment</td>
<td></td>
<td></td>
<td>Build Complexity</td>
</tr>
<tr>
<td></td>
<td>Regression: Develop “average loss in ever” scorecard</td>
<td></td>
<td></td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>Simulation: Monte Carlo loss distribution estimate</td>
<td></td>
<td></td>
<td>Accuracy</td>
</tr>
<tr>
<td>Exposure at Default (EAD)</td>
<td>Constant: Recalculate downturn output to PIT CCF</td>
<td></td>
<td></td>
<td>High / Medium / Low</td>
</tr>
<tr>
<td></td>
<td>Best Estimate: Project most likely repayment profile</td>
<td></td>
<td></td>
<td>Build Complexity</td>
</tr>
<tr>
<td></td>
<td>Regression: Develop “average in ever” scorecard</td>
<td></td>
<td></td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>Simulation: Monte Carlo balance distribution estimate</td>
<td></td>
<td></td>
<td>Accuracy</td>
</tr>
</tbody>
</table>

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Implementation Complexities: Detailed Approach

Outlined below is an example of a study approach for assessing the operational model against the IFRS 9 Impairment rules, split into seven work packages that span functional capabilities and operating model layers impacted by IFRS 9.

### Study Approach

Potential options are defined in the beginning of the Study Phase and evaluated against various criteria.

**Project Costs**

- £m or FTE
  - Project investment to achieve IFRS 9 compliance and / or streamlining benefits.

**Project Risks**

- Delivery risks associated with the selected option, with a potential adverse.

**Qualitative Benefits**

- Qualitative benefits are associated per TOM dimensions and include non-monetary factors.

**Quantitative Benefits**

- £m
  - Quantitative benefits arise from cost savings:
    - Regulatory costs
    - FTE & 3rd party costs

### 5-year Return

\[ \text{5-year Return} = \text{£m} - \text{Project Costs} + \text{Quantitative Benefits} \]

Study approaches for each IFRS9 component are designed to align with selected option and meet firm principles as illustrated below.
Implementation Complexities: Balancing Priorities

Designing an IFRS 9 programme which addresses business requirements requires clear communication and management of multiple stakeholders.

Setting a Balanced Approach

The IFRS 9 design needs to meet a number of – sometimes conflicting – requirements.

- Internal focus
- Market insight
- Global
- Regional
- Complexity
- Clarity
- Accuracy
- Timeliness
- Precision
- Low volatility

Managing Stakeholders

There is a wide range of stakeholders affected by the IFRS 9 implementation approach, as well as the business-wide impact.

- SEC and listing authorities
- Banking regulators
- Shareholders
- Management
- External auditors
- Rating agencies
- Customers
Transition and Effective Date
New ‘own credit risk’ requirements can be early adopted in isolation

No need to restate prior periods (no hindsight)

Application of all requirements of IFRS 9 (2014)

Transition and Effective Date

IFRS 9 shall be applied for annual periods beginning on or after

01.01.2018 retrospectively

Early application permitted (if EU endorsed...)

• New ‘own credit risk’ requirements can be early adopted in isolation
Transition – Expected loss impairment model

New requirements will generally apply retrospectively…

… with some exceptions and practicability accommodations

Significant increase in credit risk

- Assessed at Date of Initial Application (DIA) since date of initial recognition
- Using reasonable and supportable information available without undue cost or effort

Not available without undue cost or effort

- Recognise lifetime expected credit losses until derecognised
- Unless low credit risk at reporting date
General Hedge Accounting
Project Overview

Starting Point: IAS 39 (Portfolio Fair Value Hedge in particular)

Since 2008/09

Discussions on IFRS 9 Phase 3 Hedge Accounting

November 2013

Finalisation of IFRS 9 Phase 3 General Hedge Accounting

Can be applied until macro hedges project is finished

September 2010

Macro Hedge Accounting

No longer part of the IFRS 9 project – discussed as separate agenda project

April 2014

Publication of DP/2014/1

Accounting for Dynamic Risk Management: a Portfolio Revaluation Approach to Macro Hedging

October 2014

Evaluation of comments received and articulation of next steps

For discussion purposes only, no requirements yet!
Transition from Hedge Accounting Requirements under IAS 39 to IFRS 9 Financial Instruments

