Deloitte.

IFRS 9: Financial Instruments

Overview of the new requirements

November 2014

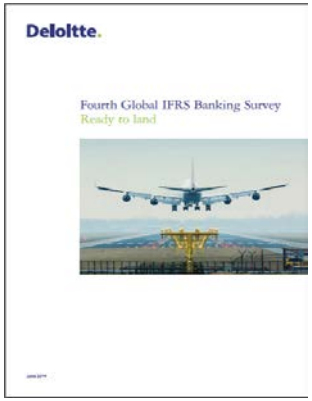
Fourth Global IFRS Banking Survey

Some key findings as a starter

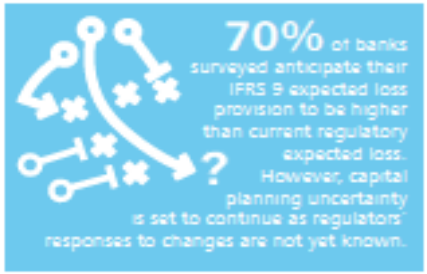
About the survey

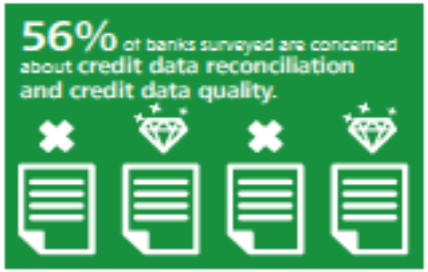
The survey includes the views of 54 banks from Europe, the Middle East & Africa, Asia Pacific and the Americas.

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*.



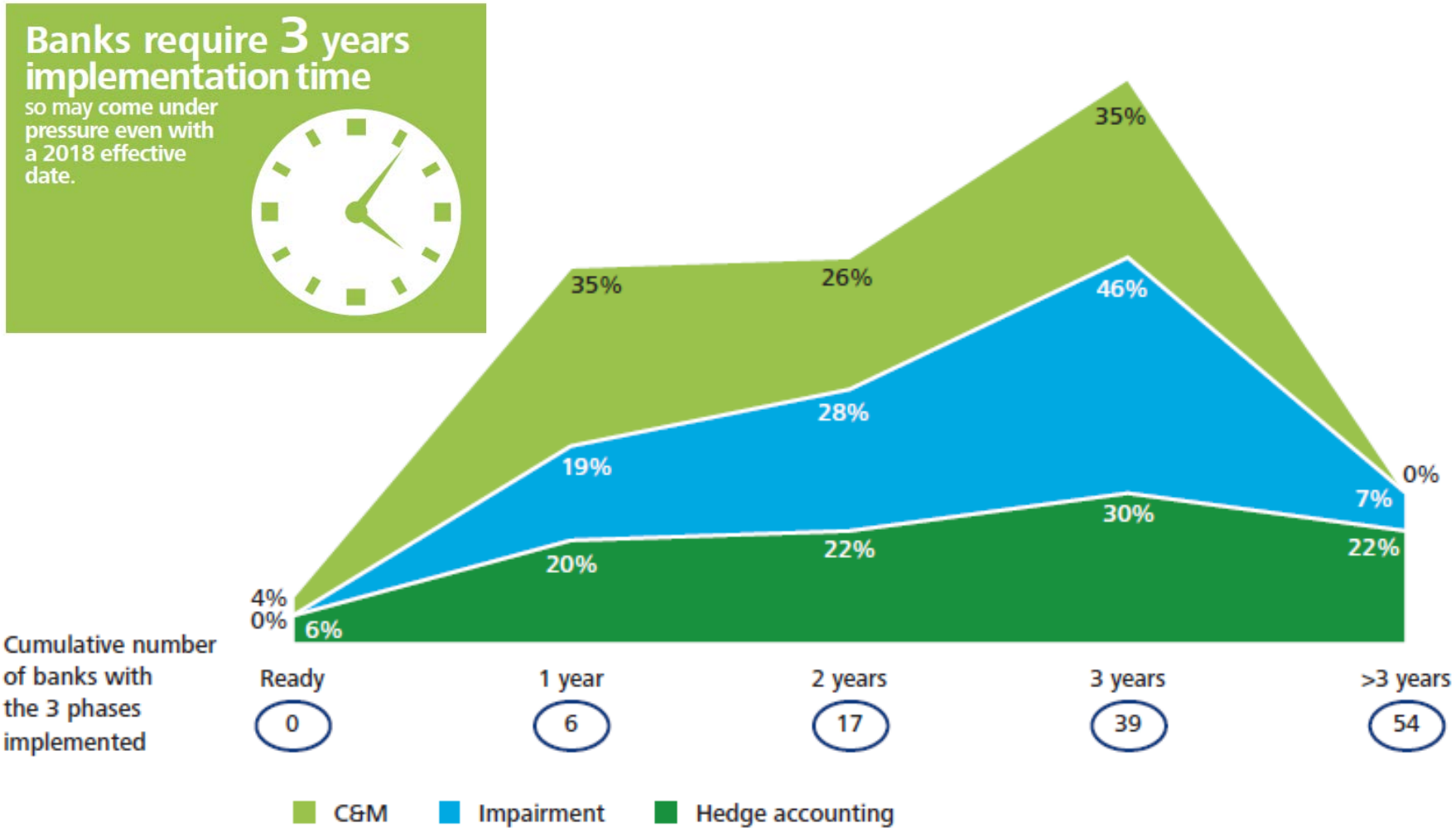
Key survey findings





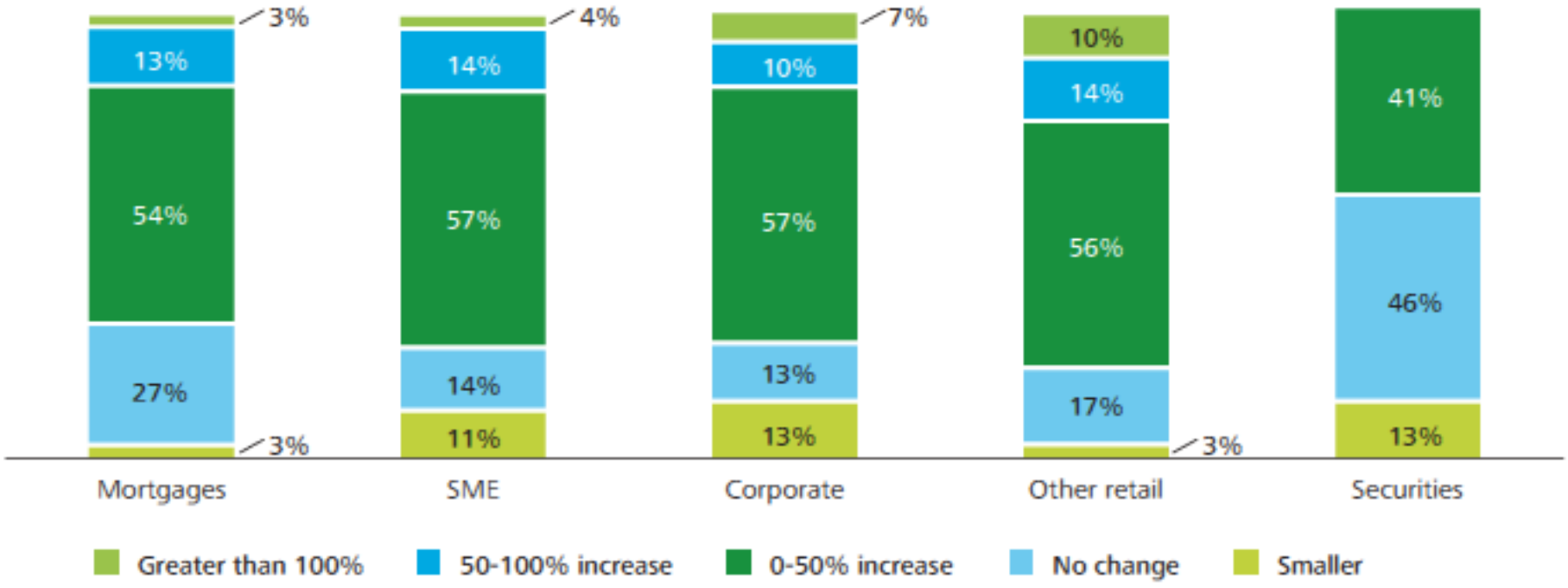
Fourth Global IFRS Banking Survey

How much time do you require to implement the standard?



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

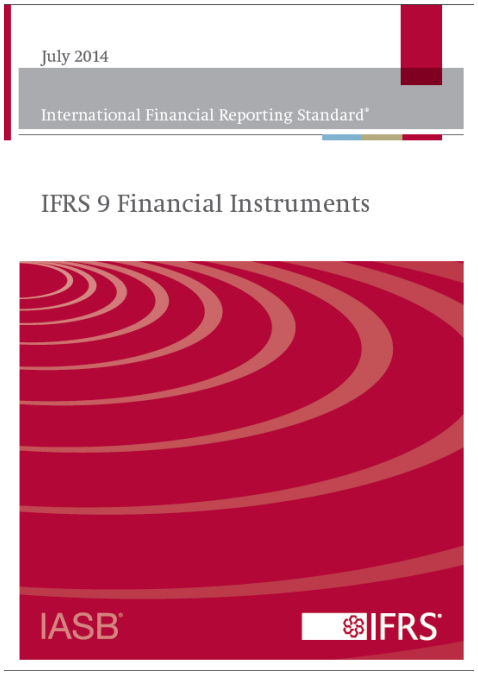
The IASB has issued the final version of **IFRS 9 Financial Instruments** on 24 July 2014 – Mandatory retrospective application **2018**

Classification and Measurement

Impairment

General Hedge Accounting

Macro Hedge Accounting



Separate project

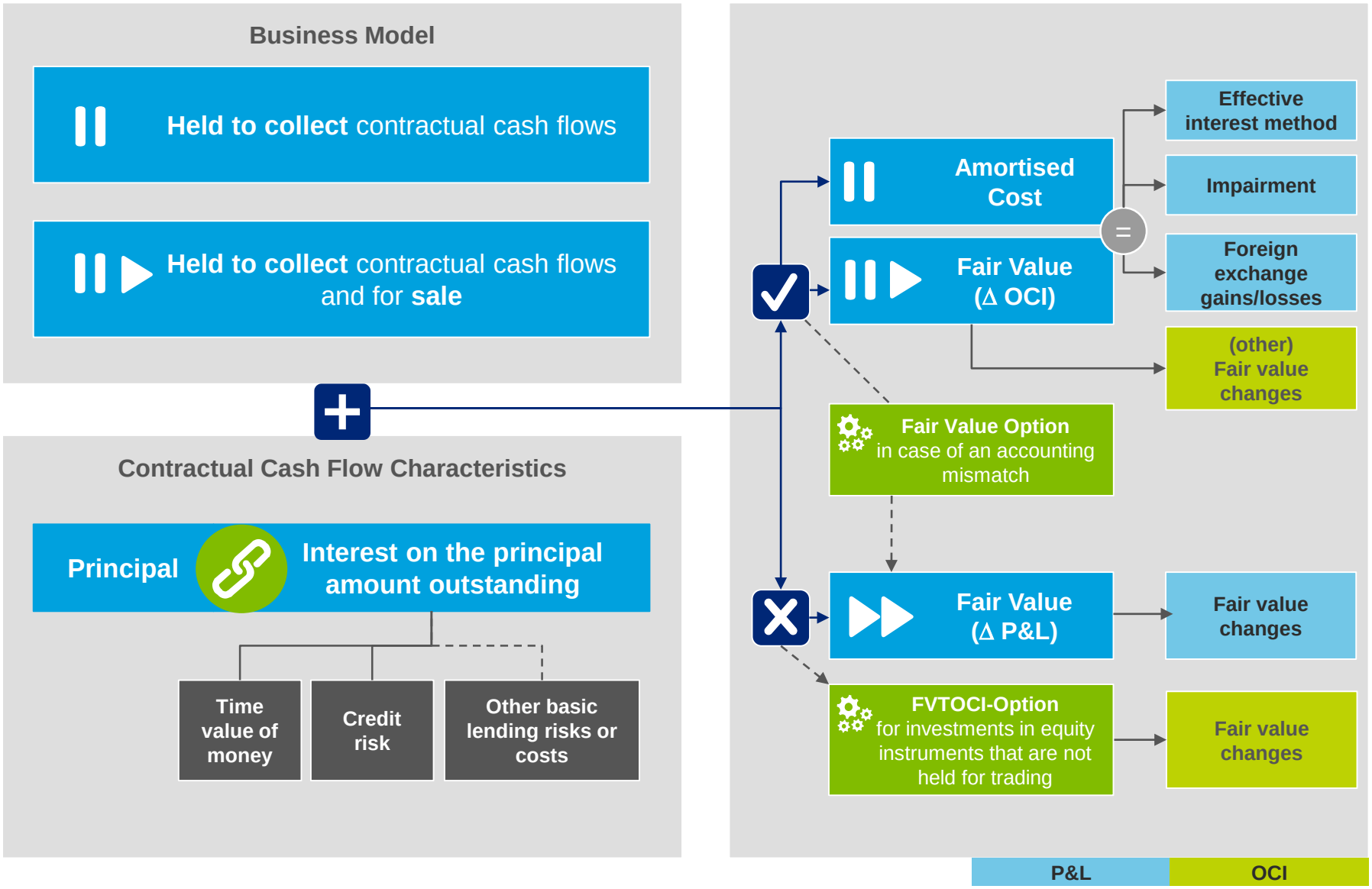
Overview

Major changes introduced by IFRS 9

	Changes compared to IAS 39?
Scope	None
Recognition & derecognition	None
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

Business model is determined by the entity‘s *key management personnel* (as defined in IAS 24)

Management of groups of financial assets to achieve a particular business model

Business model assessment according to IFRS 9

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

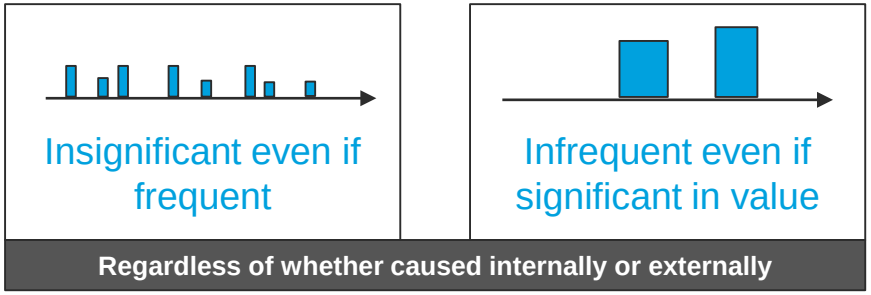
- Evaluation of performance of the business model and internal reporting
- Risk that affect the performance of the business model and management of those risks
- How managers are compensated (e.g. based on fair value)

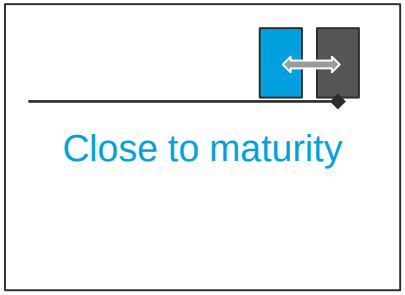
Business model “Held to collect”

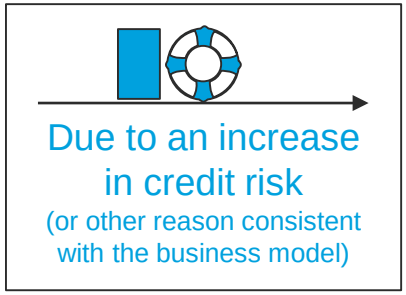
Objective of the business model is

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:







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

Business model “Held to collect and sell”

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

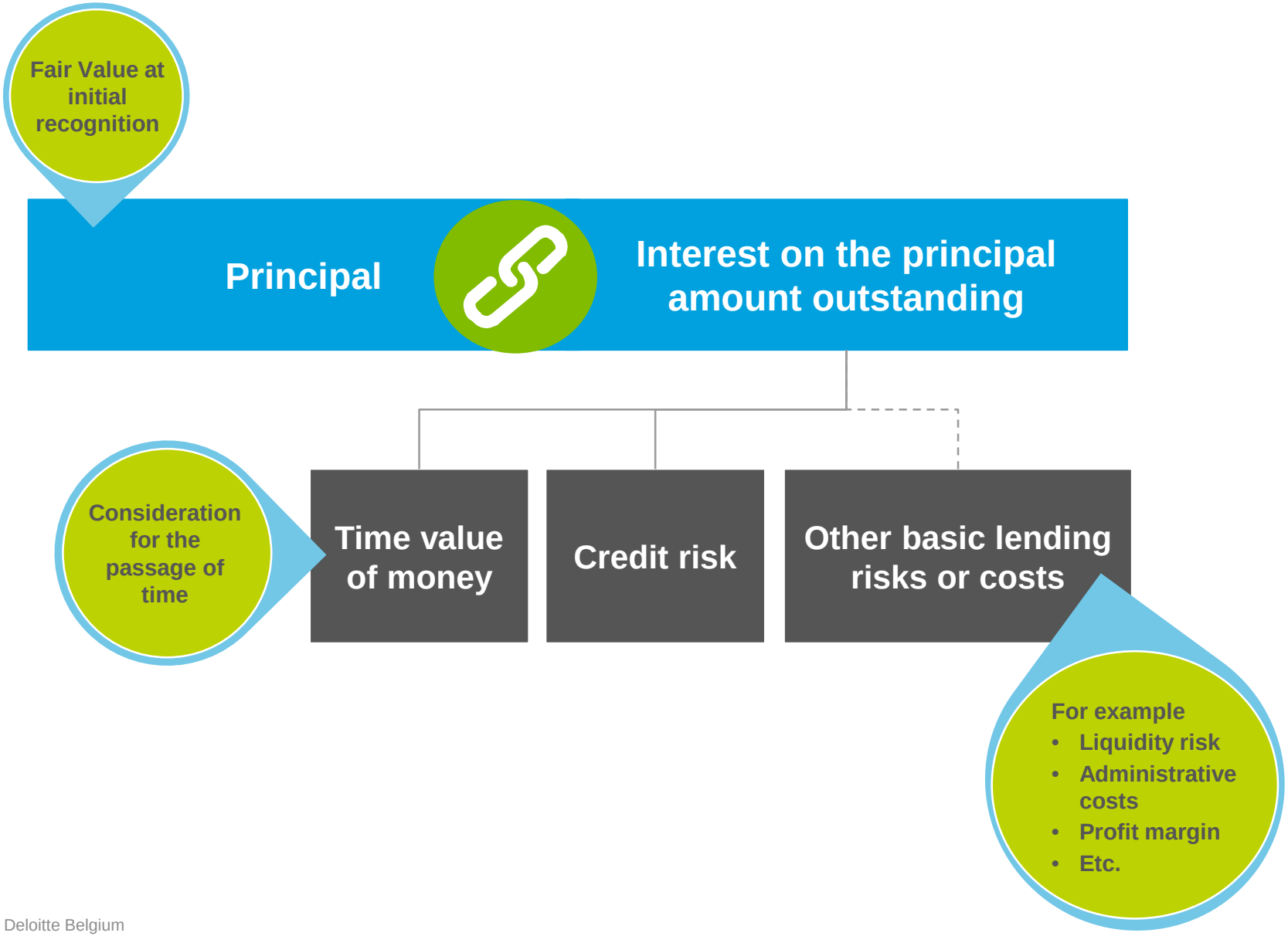
Typically involves greater frequency and value of sales compared to a „Held to collect“ business model