Key elements that have not changed…

- Applying hedge accounting remains a choice
- No change in mechanics of fair value, cash flow and net investment hedge *
- No change to the requirement to measure and recognise ineffectiveness
- Most written options continue to be prohibited as hedging instruments

* Except for fair value hedges of equity instruments for which the OCI option has been exercised
Transition from IAS 39 to IFRS 9 hedge accounting

Key changes introduced by IFRS 9

- **Hedging Instrument**
  - Non-derivatives at FVTPL
  - Time value / Forward element
  - Foreign currency basis

- **Hedged Item**
  - Separate risk components
  - Groups of items, including net positions
  - Aggregate exposures

- **Designate and document**
  - Cash flow hedge
  - Fair value hedge
  - Net investment hedge

- **Effectiveness assessment**
  - No more 80-125% test
  - Only prospective

- **Ineffectiveness measurement**
  - "Mechanics" (a/c entries)

- **Disclosures**
  - More disclosures
IFRS 9 hedge accounting

Accounting for the “cost of hedging”

Time value of Option contracts

Exclude time value from designation of the hedging instrument and account separately?

Yes

Aligned *
Residual

Deferred in OCI

P&L

No

Entire value subject to mechanics of FV hedge, CF hedge & Net Investment hedge

Forward element of Forward contracts and Foreign currency basis

Exclude forward element from designation of the hedging instrument and account separately?

Yes

Aligned *
Residual

Deferred in OCI

P&L

No

CoH

FVTPL

Account excluded element at FVTPL, or as ‘cost of hedging’?

* The aligned time value / forward element is that of a purchased option / forward contract with critical terms that perfectly match the hedged item.

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IFRS 9 hedge accounting

Accounting for the ‘cost of hedging’ (cont’d)

**Accounting**

- Time value / Forward element = cost of hedging
  - Subsequent FV changes → OCI

**Reclassification**

- Does the time value / forward element relate to a transaction related hedged item or to a time-period related hedged item?

  **“Transaction related”**
  - Non-financial asset/liability
  - Other e.g., financial asset/liability

  **Cumulative changes in FV → AOCI**

  - Upon transaction occurrence reclassify and adjust carrying amount of hedged item (basis adjustment)

  **“Time-period related”**

  - Amortise to P/L on rational basis over term of hedging relationship
  - Upon transaction occurrence reclassify and recognise in P/L in sync with hedged item

Forward contracts - Accounting policy choice for each hedging relationship

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Qualifying hedged items
Risk components of non-financial items

Under IAS 39

- Non-financial hedged item
  - Crude oil
  - Crude/Fuel oil spread
  - Transport charges
  - Hedging instrument

Under IFRS 9

- Non-financial hedged item
  - Crude oil
  - Crude/Fuel oil spread
  - Transport charges
  - Crude oil forward

Risk components of non-financial items

ONLY ELIGIBLE IF

Separately identifiable

Reliably measurable

Expert
Qualifying hedged items

Aggregated exposure

Example: On 01/01/19, Entity A (functional currency €) wants to hedge highly probable forecast interest expense in $.

<table>
<thead>
<tr>
<th>Two risk exposures</th>
<th>Features</th>
<th>Hedged item</th>
<th>Hedging instrument</th>
</tr>
</thead>
<tbody>
<tr>
<td>CF $ interest rate and FX risk</td>
<td>Designation on 01/01/19 with the term ending 31/12/2021</td>
<td>Forecast $ variable interest payments</td>
<td>CCIRS (pay fixed € /receive variable $)</td>
</tr>
<tr>
<td>FV interest rate risk</td>
<td>Designation on 01/01/20 with the term ending 31/12/2021</td>
<td>Aggregated exposure</td>
<td>IRS (pay variable € /receive fixed €)</td>
</tr>
</tbody>
</table>

Forecast fixed interest payments in €
**Hedge effectiveness requirements**

**Three-part test**

1. **Economic relationship**
   - Values of hedged item and hedging instrument generally move in opposite direction
   - Qualitative vs quantitative assessment (ineffectiveness still measured)
   - Prospective test only

2. **Credit risk does not dominate**
   - Credit risk can negate economic relationship
   - Both own credit and counterparty credit
   - Consider both hedged item and hedging instrument

3. **Hedge ratio**
   - Generally the actual ratio
   - Cannot create ineffectiveness inconsistent with the purpose of hedge accounting
   - Rebalancing of hedge ratio may be required
IFRS 9 hedge accounting – Impact