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

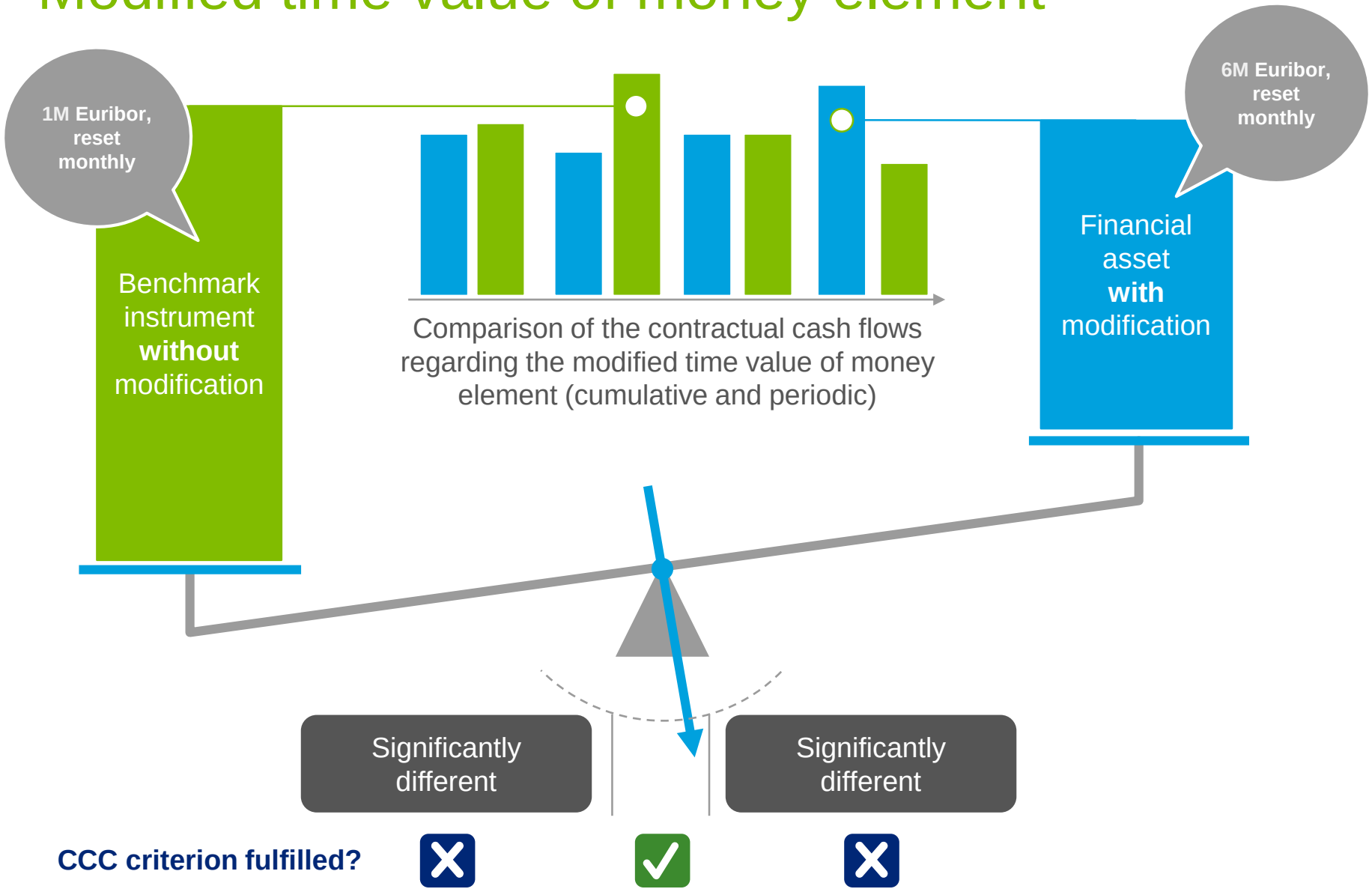
Example liquidity portfolio

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

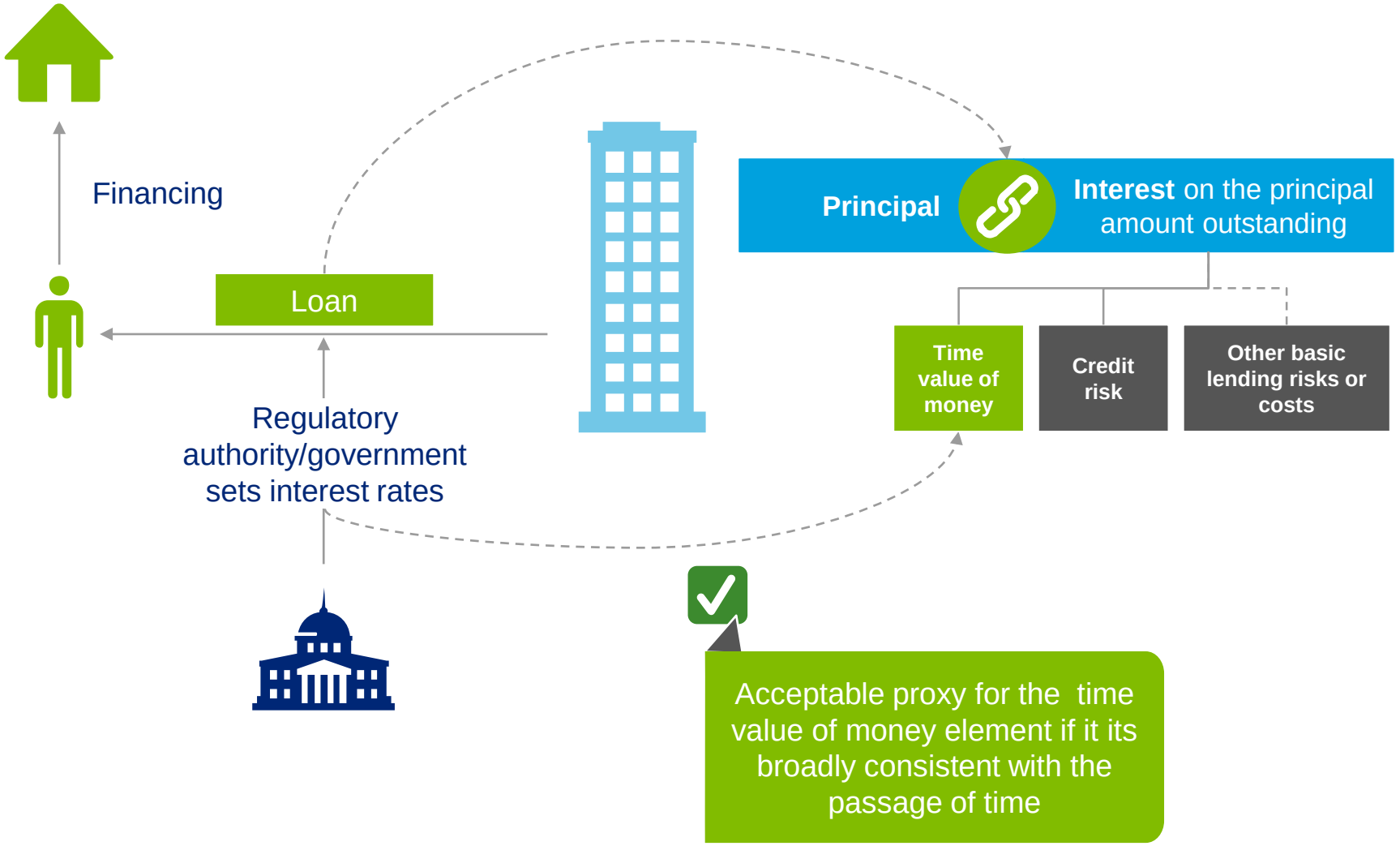


Modified time value of money element



CCC criterion fulfilled?

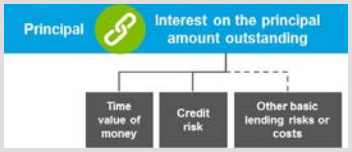
Interest rates set by regulatory authorities



Prepayment and extension options

Extension option

Resulting contractual cash flows:



No distinction between contingent and non-contingent options (like under 'old' IFRS 9)

Date of agreement

Latest termination

Prepayment option

Contractual cash flows are solely:

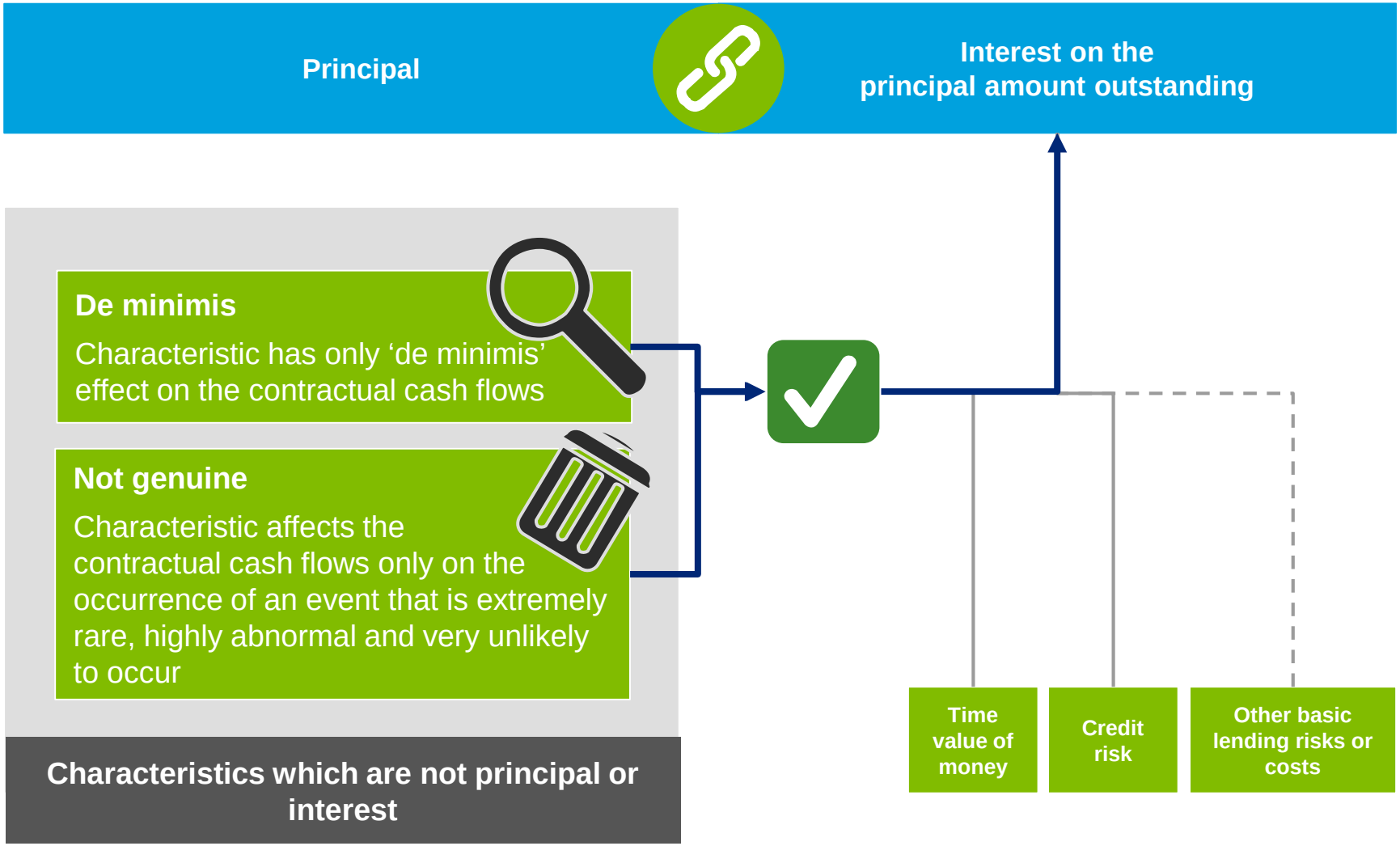
- Payments of principal
- Interest on the principal amount outstanding
- Reasonable additional compensation for early termination

Financial asset is acquired or originated at a premium or discount

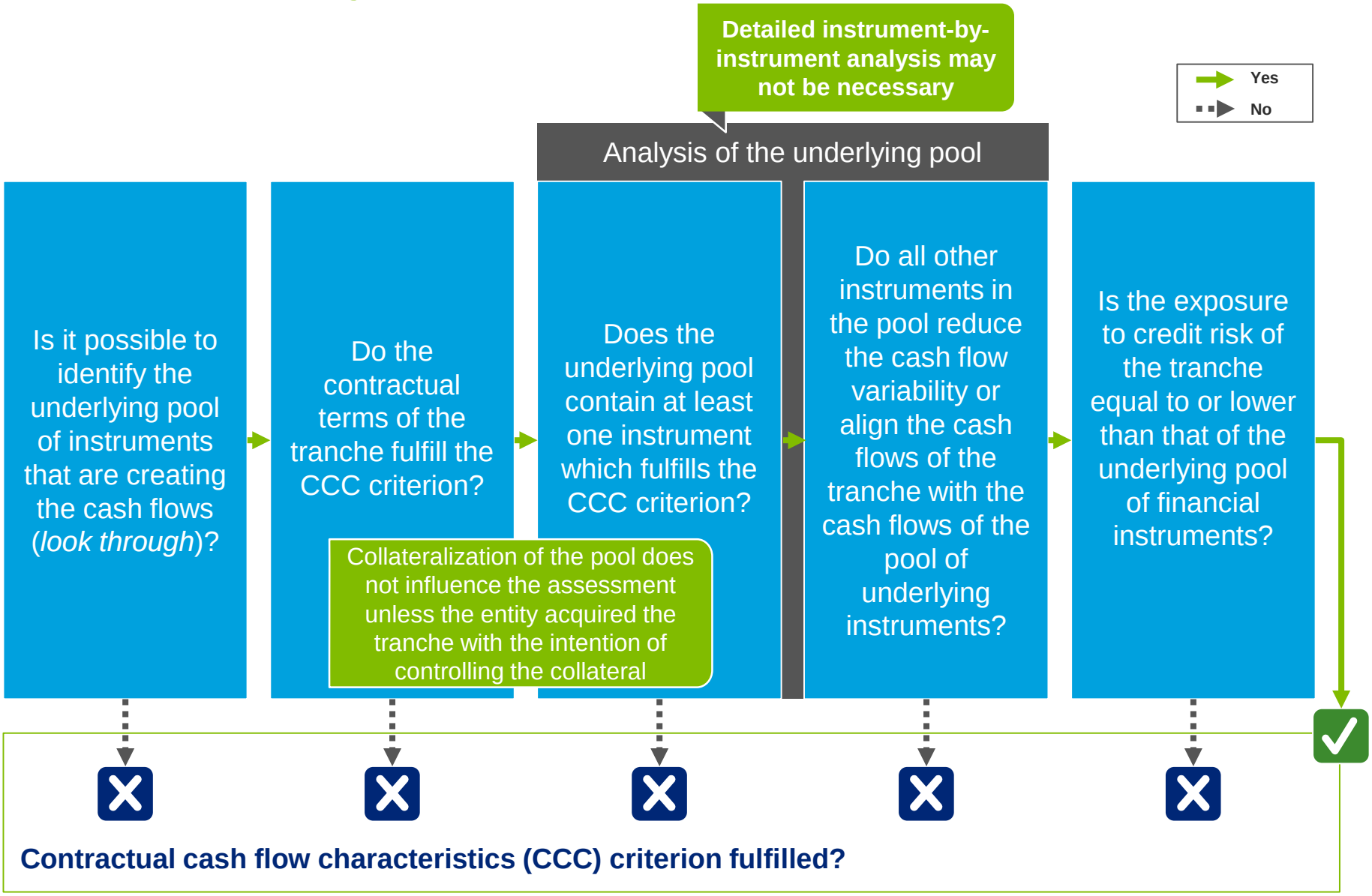
Additional criterion:

Fair value of the prepayment feature on initial recognition is insignificant

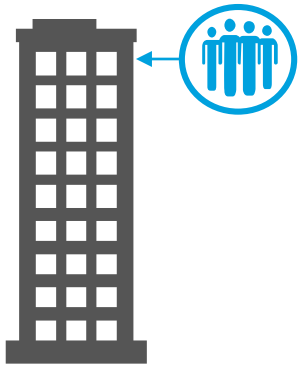
De Minimis and Not Genuine Characteristics



Contractually linked instruments



Reclassification



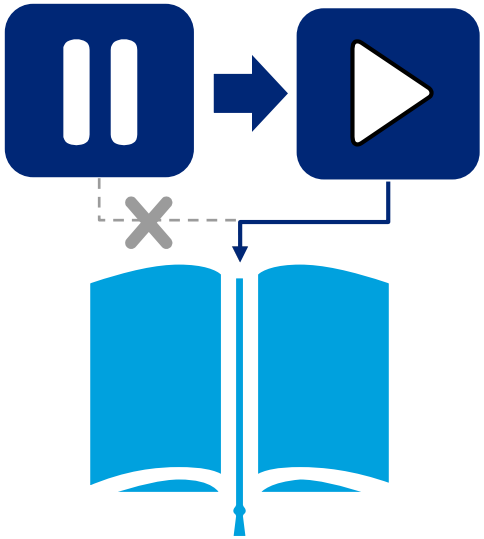
1

External or internal changes which are significant to the entity's operations

Demonstrable to external parties

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

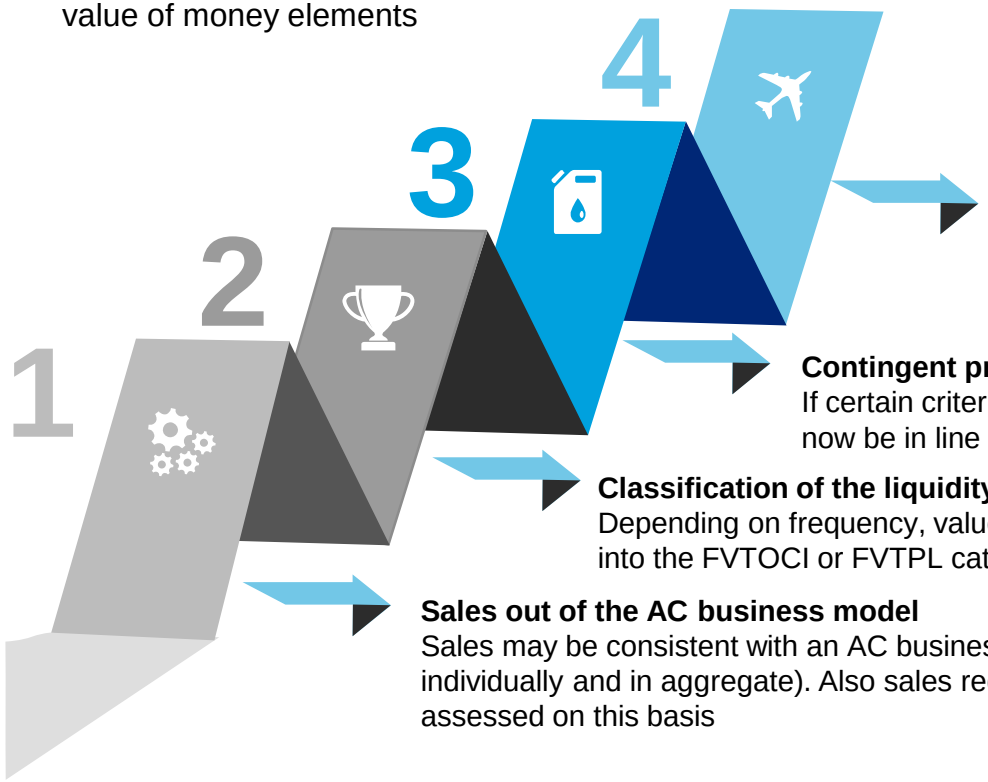
Attention Points

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



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

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

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

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)

Transition - Classification and Measurement

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…..

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

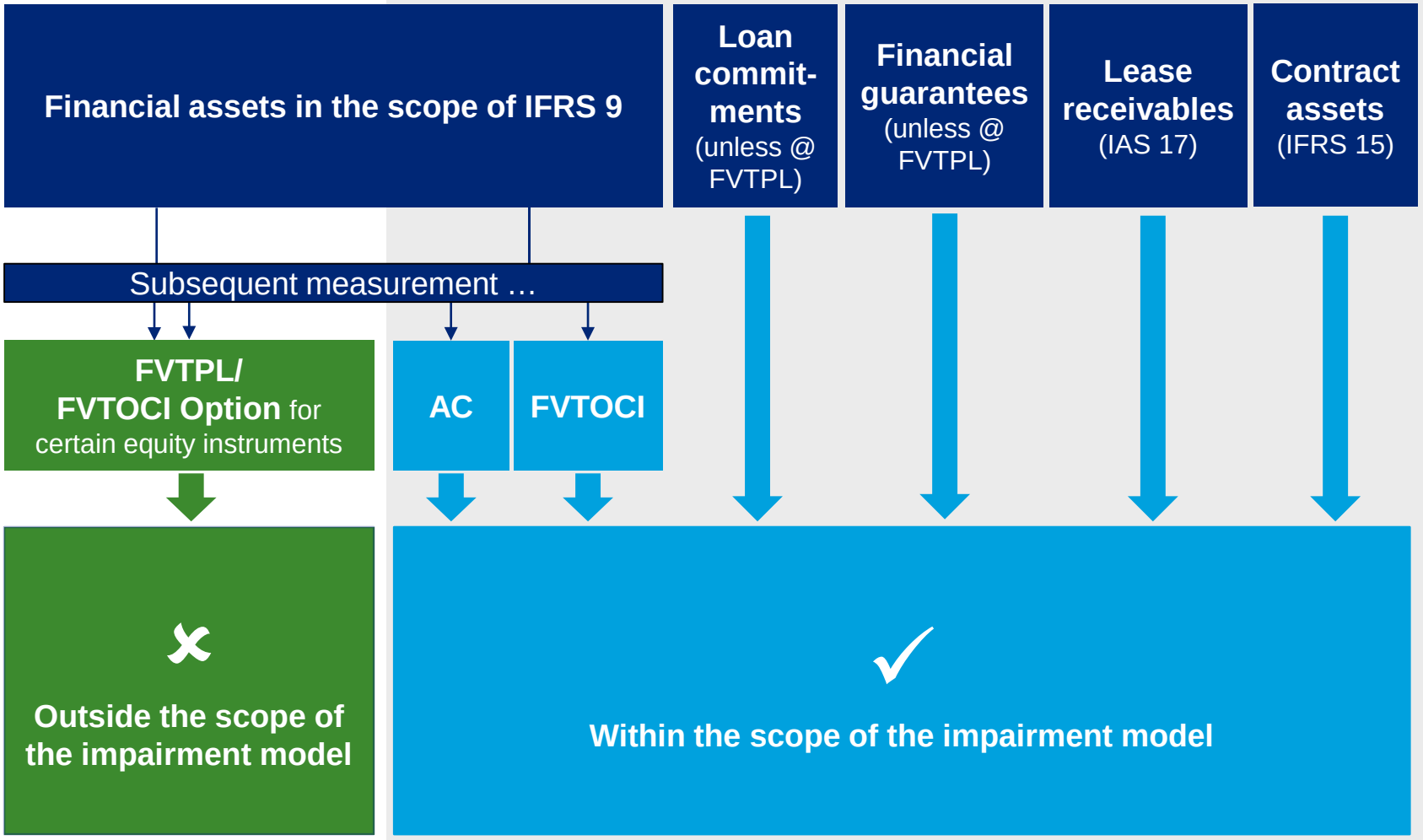
With specific exceptions with regard to time value and forward elements…

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



Impairment Focus Areas

Multiple challenges

1. Impairment Requirements

New general impairment model create the biggest challenge

Change in credit risk

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

Loss Allowance

1 year EL	Lifetime EL

Interest revenue

Gross basis	Net basis

Accounting Treatment & Disclosure

Credit risk management

- Assumptions, methodologies, inputs, techniques and policies

Expected credit loss evaluations

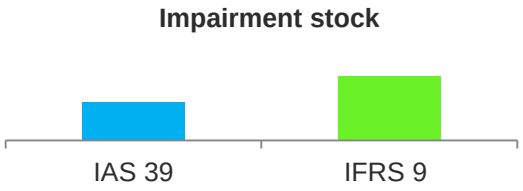
- Movements between stages
- Reconciliations

Credit risk profile

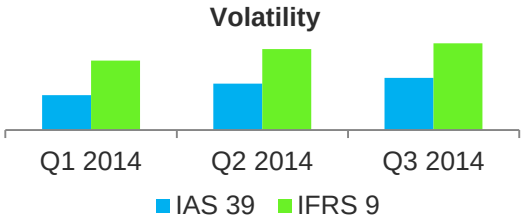
- Increased granularity

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:
  - o Model methodology
  - o Stage 2 and 3 cut-offs

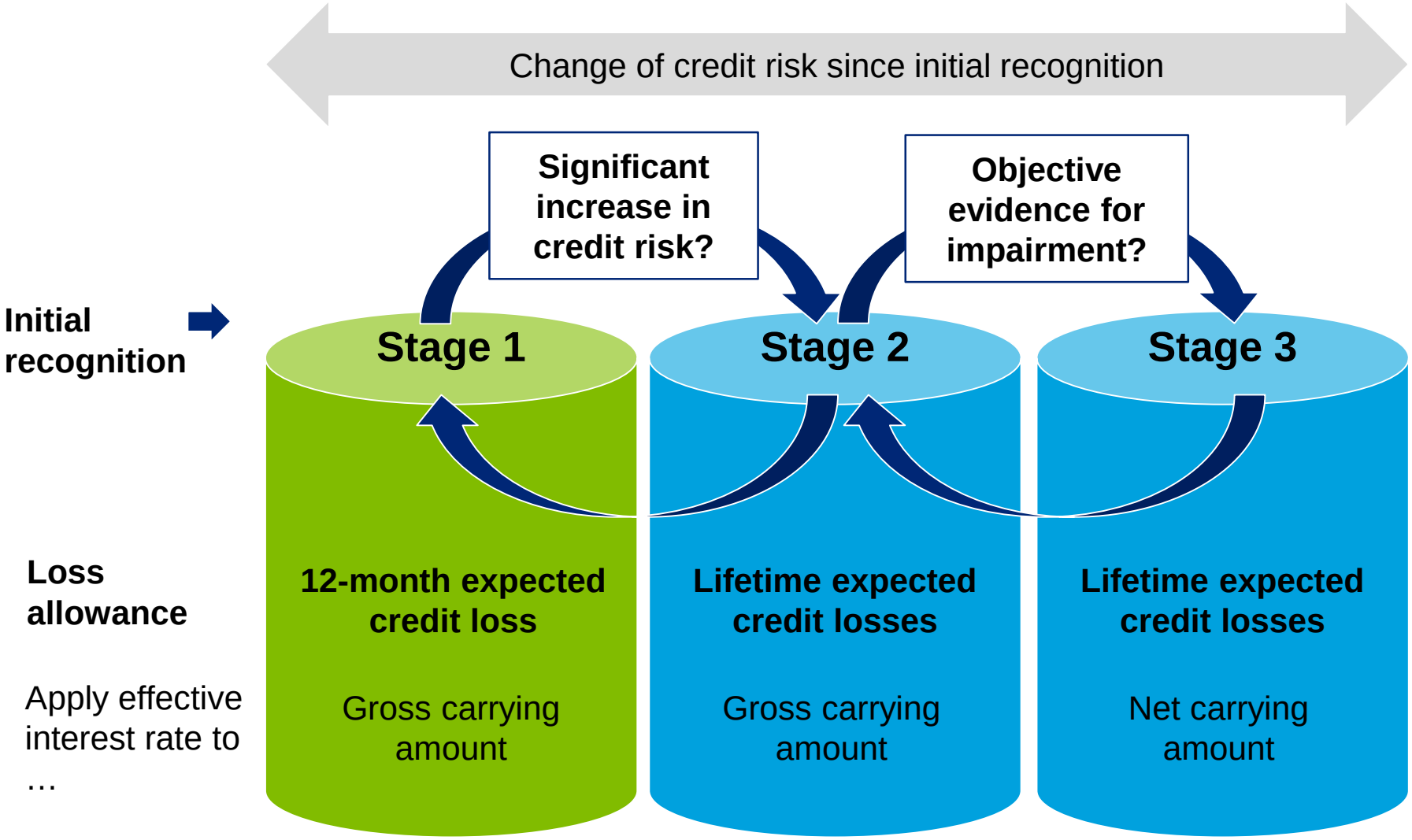
3. Implementation complexities

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

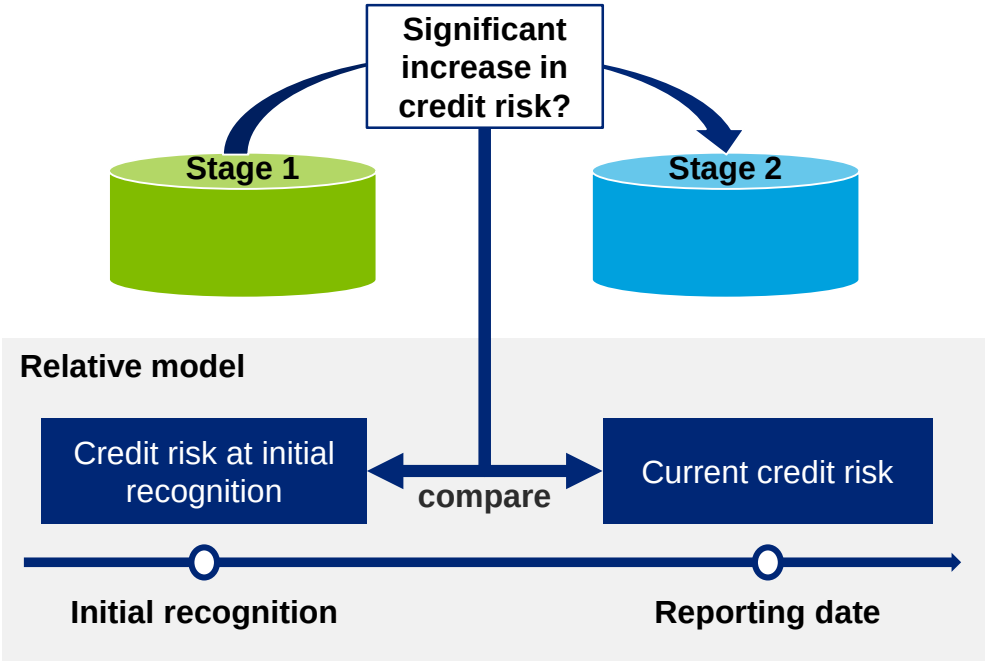
Expected Loss Model

General impairment model



Impairment Requirements: Change in credit risk

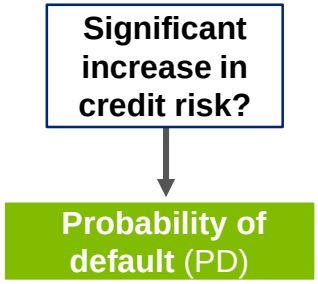
Significant increase in credit risk - Transfer out of Stage 1



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



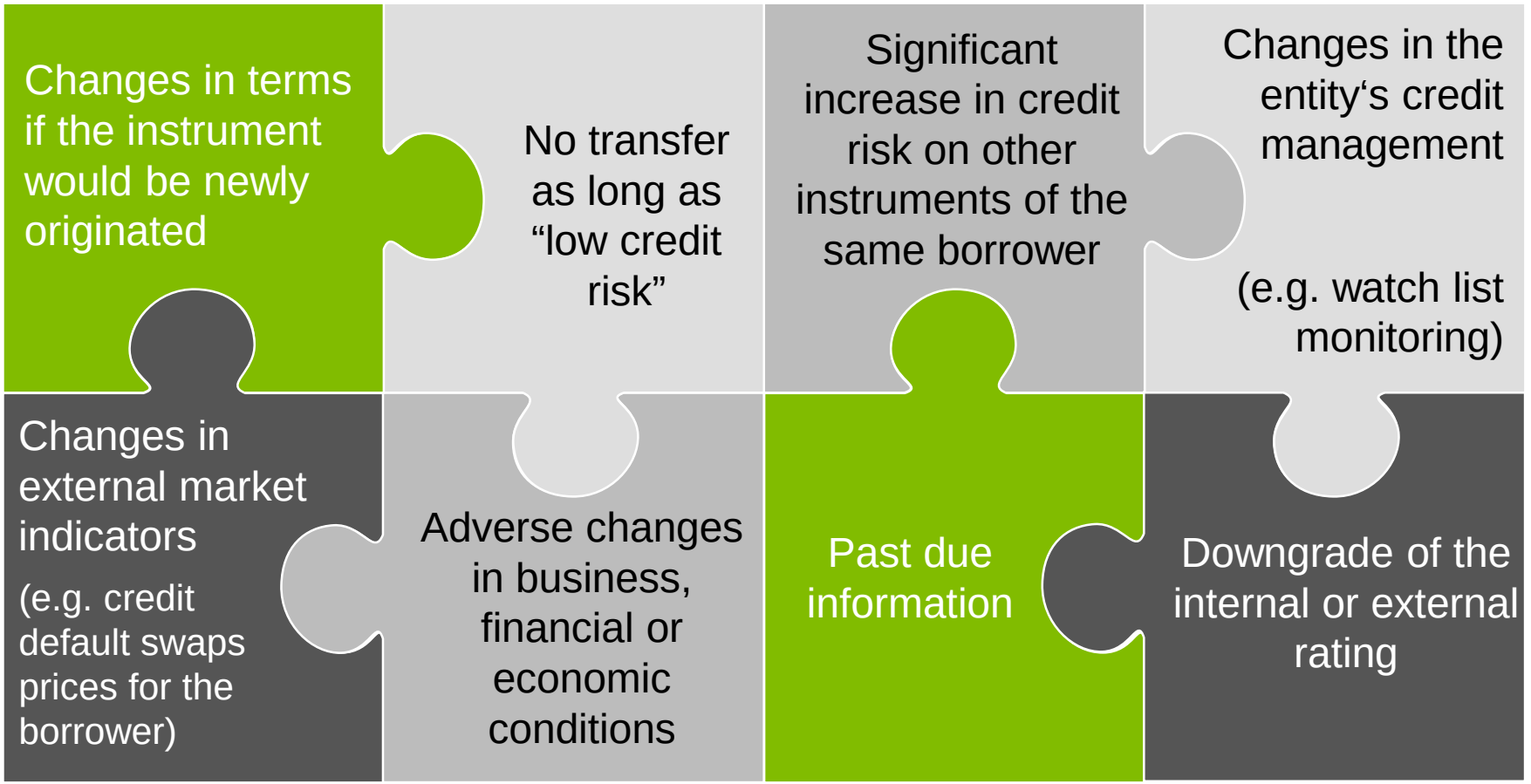
Definition: default

- 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

Impairment Requirements: Change in credit risk

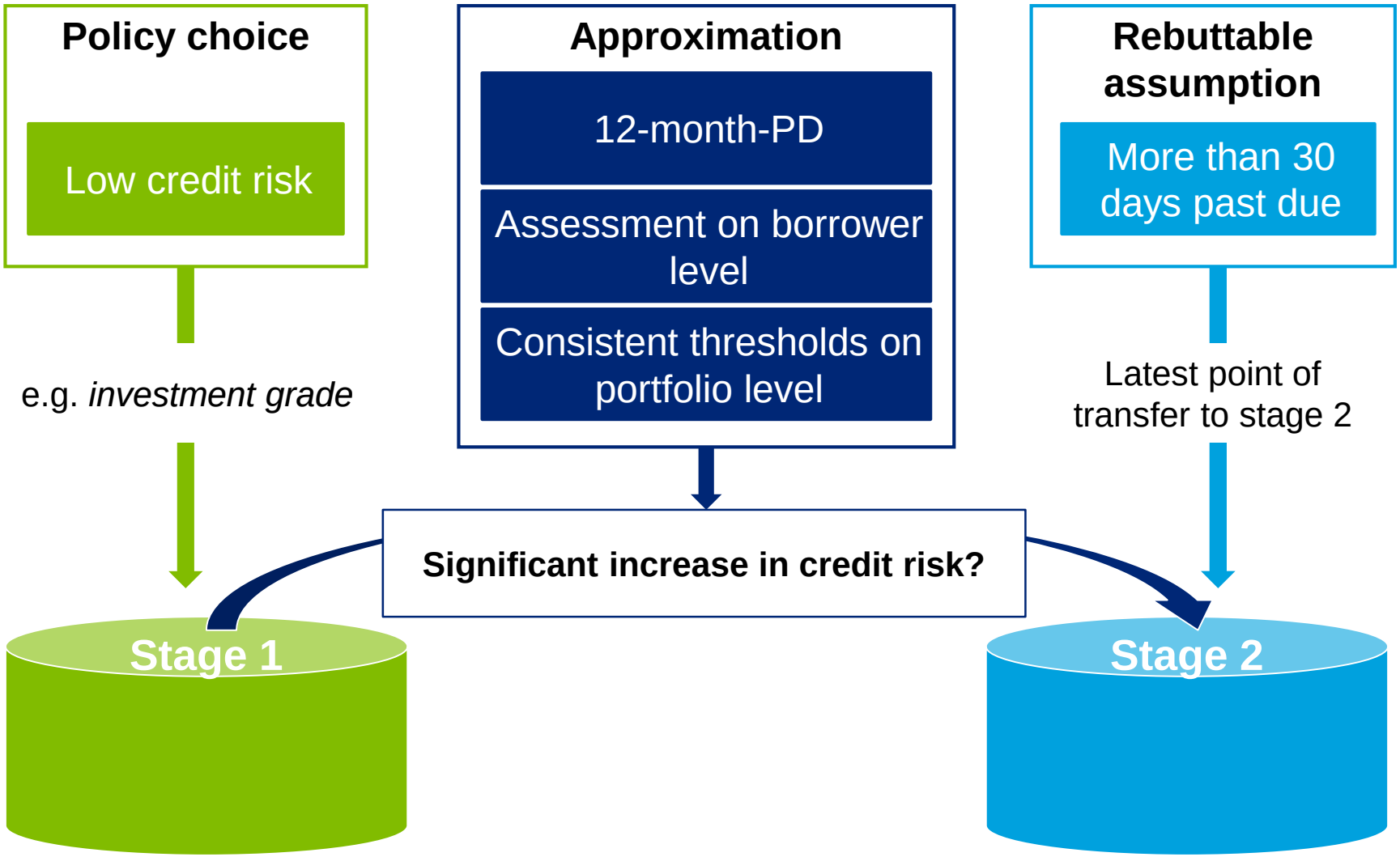
Significant increase in credit risk - Transfer out of Stage 1