### Impact on Entities

<table>
<thead>
<tr>
<th>Impact</th>
<th>No impact</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>More types of hedge relationships qualifying for hedge accounting, for example:</td>
<td>• Entities which apply macro-hedging</td>
<td>Financial institutions managing interest risk and applying hedge accounting on portfolio basis</td>
</tr>
<tr>
<td>• Hedge of specific risk components</td>
<td>• Entities which apply straightforward hedge accounting</td>
<td>Treasury centers which enter into plain vanilla IRS that perform direct swap of interest rates</td>
</tr>
<tr>
<td>• 80-125% bright line removed</td>
<td>• Entities where costs of hedge accounting still exceed benefits</td>
<td>Burden of hedge documentation</td>
</tr>
<tr>
<td>• Potentially less P&amp;L volatility when hedging with options and forward contracts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Hedge of aggregate exposures</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

More disclosures!
Transition and Effective Date
IFRS 9 shall be applied for annual periods beginning on or after 01.01.2018 retrospectively.

- No need to restate prior periods (no hindsight)
- Application of all requirements of IFRS 9 (2014)

Early application permitted (if EU endorsed...)

- New ‘own credit risk’ requirements can be early adopted in isolation
## Transition from IAS 39 to IFRS 9 hedge accounting

New requirements will apply prospectively.....

<table>
<thead>
<tr>
<th>Qualified hedging relationships under IAS 39 at the date of initial application</th>
<th>Qualified hedging relationships under IFRS 9 from the date of initial application</th>
<th>Transition requirements at the date of initial application</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓</td>
<td>✓</td>
<td>Continuing hedging relationships (after rebalancing on transition)</td>
</tr>
<tr>
<td>X</td>
<td>✓</td>
<td>A new hedge relationship could be documented prospectively</td>
</tr>
<tr>
<td>✓</td>
<td>X</td>
<td>Mandatory discontinuation of the hedge relationship on transition</td>
</tr>
</tbody>
</table>

With specific exceptions with regard to time value and forward elements...

But... accounting policy options when adopting IFRS 9:

- apply the IAS 39 hedge accounting requirements for Portfolio Fair Value Hedges of Interest Rate Risk (only); or
- continue to apply IAS 39 hedge accounting requirements for all hedges.
IFRS9
Implementation challenges

Arno De Groote
Enterprise Risk Services
What are your biggest concerns about using credit risk data & systems for financial reporting purposes?

Source: the 4th Banking Survey
Will data management really be a challenge?

56% of banks surveyed are concerned about credit data reconciliation and credit data quality.
Data and systems

The calculation of impairments under IFRS 9 will incorporate historical, current and supportable forecast information. This will require the involvement from various divisions within the organization.

Past Experience: Borrower, segmentation and other risk characteristics

Prepayment information, Cash flow information (past due, other), specific contract characteristics,…

Forward looking information (economic outlook), additional client and market information

Risk data

Treasury and Finance data

Other data

Collated dataset from which to produce reporting

Although IFRS 9 states that major system enhancements are not envisioned as part of new rules, the changed rules, as well as a change in MI requirements, do need to be considered
It’s a messy world of data out there...

Common myths:

• We do not have data quality issues

• Informal data change control processes work

• We know our customers, the products we sell to them and our operating metrics

• IT is responsible for our data so we let them handle it

• We have so many compliance programs in place we must therefore be governing data

Data complexity is often underestimated!
Credit data is no exception........
Will data management really be a challenge in order to reach IFRS9?

- Variety of legacy systems
- Some information kept up to date in spreadsheets
- Multiple credit products across multiple jurisdictions
- Inability to link borrower information across multiple systems

- Manual adjustments are performed
- Process is highly decentralized and involve many EUC tools
- Data quality checks are performed but on an informal basis
- Difficult to reconcile data extracted from different sources

- Credit risk information previously used only for internal purposes supports financial reporting
- Traceability is not an automated functionality

Data sources: Internal & external datasets required for calculation and reporting
Collection: Collect and transform the data; Quality control, correction and validation
Preparation: Valuation engines, IFRS treatment, IFRS calculations
Calculation: IFRS accounting Analysis and validation of results
Reporting: Internal and external reporting; Validation of the results; Public disclosure

Operations and monitoring
Data archiving
- Data is not stored in consistent sets
- Reconciliation between risk and finance, and reuse of data (single version of the truth)
Deep dive on some data management challenges
Key elements to achieve superior Data Quality

- **Governance**: Establish an organizational model and a framework of policies, processes, and enabling technologies to ensure that data is owned and stewarded accurately and consistently to meet business goals.

- **Processes**: Establishes processes and procedures to appropriately diagnose data quality issues, remediate them and monitor the data quality to keep it evergreen.

- **Systems**: Identify and define architectural components that provide a framework to facilitate storage, integration, usage, access, and delivery of data assets across the enterprise.

- **Data**: Standardization, by designing and implementing a centralized repository of business rules, data standards, and data definitions that is referenced across the enterprise.

Operating model

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Any standards from a regulatory point of view?

Insurance undertakings

Solvency II requirements for data quality (technical provisions / internal model)

Illustration of some requirements:

• Establish **policies** on data quality

• Compile a **directory of any data used** to operate, validate and develop the internal model

• Specify in detail the **data source, its characteristics and usage**

• Describe **databases**, that is data items, construction info, external and internal interfaces, processes used to obtain and load data

• Implement processes, procedures and responsibilities to ensure the **appropriateness, completeness and accuracy** of data.

• Assess and **monitor the quality** of the data

• **Correct** any material data quality issue identified

Banking institutions

BCBS 239 (Effective Risk Data Aggregation and Risk Reporting) defines eleven principles that banking institutions should follow

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Metadata Management

What does Metadata Management stands for?

- Metadata is **information about data** providing a context for those business data.
- Metadata management is the organization of metadata with the aim to **improve sharing, retrieving and understanding** of enterprise information assets.

**What Metadata Management is used for**

- Metadata management is the **vehicle for inventorying and managing** the business data assets.
- It **establishes awareness and understanding** of the data architecture and IT assets (e.g. applications, software) provided by various data and application environments.
- It also **enables effective administration, change control, and distribution** of information about a client’s information technology environment.
- It **tracks and identifies** events and changes which occur during data processing and determines their origin.

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Metadata Management

What does Metadata Management stand for?

Illustration

- Containing information allowing to identify and locate precisely the given Data Item
- Fields describing what the Data Item is (name, format, etc.) and what it contains
- Defining the accountability and responsibility over the Data Item
- Describing the Data Quality Indicators on Key Data Items

Link Finance and Risk data together in order to improve the Single Customer View across the organisation
Data Governance

What does Data Governance stands for?

Data Governance defines the organization, roles and mandates that govern decision making and ownership of data management within the organization. The objective of the data governance is to ensure that data is owned and stewarded accurately and consistently to meet business goals.

What Data Governance is used for

- Guaranty that important data assets are **formally managed** throughout the enterprise.
- Ensure that data can be trusted and that people can be made accountable for any adverse event that happens because of low data quality.
- Put people in charge of fixing and preventing issues with data so that the enterprise can become more efficient.
- Support processes which are used to provide information that can be used by the whole company.

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Data Governance

Typical roles

Re-think the organisation design in order to define roles and responsibilities under IFRS 9 and facilitate cooperation between Finance and Risk.
# Data Governance

Illustration of the roles in a data management process

## Who does what in the data quality process?

<table>
<thead>
<tr>
<th>Role</th>
<th>Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Senior function</strong></td>
<td>• Supports the organization to communicate and promote the governance</td>
</tr>
<tr>
<td></td>
<td>• Set standards</td>
</tr>
<tr>
<td></td>
<td>• Holds ultimate responsibility for data quality and signs off on the overall level</td>
</tr>
<tr>
<td><strong>Data Steward</strong></td>
<td>• Handles the data files</td>
</tr>
<tr>
<td></td>
<td>• Produces dashboards and controls the quality</td>
</tr>
<tr>
<td></td>
<td>• Maintains the data dictionary</td>
</tr>
<tr>
<td></td>
<td>• Fix issues</td>
</tr>
<tr>
<td><strong>Data Owner</strong></td>
<td>• Controls dashboards</td>
</tr>
<tr>
<td></td>
<td>• Approves data directory updates</td>
</tr>
<tr>
<td></td>
<td>• Can initiate data cleaning actions</td>
</tr>
<tr>
<td></td>
<td>• Sign off on data set or domain level</td>
</tr>
<tr>
<td><strong>Data Custodian</strong></td>
<td>• Stores, retains and disposes data as per requirements.</td>
</tr>
<tr>
<td></td>
<td>• Designs technical infrastructure to meet requirements (i.e. data architecture)</td>
</tr>
<tr>
<td></td>
<td>• Analyses impacts of changes to existing data sources, information architecture, security, etc.</td>
</tr>
<tr>
<td><strong>DQ Officer</strong></td>
<td>• Coordinates the global effort to install and maintain the governance</td>
</tr>
<tr>
<td></td>
<td>• May challenge controls and results</td>
</tr>
</tbody>
</table>
Data Quality Management

What is Data Quality?