Example indicators



Impairment Requirements: Change in credit risk

Significant increase in credit risk - Assumptions and approximations

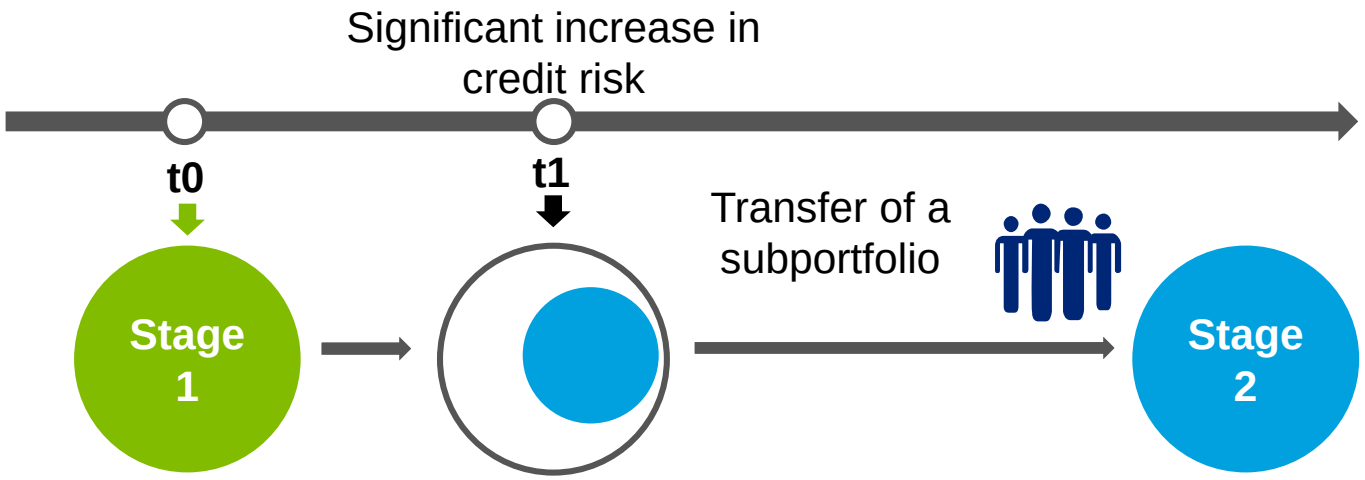


Impairment Requirements: Change in credit risk

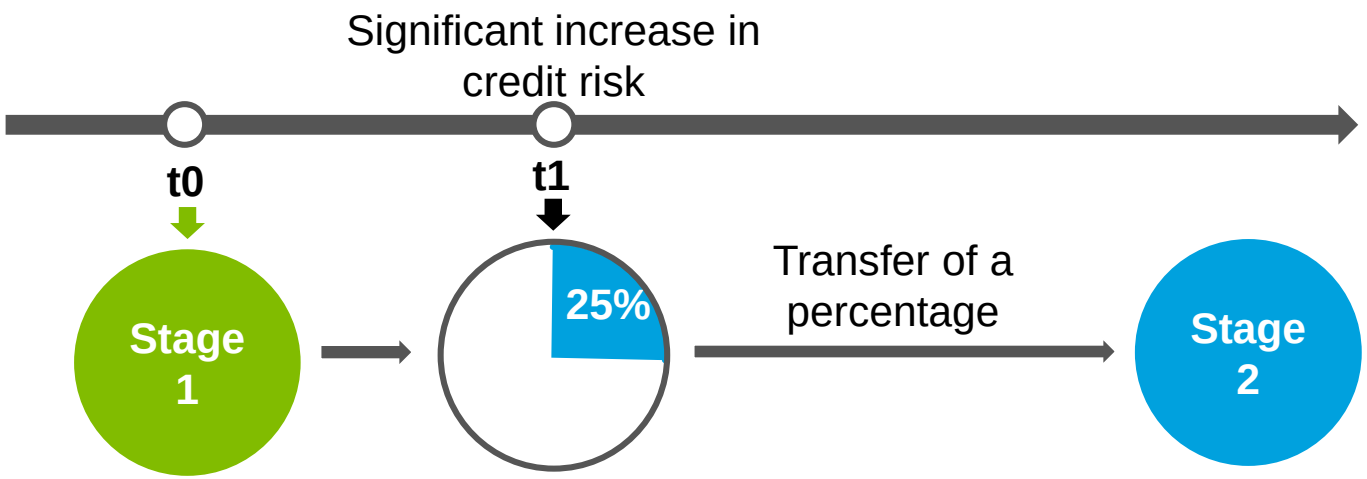
Significant increase in credit risk - Collective Assessment options

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

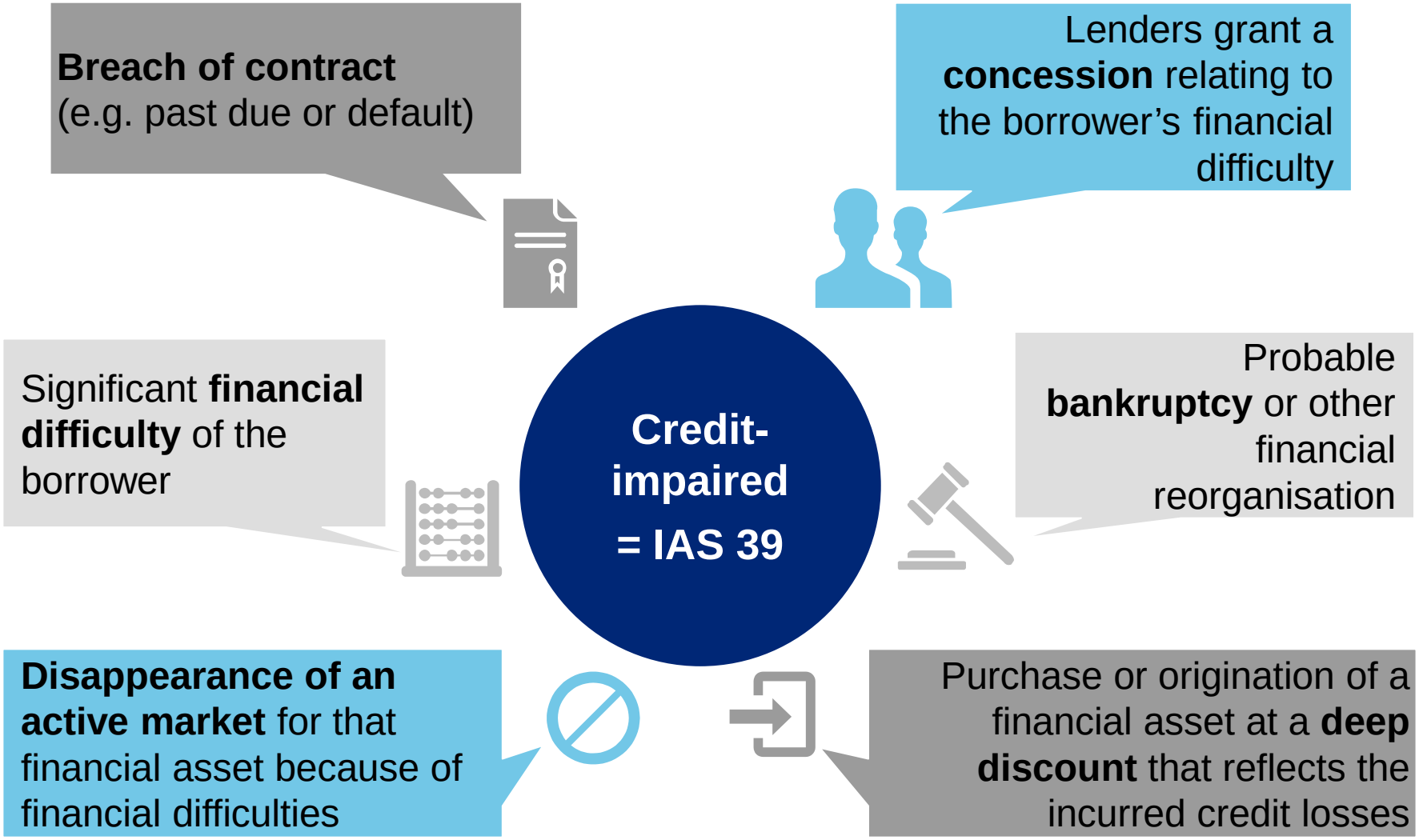


„Top down“-Approach



Impairment Requirements: Change in credit risk

Objective Evidence of Impairment - Transfer out of Stage 2



Impairment Requirements: Loss Allowance

Measurement of expected credit losses (EL)

Expected value

The estimate shall always reflect:

- The possibility that a credit loss occurs
- The possibility that no credit loss occurs

Time value of money

Discounted to the reporting date using the effective interest rate at initial recognition or an approximation thereof

Cash shortfalls

Shortfalls of principal and interest as well as late payment without compensation

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

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

Bond					
Time (years)	*1*	*2*	*3*	*4*	*5*
coupon	50	50	50	50	50
capital repayment					1000
cash flows	50	50	50	50	1050
Effective interest rate	5%	5%	5%	5%	5%
DF (EIR)	0,95	0,91	0,86	0,82	0,78
EAD	1 050	1050	1050	1050	1050
	1 000				
CDS spread	0,50%	0,60%	0,70%	0,80%	0,90%
LGD	60%	60%	60%	60%	60%
Cumulative survival prob	99,17%	98,02%	96,56%	94,81%	92,77%
Periodic PD	0,83%	1,15%	1,46%	1,75%	2,03%
PD * LGD	0,50%	0,69%	0,88%	1,05%	1,22%
EAD	1 050	1 050	1 050	1 050	1 050
Expected loss per period	5,23	7,25	9,19	11,05	12,80
Expected loss per period (discounted at EIR)	4,98	6,57	7,94	9,09	10,03
Lifetime expected Loss (discounted)	38,62				
test (flat PD and constant EAD)	39,32				
12M expected loss	4,98				

Impact can be significant

Impairment Requirements: Loss Allowance

Exemptions from the general model

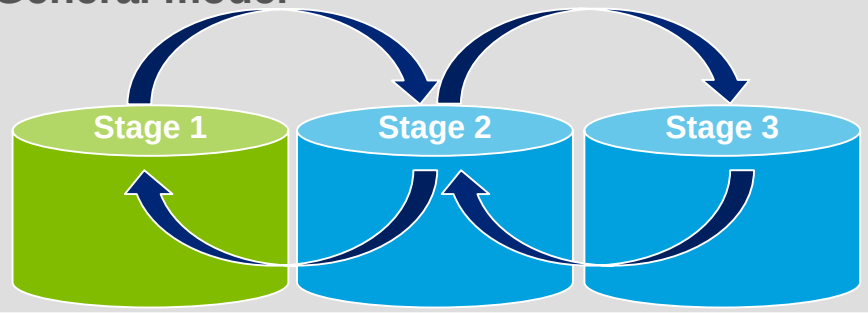
- Lease receivables
- Contract assets with significant financing component
- Trade receivables with a significant financing component

Policy choice

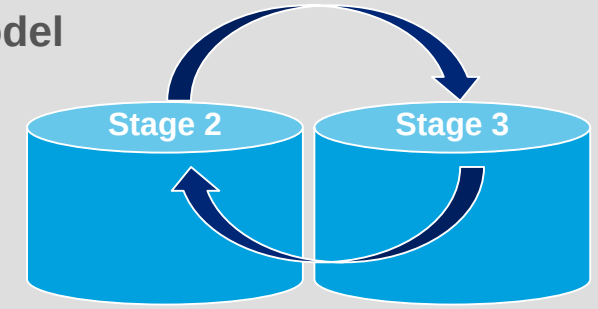
- Contract assets without significant financing component
- Trade receivables without a significant financing component

Purchased or originated credit-impaired financial assets

General model

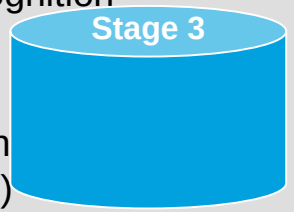


Simplified model



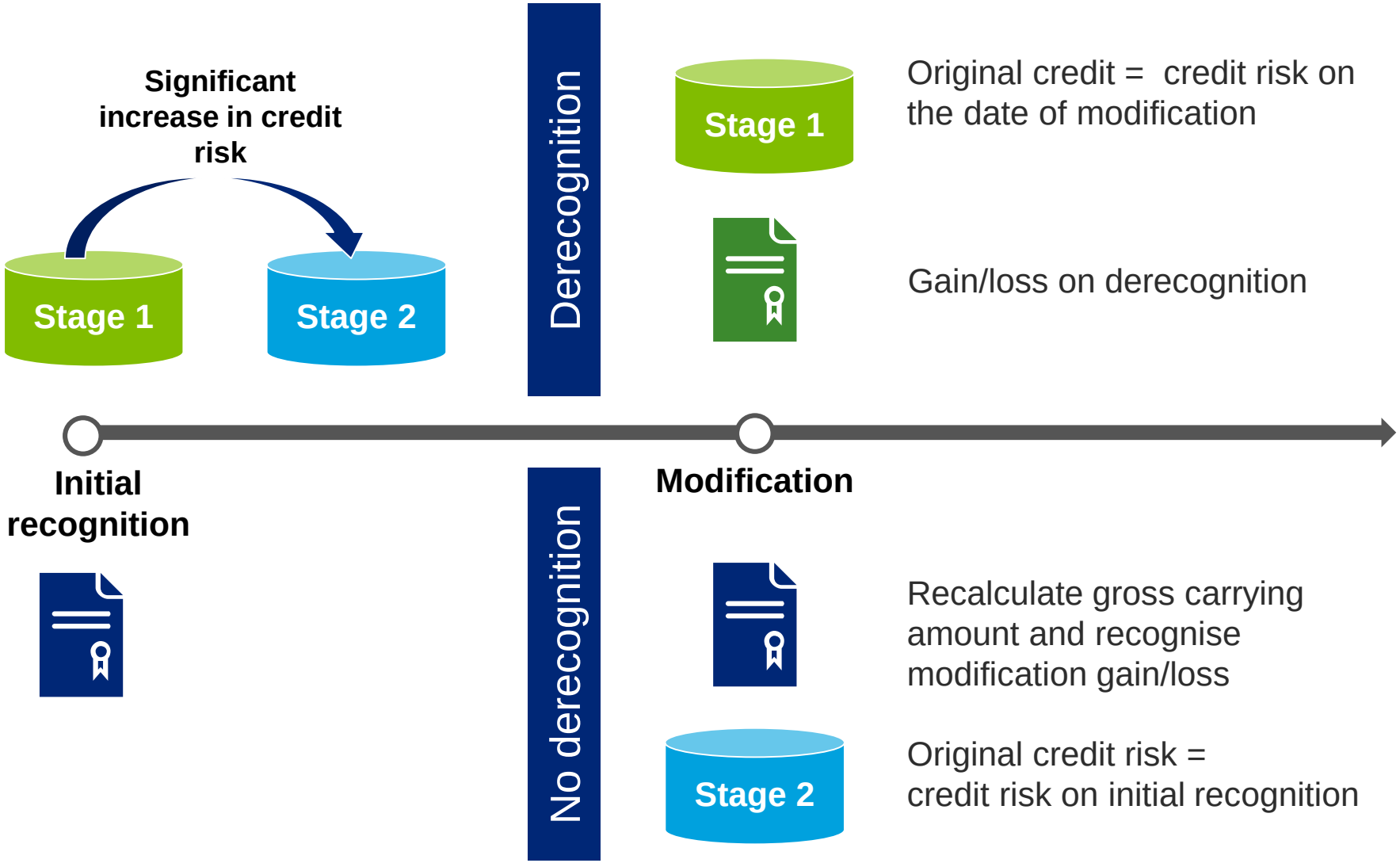
Special provisions

- 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)



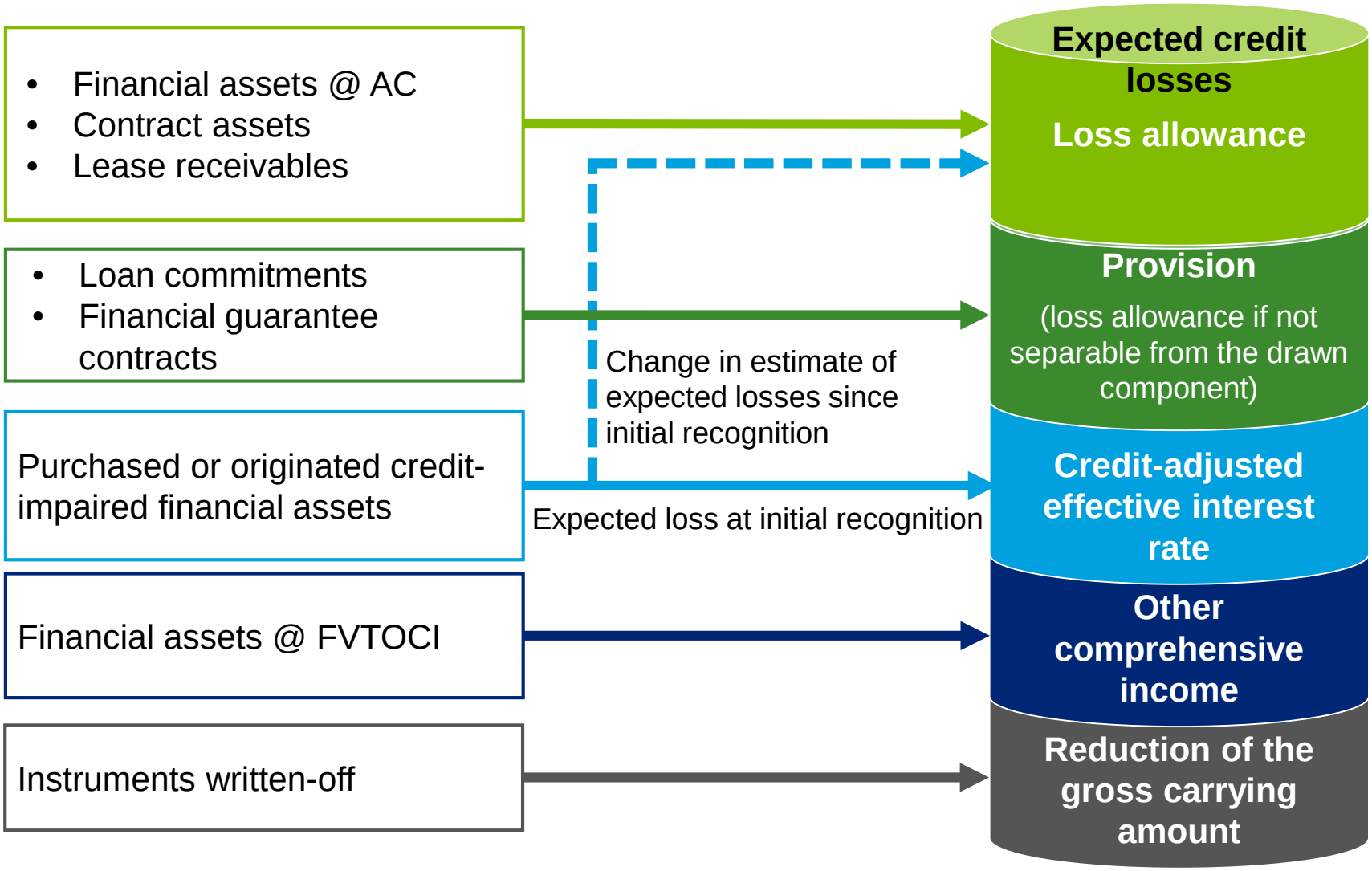
Impairment Requirements: Loss Allowance

Modification of cash flows



Impairment Requirements: Accounting & Disclosure

Presentation of expected credit losses



Impairment Requirements: Accounting & Disclosure

Presentation of our simplified example

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Time (years)	*1*	*2*	*3*	*4*	*5*
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Effective interest rate	5%	5%	5%	5%	5%
DF (EIR)	0,95	0,91	0,86	0,82	0,78
EAD	1 050	1050	1050	1050	1050
	1 000				
CDS spread	0,50%	0,60%	0,70%	0,80%	0,90%
LGD	60%	60%	60%	60%	60%
Cumulative survival prob	99,17%	98,02%	96,56%	94,81%	92,77%
Periodic PD	0,83%	1,15%	1,46%	1,75%	2,03%
PD*LGD	0,50%	0,69%	0,88%	1,05%	1,22%
EAD	1 050	1 050	1 050	1 050	1 050
Expected loss per period	5,23	7,25	9,19	11,05	12,80
Expected loss per period (discounted at EIR)	4,98	6,57	7,94	9,09	10,03
12M expected loss	4,98				

	Debit		Credit
	1/01/2014		
Financial Asset (AC) – B/S	1000		
Cash – B/S			1000
Impairment loss – P/L	4,98		
Loss Allowance – B/S			4,98

Impairment Requirements: Accounting & Disclosure

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

Bond (stress after 1 year)				
Time (years)	*1*	*2*	*3*	*4*
Coupon	50	50	50	50
Capital repayment				1000
Cash flows	50	50	50	1050
Effective interest rate	5%	5%	5%	5%
DF (EIR)	0,95	0,91	0,86	0,82
EAD	1 050	1 050	1 050	1 050
	1 000			
CDS spread	1,20%	1,30%	1,40%	1,50%
LGD	60%	60%	60%	60%
Cumulative survival prob	98,02%	95,76%	93,24%	90,48%
Periodic PD	1,98%	2,26%	2,52%	2,76%
PD*LGD	1,19%	1,36%	1,51%	1,65%
EAD	1 050	1 050	1 050	1 050
Expected loss per period	12,47	14,24	15,87	17,36
Expected loss per period (discounted at EIR)	11,88	12,92	13,71	14,28
12M expected loss	11,88			

	Debit		Credit
	31/12/2014		
Impairment loss – P/L	6,9 *(= 11,88 - 4,98)*		
Loss Allowance – B/S			6,9
Financial Asset (AC) –B/S	50		
Interest revenue – P/L			50

Impairment Requirements: Accounting & Disclosure

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

Bond (stress after 1 year)				
Time (years)	*1*	*2*	*3*	*4*
Coupon	50	50	50	50
Capital repayment				1000
Cash flows	50	50	50	1050
Effective interest rate	5%	5%	5%	5%
DF (EIR)	0,95	0,91	0,86	0,82
EAD	1 050	1 050	1 050	1 050
	1 000			
CDS spread	1,20%	1,30%	1,40%	1,50%
LGD	60%	60%	60%	60%
Cumulative survival prob	98,02%	95,76%	93,24%	90,48%
Periodic PD	1,98%	2,26%	2,52%	2,76%
PD*LGD	1,19%	1,36%	1,51%	1,65%
EAD	1 050	1 050	1 050	1 050
Expected loss per period	12,47	14,24	15,87	17,36
Expected loss per period (discounted at EIR)	11,88	12,92	13,71	14,28
Lifetime expected Loss (discounted)	52,79			

	Debit		Credit
	31/12/2014		
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

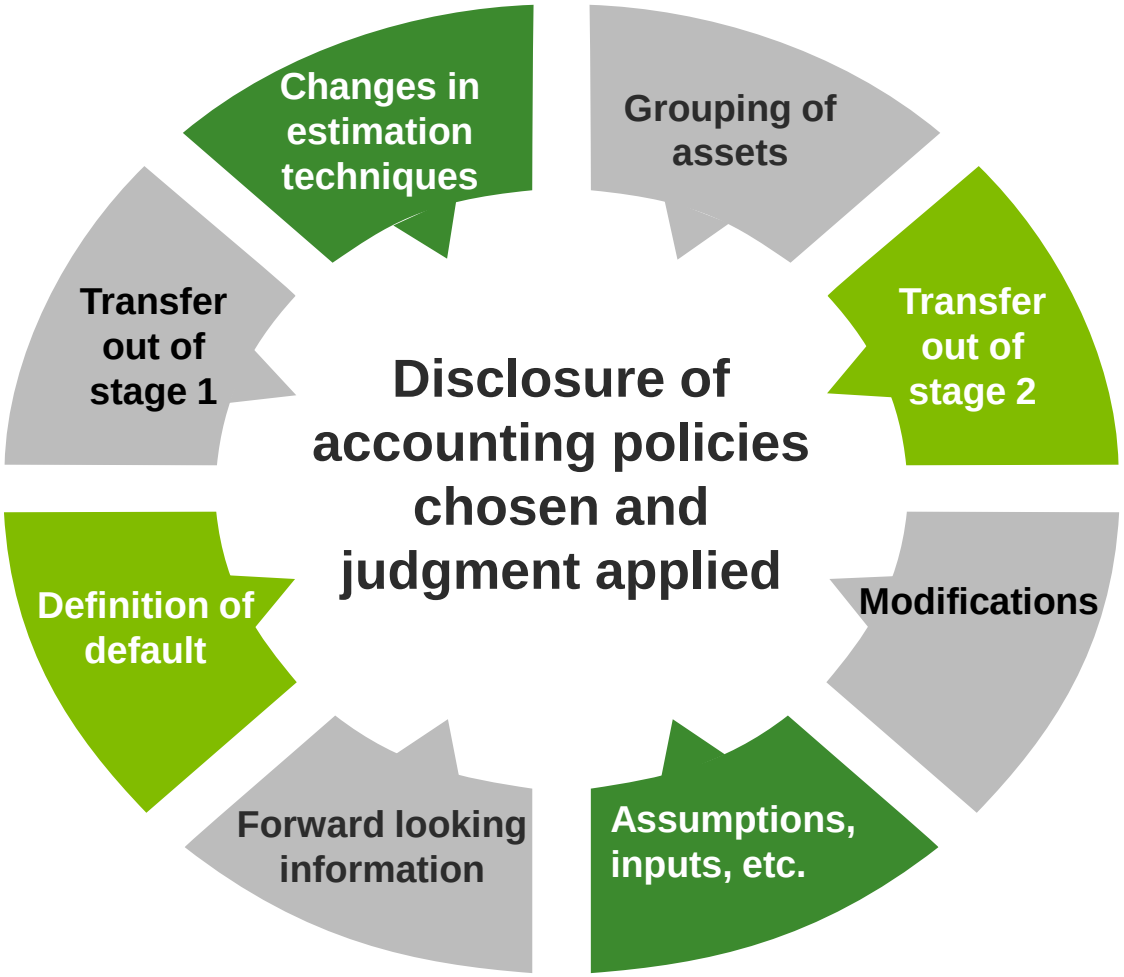
3

Credit risk profile including significant credit risk concentrations

Impairment Requirements: Accounting & Disclosure

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

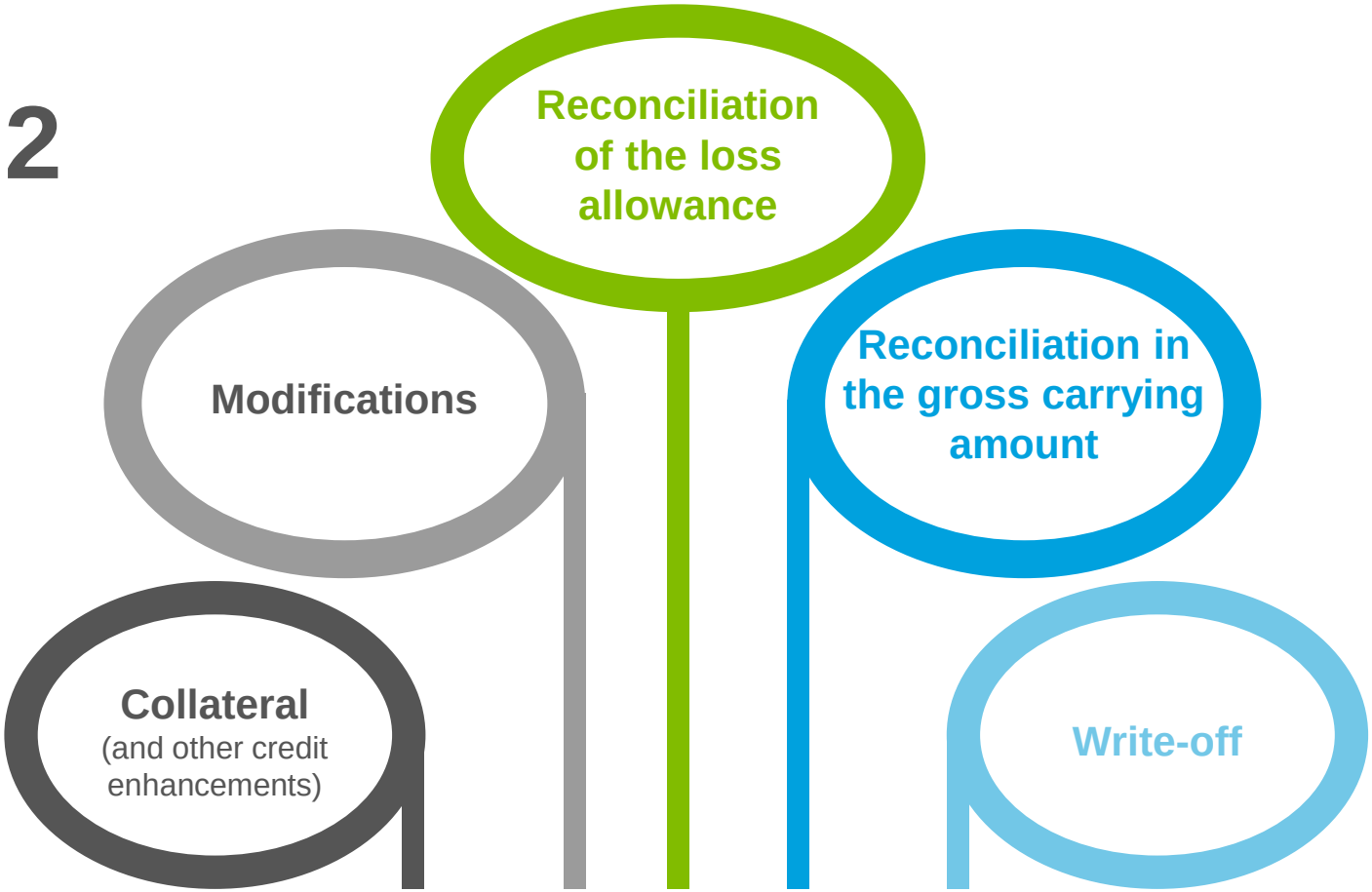
1



Impairment Requirements: Accounting & Disclosure

Evaluation of the amounts in the financial statements arising from expected credit losses

2



Impairment Requirements: Accounting & Disclosure

Illustrating the application of the reconciliation of the loss allowance

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

(IFRS 7.IG20B)

Impairment Requirements: Accounting & Disclosure

An entity‘s credit risk profile including significant credit risk concentrations

3

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

Credit risk exposure

Significant concentrations of credit risk by for example:

- Loan-to-value groupings
- Geographical concentrations
- Industry concentrations

Financial Impact: Impact Assessment Process

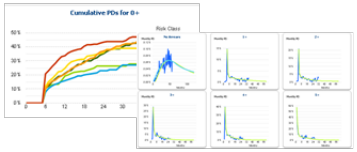
Using a structured end-to-end process to quantify the financial impacts, understand portfolio drivers and inform senior management strategic decisions.

Impact Assessment Process

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

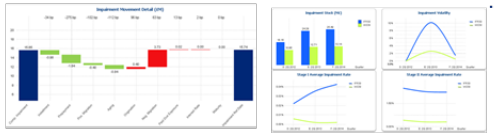
2. Visualise and Analyse
- Illustrate portfolio risk profile
- Analyse inter- segment variances and correlations
- Segmented impairment analysis

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

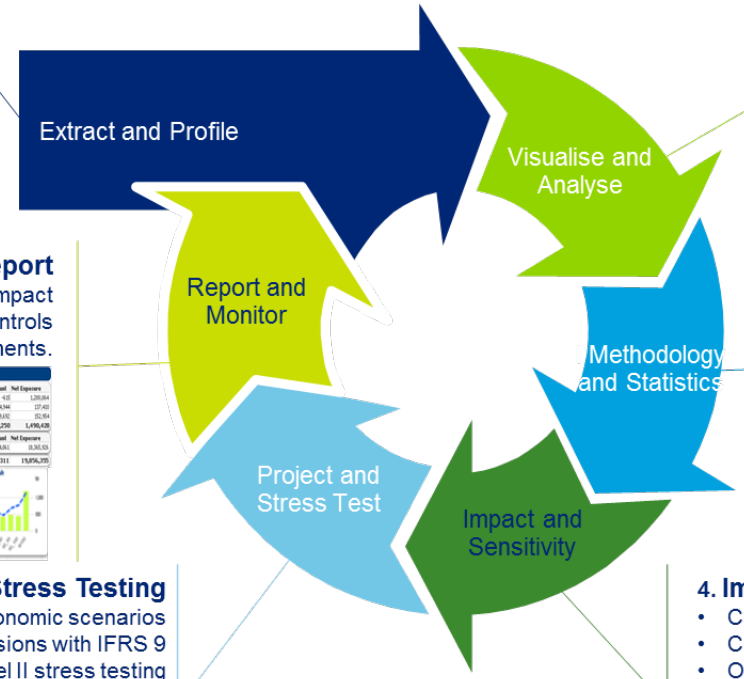


4. Impact and sensitivity
- Calculate segmented historic risk profile
- Create bespoke lifetime default profile
- Overlay projected loss estimates

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.

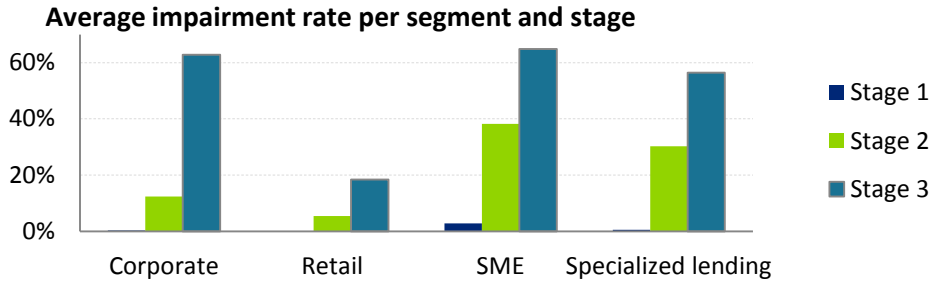


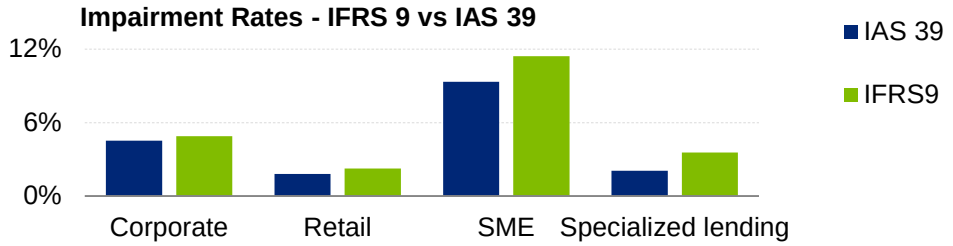
Financial Impact: Industry wide analysis

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

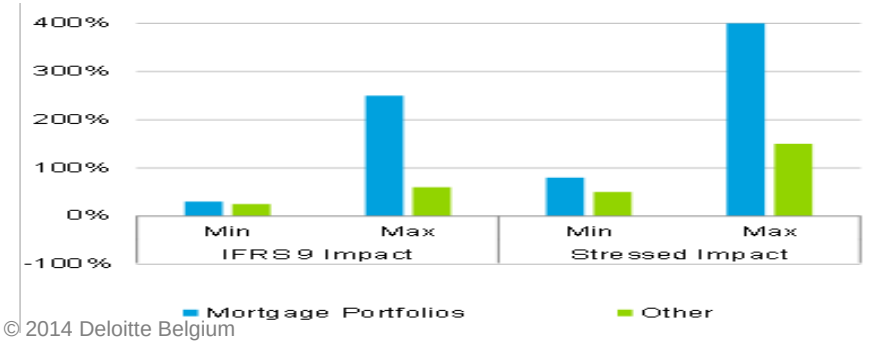
1. Our Impact Study sourced data from 15 banks and financial institutions across Europe /Canada found Retail and Specialised Lending portfolios already impaired could see a 70-100% increase.
2. The IASB fieldwork found
   - Transition impact ranges from a 20% to 250% increase
   - Stressed Impairments 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

1. European/Canadian Market Impact Study

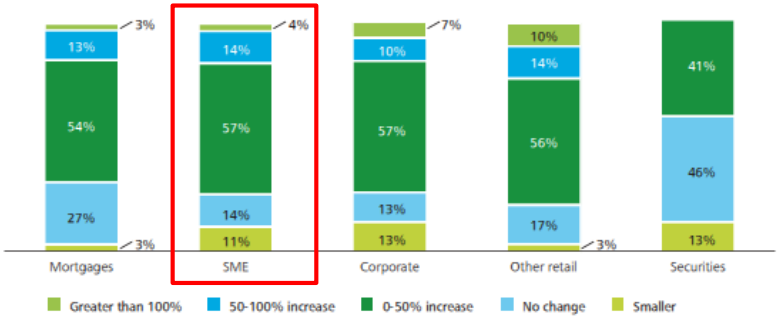




2. IASB Fieldwork



3. IFRS 9 Global Survey



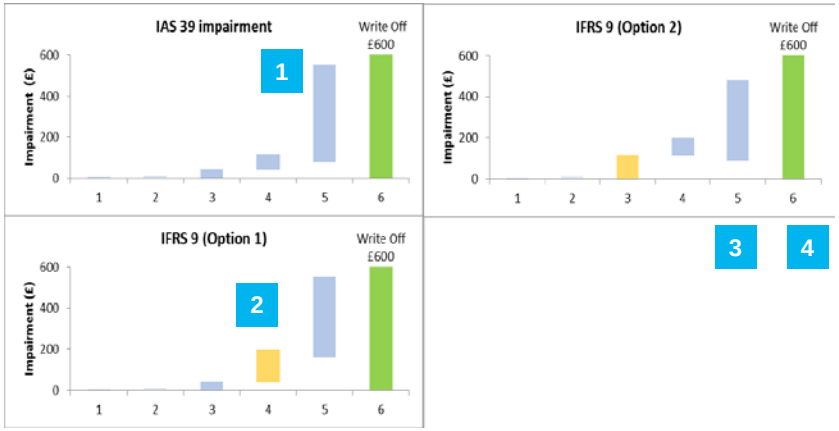
Financial Impact: Volatility considerations