The aim of Data Quality Management is to support the predictability of results and reports produced by the IFRS9 process by assuming quality of input data.

What Data Quality Management is used for:

- Data Quality refers to the **degree of excellence** of data used for a specific business need,
- Data Quality represents the state of **completeness, appropriateness and accuracy** of data for a specific use. Additional indicators are e.g. integrity, timeliness, validity, accessibility.
- Data Quality management also refers the **processes and technologies** involved in ensuring the conformance of data values to business requirements and acceptance criteria.

Need to establish policies and define indicators to assess the quality of data.
Data Quality Management

What is Data Quality?

Illustration of definitions; basis to define Data Quality Indicators

**Accuracy**

Accuracy means that a high level of confidence can be placed on the data. Data is considered to be **accurate** if it is free from material mistakes, errors and omissions; the recording of information is adequate, performed in a timely manner and is kept consistent over time.

Example:

- Age at entry is a numerical value between 0 and 120
- Variation of averages or totals (e.g. sum assured, duration in force, reserve, premium, etc.) per LoB/sub-portfolio within threshold

**Completeness**

Data is considered to be **complete** if it has sufficient granularity to allow the identification of trends and the full understanding of the behavior of the underlying risks or financials. **All material information** shall be taken into account and reflected in the data set.

Example:

- For all concerned data, one year of complete historical information more than last year (without merger impact or transfers between LOBs at a point in time)

**Appropriateness**

Data is considered to be **appropriate** if it is suitable for the intended purpose and relevant to the portfolio of risks being analyzed (i.e. directly relates to the underlying risk drivers).

Example:

- All fields are defined as mandatory or optional
- New products have been taken into account in the data dictionary and all relevant fields are defined: validated by expert
Data Quality Management
Measuring Data Quality in a 4-step-framework

<table>
<thead>
<tr>
<th>Pre-requisite</th>
<th>Elementary controls</th>
<th>Complex controls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 1: Data Definition</td>
<td>Ensures that the data is free from error before starting the IFRS9 calculations. Is done just after collecting the data and before the execution of any transformation.</td>
<td>Level 4: Data Reasonableness</td>
</tr>
<tr>
<td>Ensure that the data is clearly defined. Is a periodic review.</td>
<td>Control that all mandatory fields are filled in.</td>
<td>Identify deviations from expected values based on expectations and reconcile data with other sources.</td>
</tr>
<tr>
<td>Compare Data Directory with model data needs The granularity of the data attribute must be specified and validated by an expert.</td>
<td>Verify that the field has an acceptable value, the right format and range of values.</td>
<td></td>
</tr>
</tbody>
</table>

Data Quality Indicators are then aggregated to report data quality in scorecards by e.g. data set, legal entity, …
Are your processes optimized, robust and controlled?

- Mainly manual with high risk of mistake
- Origin of data sometimes unknown
- Undocumented

- Streamlined and automated
- Controlled and traceable
- Documented

Minimise costs by pursuing opportunities to streamline existing capital and impairment processes as part of the IFRS 9 design and build

Maximize benefits by relying on existing capital and impairment processes to reduce the incremental cost of introducing IFRS 9 in the organisation’s target operating model
What about your Data Quality Architecture?

Key considerations:

- **DATA COLLECTION**: How to establish a link (data flow) between the physical data running through the processes and the DQIs documented in the Data Directory?

- **DQI CALCULATION**: Where can we automate the measurement of DQIs? Where should DQI results be stored? How to ensure traceability?

- **DQI REPORTING**: How will dashboarding be organised on data set level? How to report consolidated results?
Your speakers
## Contact details

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Tel:</th>
<th>Mobile:</th>
<th>E-mail</th>
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</thead>
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</tr>
</tbody>
</table>
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