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

Year	Status	Stage	Impairment Stock				P&L Impairment Charge		
			IFRS 9		IAS 39	Variance	IFRS 9		IAS 39
			EL (£)	LEL (£)	Total (£)	(£)	Option 1	Option 2	
1	At Origination	1	5	38	5	0	5	5	5
2	Performing		8	50	8	0	3	3	3
3	Downgrade		48	121	48	0	40	114	40
4	Missed Payment	2	126	209	126	83	161	87	78
5	Default	3	600	600	600	0	391	391	474

Volatility: P&L movement increase is policy driven



Transition from IAS 39 to IFRS 9

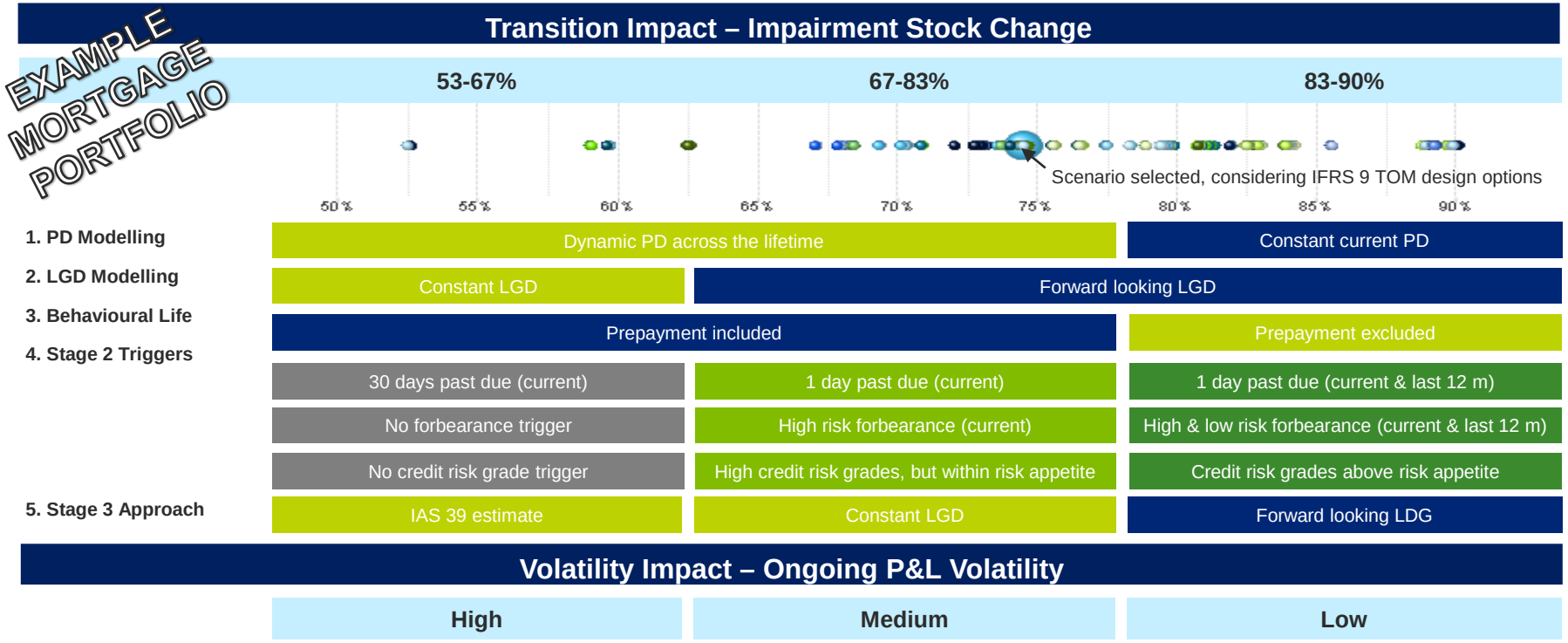
1. Stage 2 migration can result in earlier recognition of increased impairment stock with "Credit deterioration" options available including:
   - Current PD (relative to risk appetite or origination)
   - Delinquency and forbearance
   - Lifetime PD changes from origination
2. Stage 1 impact for secured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



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

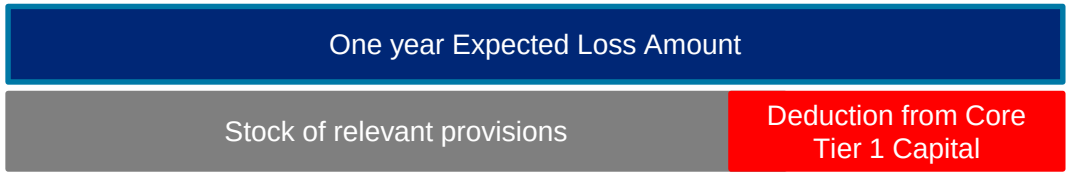
Any **impairment loss** on a loan taken to the income statements has a **1:1 impact** on **Core Tier 1 capital** as it **reduces retained earnings**. However, the cumulative **collective impairment** provisions can be eligible to count as **Tier 2 capital** resources up to a "ceiling" of 1.25% of Risk 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

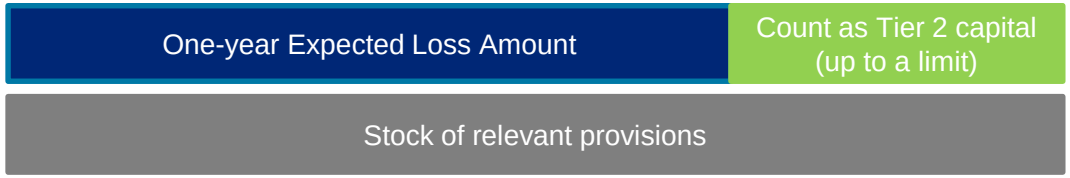
The IRB approach uses a **one-year time horizon**, and introduces the concept of **Unexpected Loss (UL)** and **Expected Loss (EL)** over that period. In essence, in the definition of eligible capital resources, the EL replaces the stock of accounting impairment provisions on portfolios subject to measurement 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



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

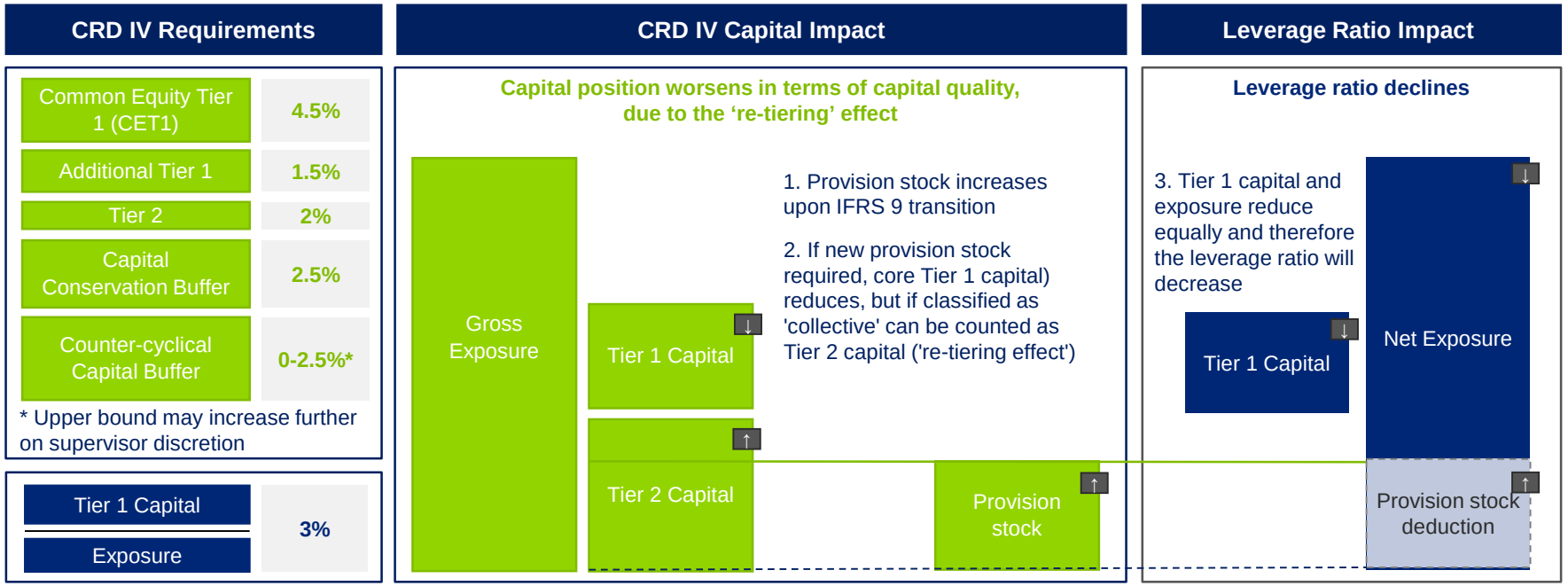


The results of our recent survey showed the following:

- 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

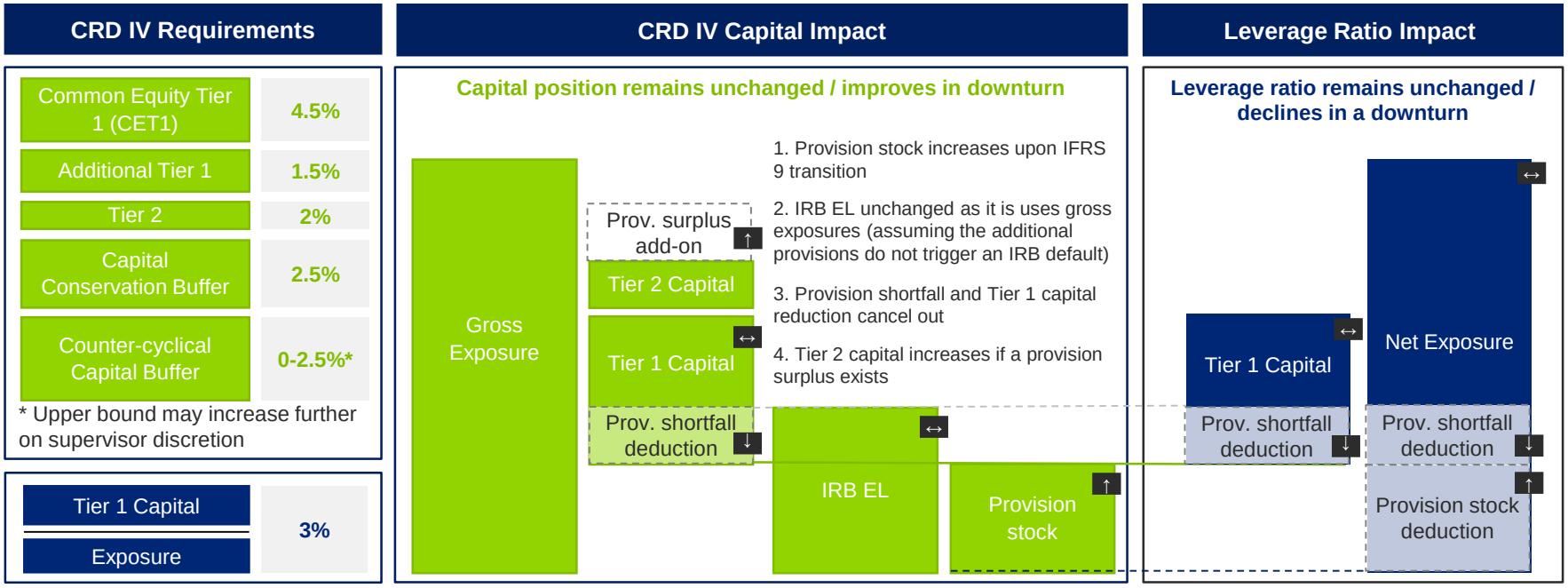
Under the Standardised Approach, new capital may be required to replenish Tier 1 capital and a potential reduction in the leverage ratio



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

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.



If provision stock < IRB EL – Provision Shortfall

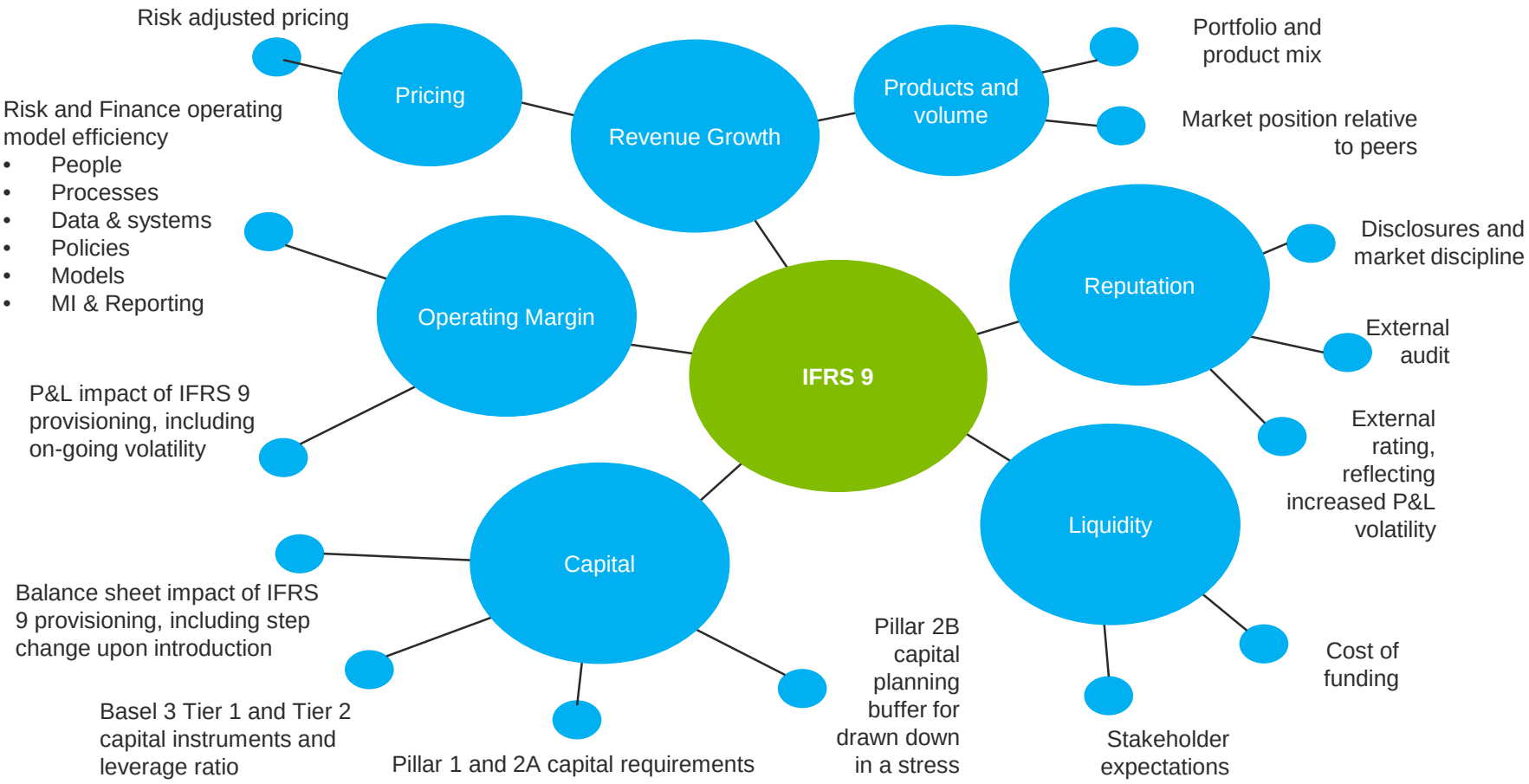
- Mortgage focused IRB banks have substantial provision shortfall, resulting in a capital deduction. It is likely, that under the current macroeconomic outlook, this shortfall will decrease but remain a capital deduction

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.



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.

Industry Perspective

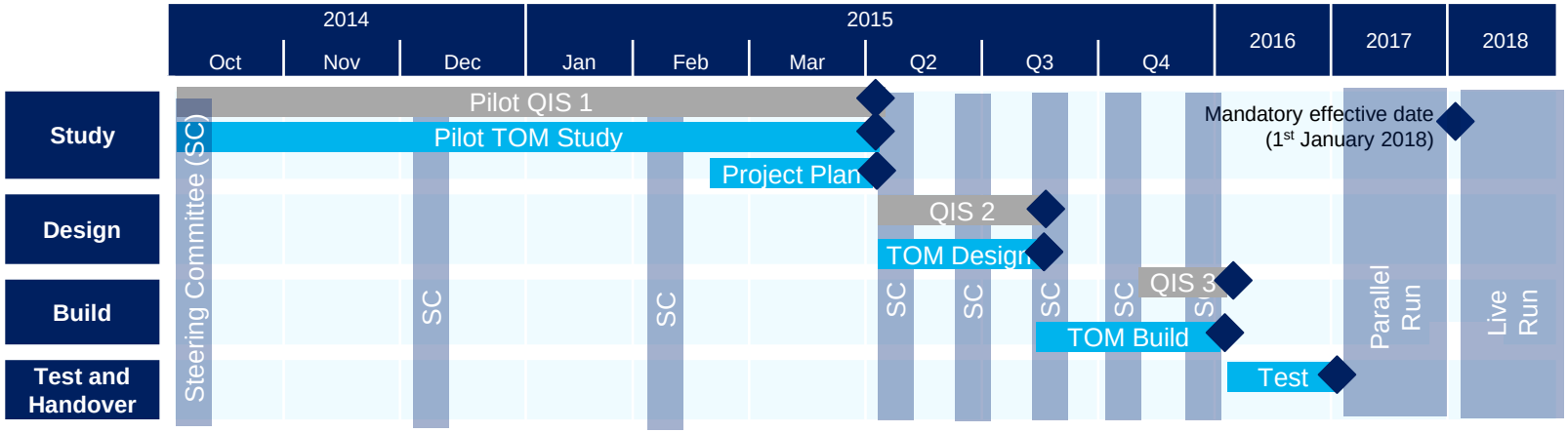
4th Global Deloitte IFRS Survey
Status of IFRS 9 Implementation Project as of 2013

✓ Number of institutions with activity completed

✗ Number of institutions with activity not completed

	Impact Assessment		Design		Build	
	✓	✗	✓	✗	✓	✗
Hedge Accounting	19	35	2	52	1	53
Classification & Measurement	33	21	2	52	1	53
Impairment	35	19	5	49	0	54

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

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

Component Metric	Modelling Options	Retail mortgage	Retail Loam (Unsecured)	Retail O/D & credit card	Unsecured/ Secured SME	Asset Finance	Corporate	Wholesale & Treasury	Specialised Lending	Macroeconomic Adjustments	Build Complexity	Low accuracy	High Volatility	Poor usability
	Each model approach can be prioritized based on data availability, approach maturity and model risk: ① Primary approach ② Secondary approach ③ Tertiary approach(s)	Portfolio priorities (varies per jurisdiction)								Forward looking results need to incorporate economic expectations over remaining life	Modelling Risks: High / Medium / Low			
Probability of Default (PD)	**Constant**: Extrapolate long run IRB PD output minus		③	③	③	②	①	①	①	Year 1 adjustment	L	H	M	L
	Risk tree: Calibrate Hazard function per risk segment	①	①	②	①	①				Multi year projection	M	L	M	M
	Regression: Develop "default in ever" scorecard	②	②	①	②					Year 1 adjustment	L	H	M	M
	Migration Matrix: Create Markov Chain per grade	③		③		③	②	③	③	Multi year projection	M	M	M	M
	Market implied: Extrapolate data e.g. CDS spreads						③	②		Year 1 adjustment	M	L	H	L
	Simulation: Monte Carlo default distribution estimate								②	Multi year projection	H	L	M	M
Loss Given Default (LGD)	**Constant**: Recalibrate downturn output to PiT result	①	①	①	①	②	①	①	①	Year 1 adjustment	L	H	M	L
	Risk tree: Calibrate average loss risk per risk segment	②	③	②	③	①	②	②	③	Multi year projection	M	L	M	M
	Regression: Develop "average loss in ever" scorecard	③	②	③	②	③	③	③		Year 1 adjustment	M	H	M	M
	Simulation: Monte Carlo loss distribution estimate					③			②	Multi year projection	H	L	M	M
Exposure at Default (EAD)	**Constant**: Recalibrate downturn output to PiT CCF	①	①	①	①	②	①	①	①	Year 1 adjustment	L	H	M	L
	Best Estimate: Project most likely repayment profile	②	②	③	②	①	②	②	③	Multi year projection	H	L	M	M
	Regression: Develop "average in ever" scorecard	③	③	②	③	③	③	③		Year 1 adjustment	L	H	H	M
	Simulation: Monte Carlo balance distribution estimate					③			②	Multi year projection	H	L	M	M

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

	Impairment modelling	Impairment calculation	Impairment forecast	Disclosure
Models	WP1 – Impairment model methodology			
Data	WP2 – Impairment model main-tenance	WP3 – Impairment calculation	WP4 – Impairment fore-casting, budgeting & stress testing	WP5 – Disclosure
Processes				
Controls				
Reports				
People	WP6 – Organisation design			
IT	WP7 – Impairment IT infrastructure			

Illustrations of high level design

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

R A G
Delivery risks associated with the selected option, with a potential adverse.

Quantitative Benefits

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

Qualitative Benefits

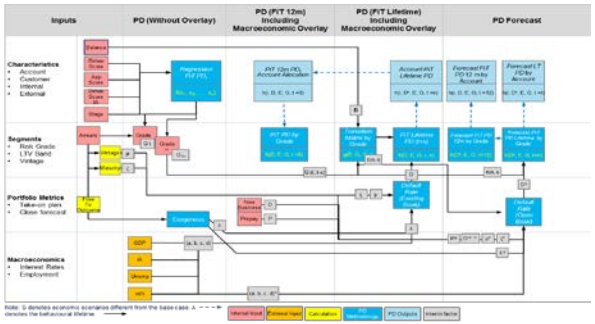
Qualitative benefits are associated per TOM dimensions and include non-monetary factors.

5-year Return

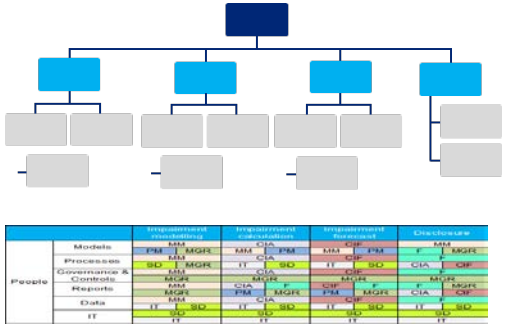
£m
- Project Costs
+ Quantitative Benefits over a 5-year horizon
= 5-year Return

Study approaches for each IFR9 component are designed to align with selected option and meet firm principles as illustrated below

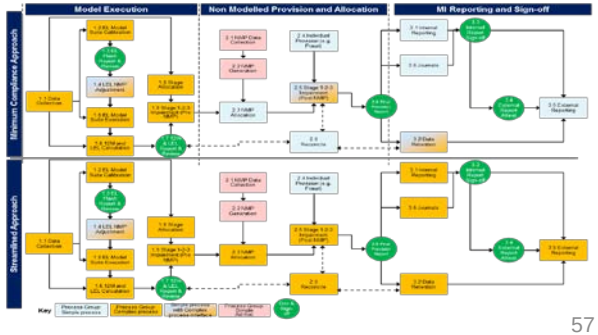
EL and LEL Modelling Methodology design



Organisational design & roles



Impairment Actuals & forecast process flows

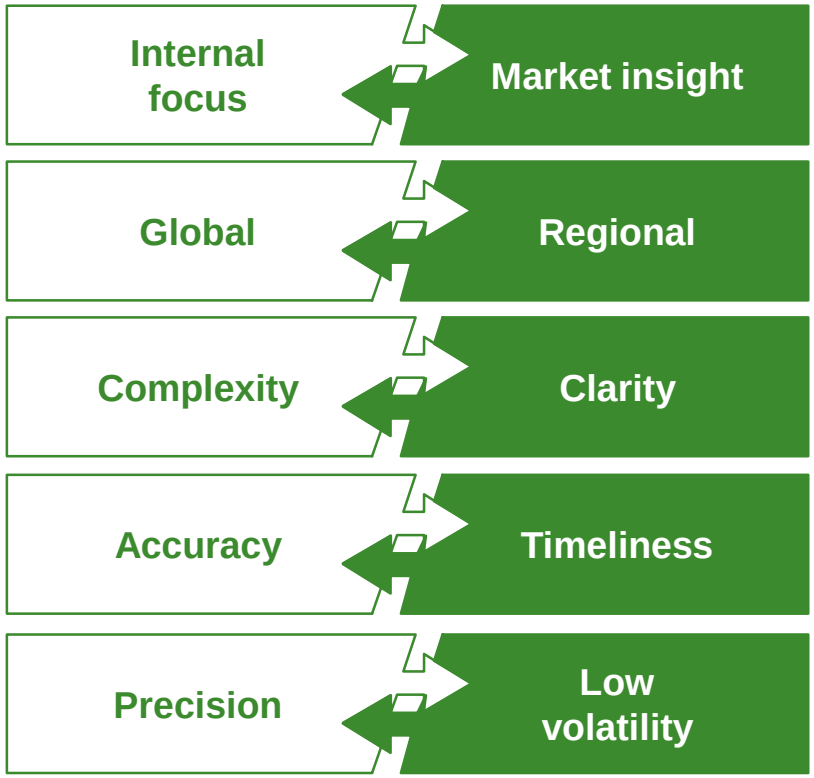


Implementation Complexities: Balancing Priorities

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.

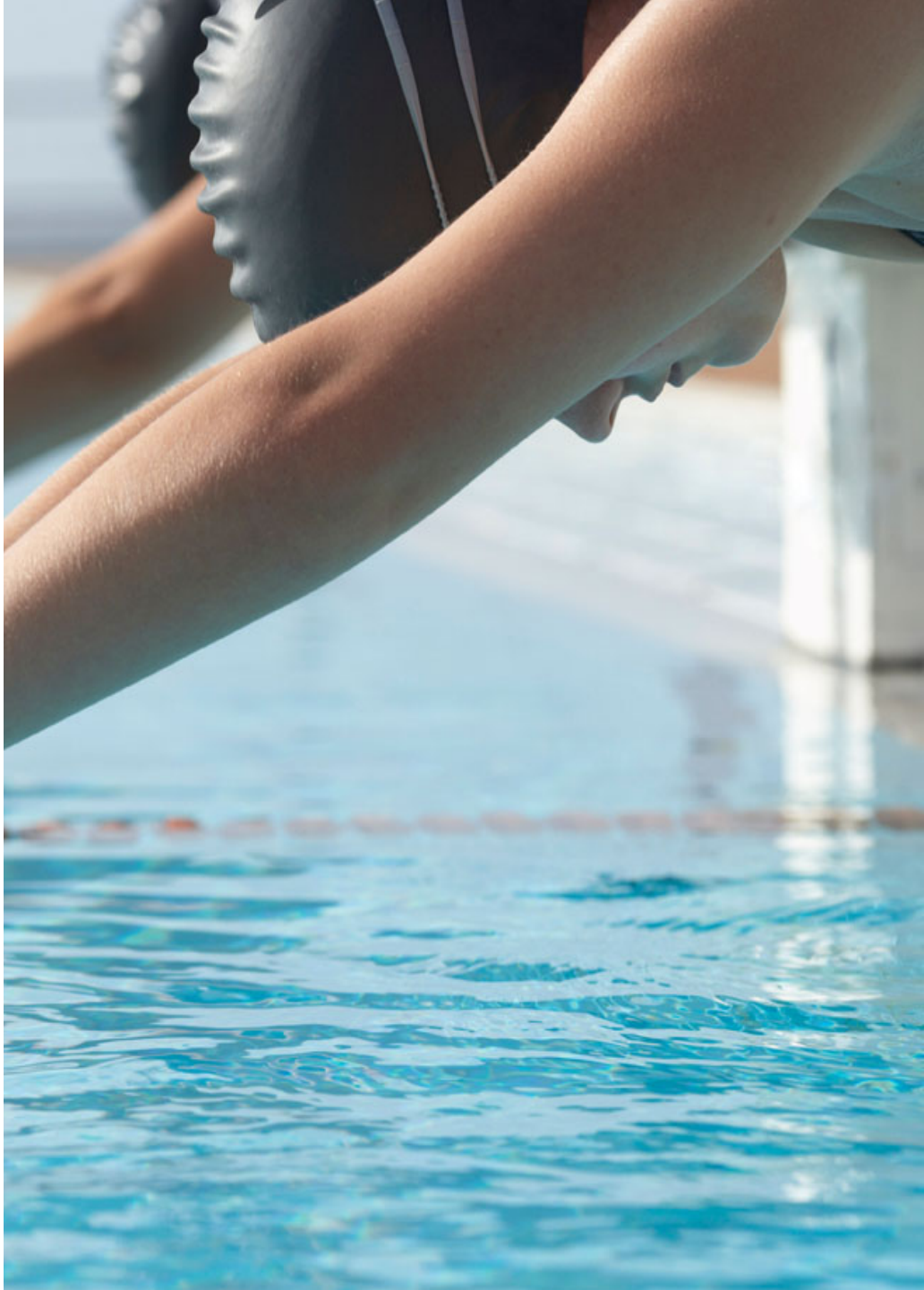


Managing Stakeholders

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



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)

Transition – Expected loss impairment model

New requirements will generally apply retrospectively…

... with some exceptions and practicability accommodations

Significant increase in credit risk

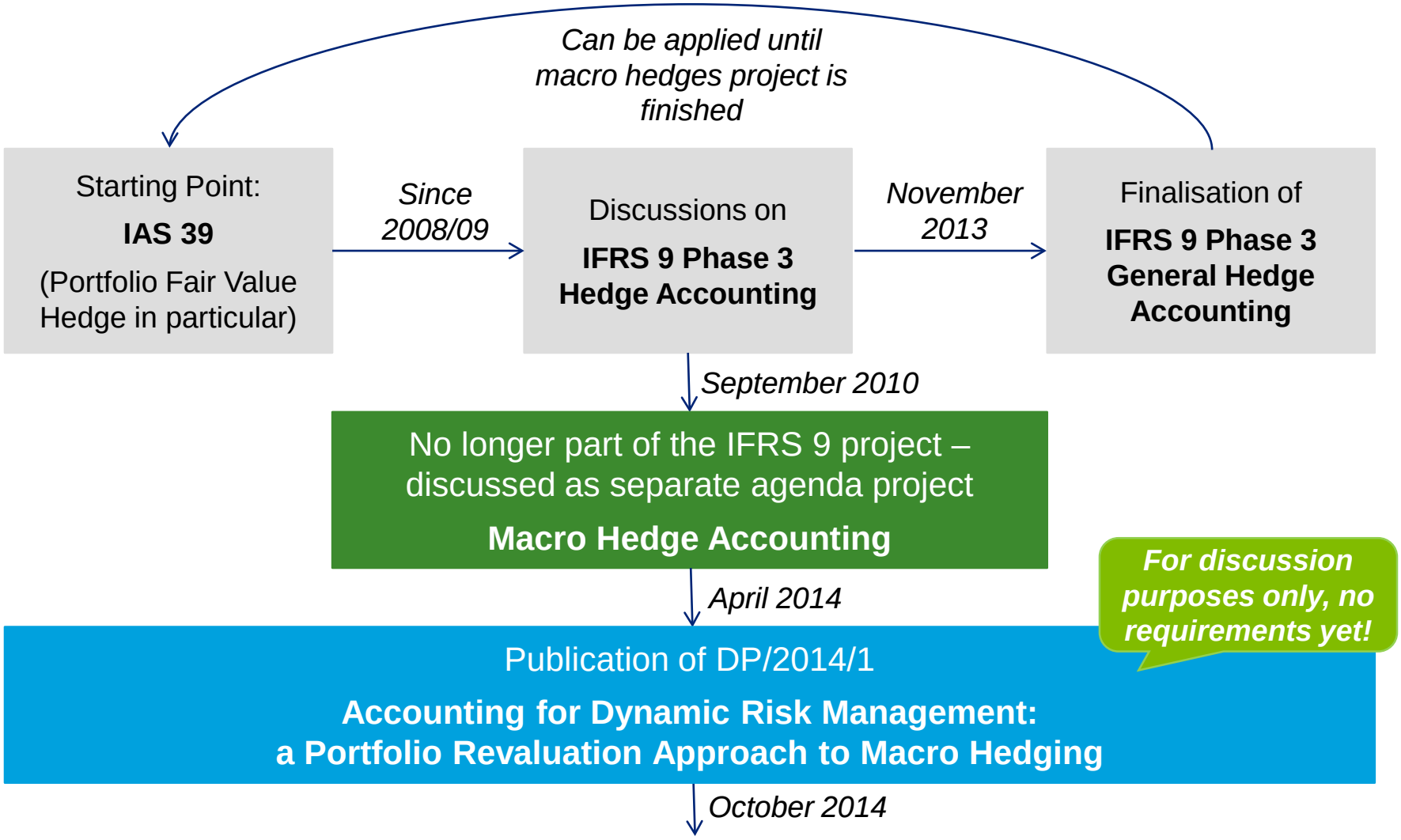
- Assessed at Date of Initial Application (DIA) since date of initial recognition
- Using reasonable and supportable information available without undue cost or effort

Not available without undue cost or effort

- Recognise lifetime expected credit losses until derecognised
- Unless low credit risk at reporting date

General Hedge Accounting

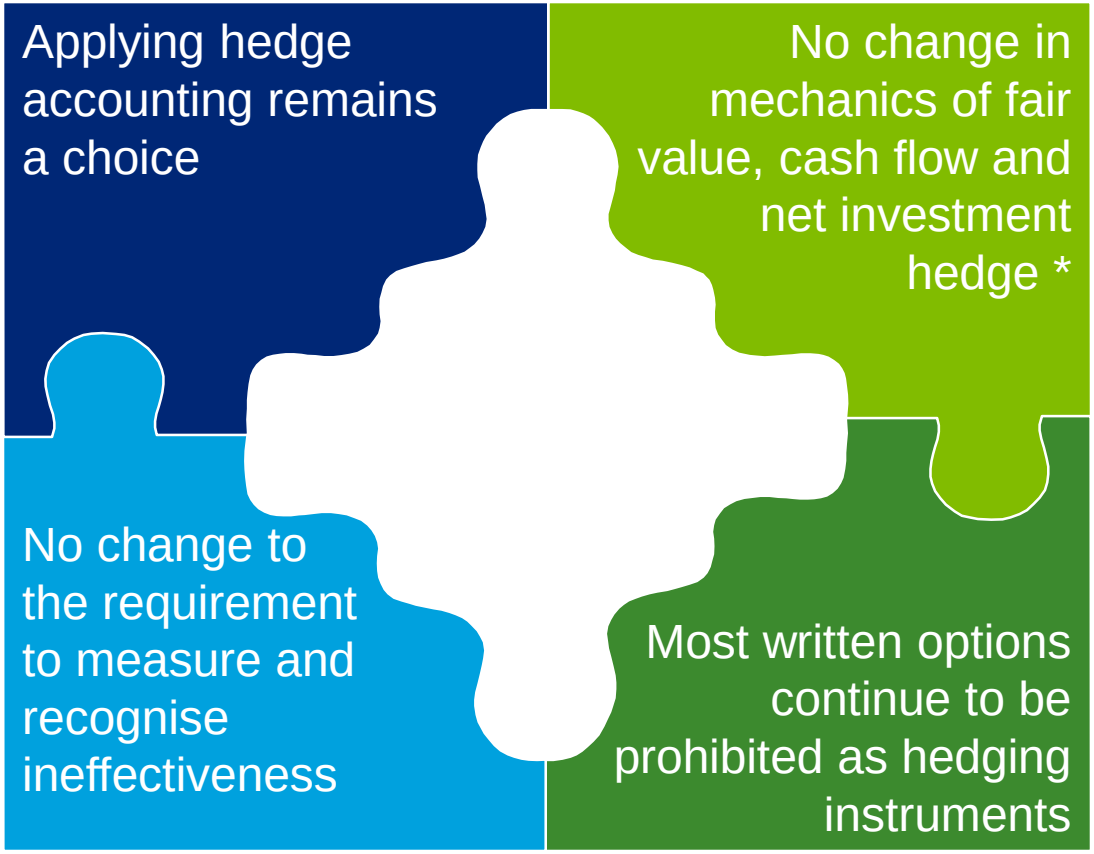
Project Overview



Evaluation of comments received and articulation of next steps

Transition from Hedge Accounting Requirements under IAS 39 to IFRS 9 Financial Instruments

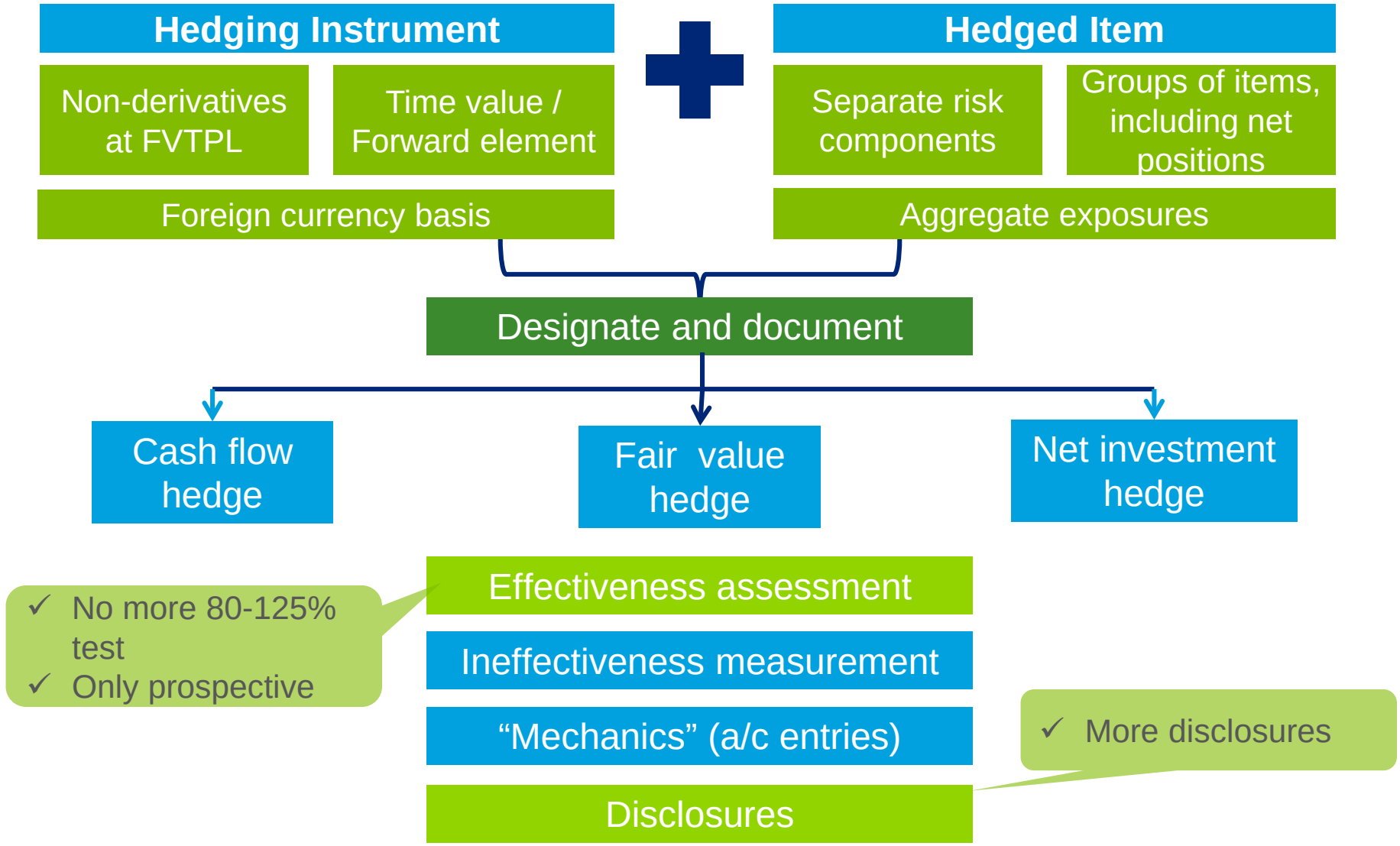
*Key elements that have **not** changed…*



** Except for fair value hedges of equity instruments for which the OCI option has been exercised*

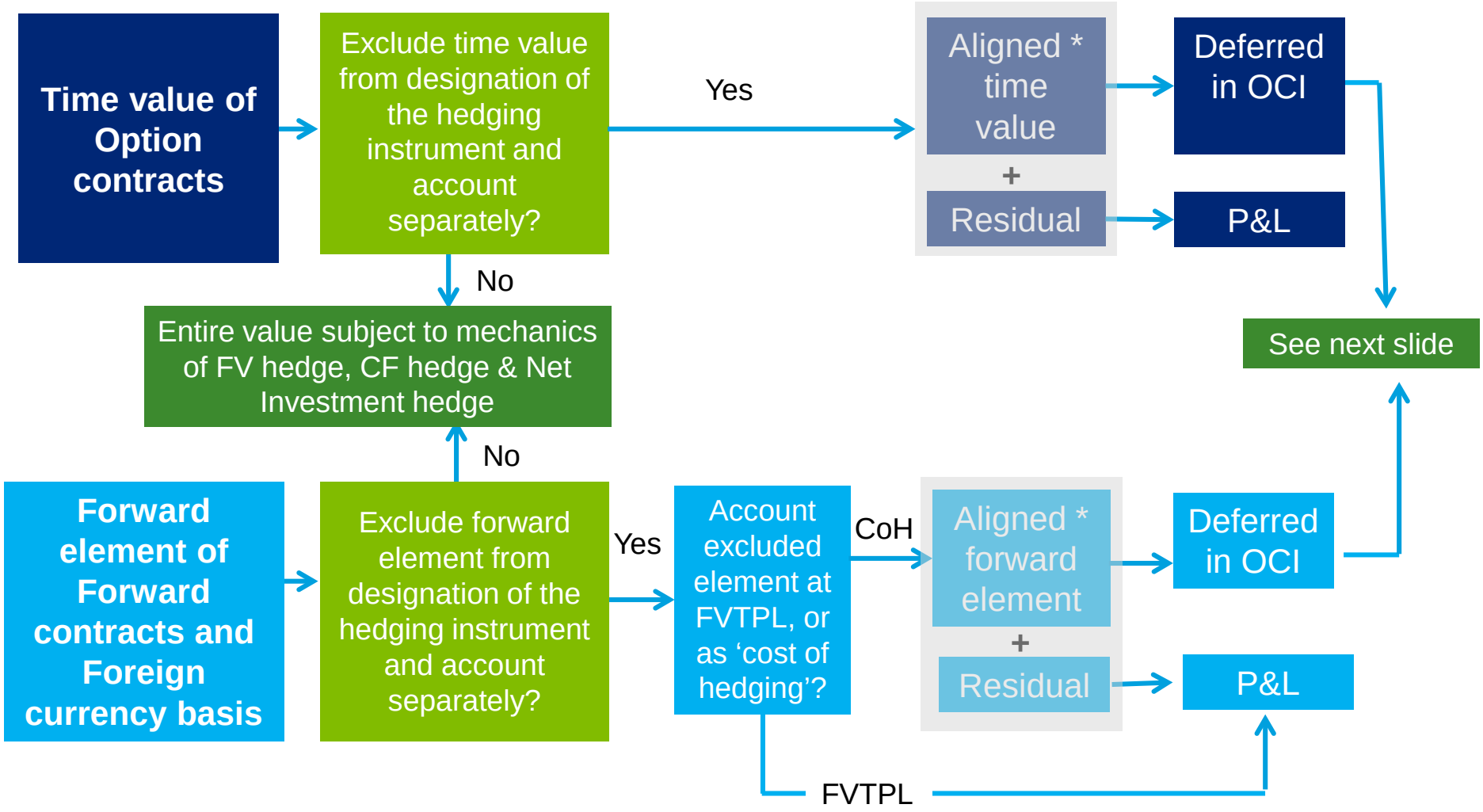
Transition from IAS 39 to IFRS 9 hedge accounting

Key changes introduced by IFRS 9



IFRS 9 hedge accounting

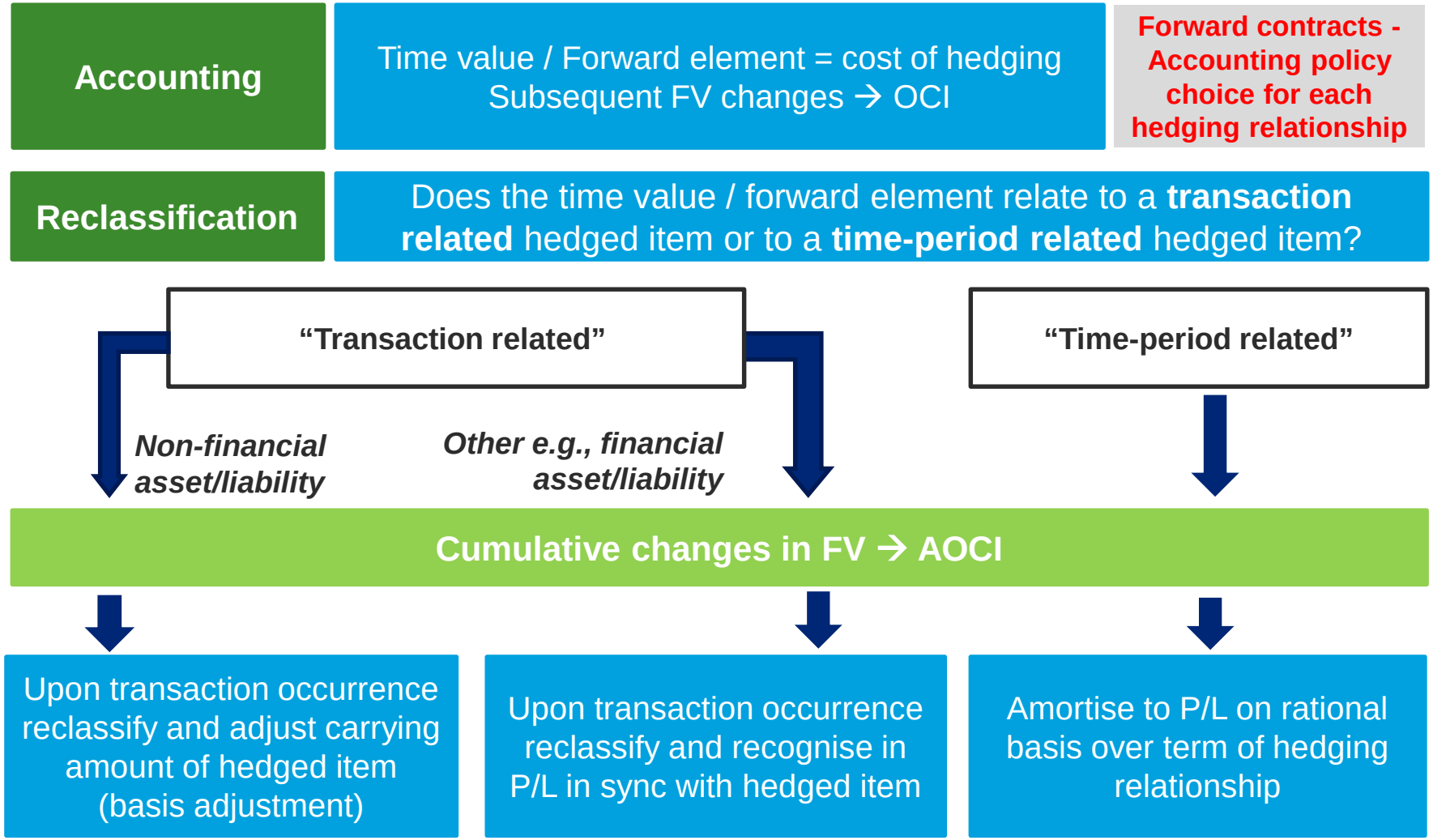
Accounting for the “cost of hedging”



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

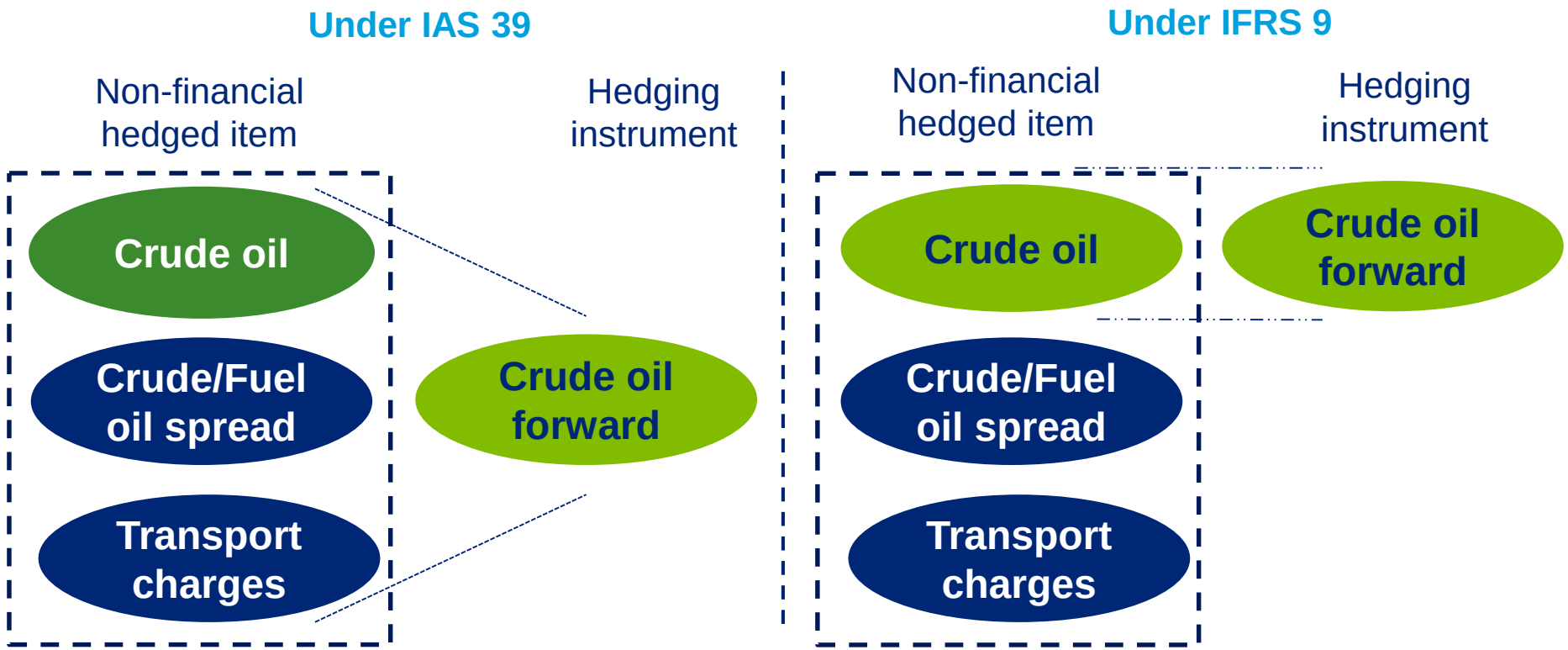
IFRS 9 hedge accounting

Accounting for the 'cost of hedging' (cont'd)



Qualifying hedged items

Risk components of non-financial items



Risk components of non-financial items → **ONLY ELIGIBLE IF** → **Separately identifiable** + **Reliably measurable** → **Expert**

Qualifying hedged items

Aggregated exposure

Aggregated exposure = **An exposure** + **A derivative**

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

Two risk exposures	Features	Hedged item	Hedging instrument
CF $ interest rate and FX risk First level relationship	Designation **on 01/01/19** with the term ending **31/12/2021**	Forecast $ variable interest payments	CCIRS (pay fixed € /receive variable $)
FV interest rate risk Second level relationship	Designation **on 01/01/20** with the term ending **31/12/2021**	Aggregated exposure	IRS (pay variable € /receive fixed €)

Forecast fixed interest payments in €

Hedge effectiveness requirements

Three-part test

Values of hedged item and hedging instrument generally move in opposite direction

Qualitative vs quantitative assessment (ineffectiveness still measured)

Prospective test only

Credit risk does not dominate

Credit risk can negate economic relationship

Both own credit and counterparty credit

Consider both hedged item and hedging instrument

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

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

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)

Transition from IAS 39 to IFRS 9 hedge accounting

New requirements will apply prospectively…..

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

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

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

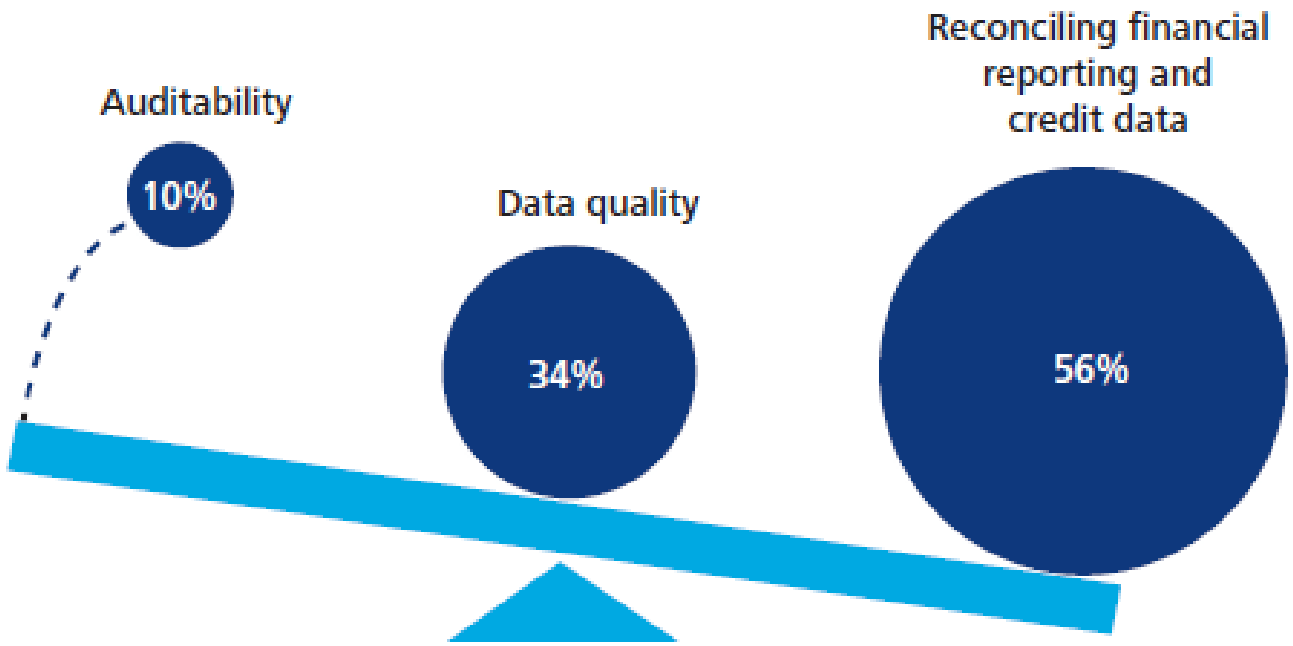
- apply the IAS 39 hedge accounting requirements for Portfolio Fair Value Hedges of Interest Rate Risk (only); or
- continue to apply IAS 39 hedge accounting requirements for all hedges.

Deloitte.

IFRS9
Implementation challenges

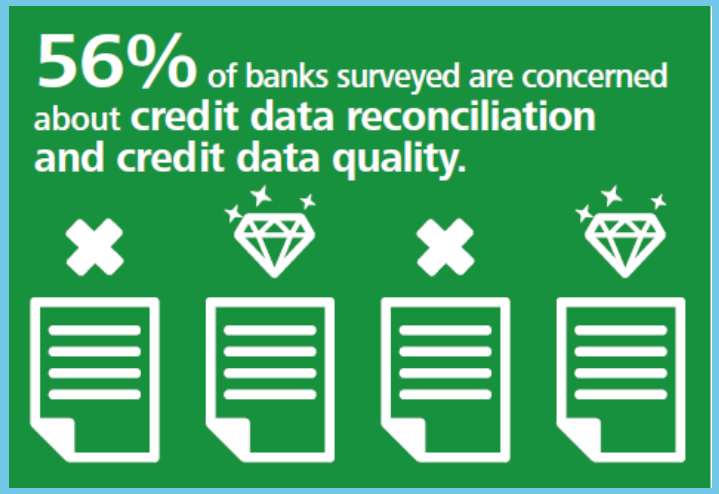
Arno De Groote
Enterprise Risk Services

What are your biggest concerns about using credit risk data & systems for financial reporting purposes?



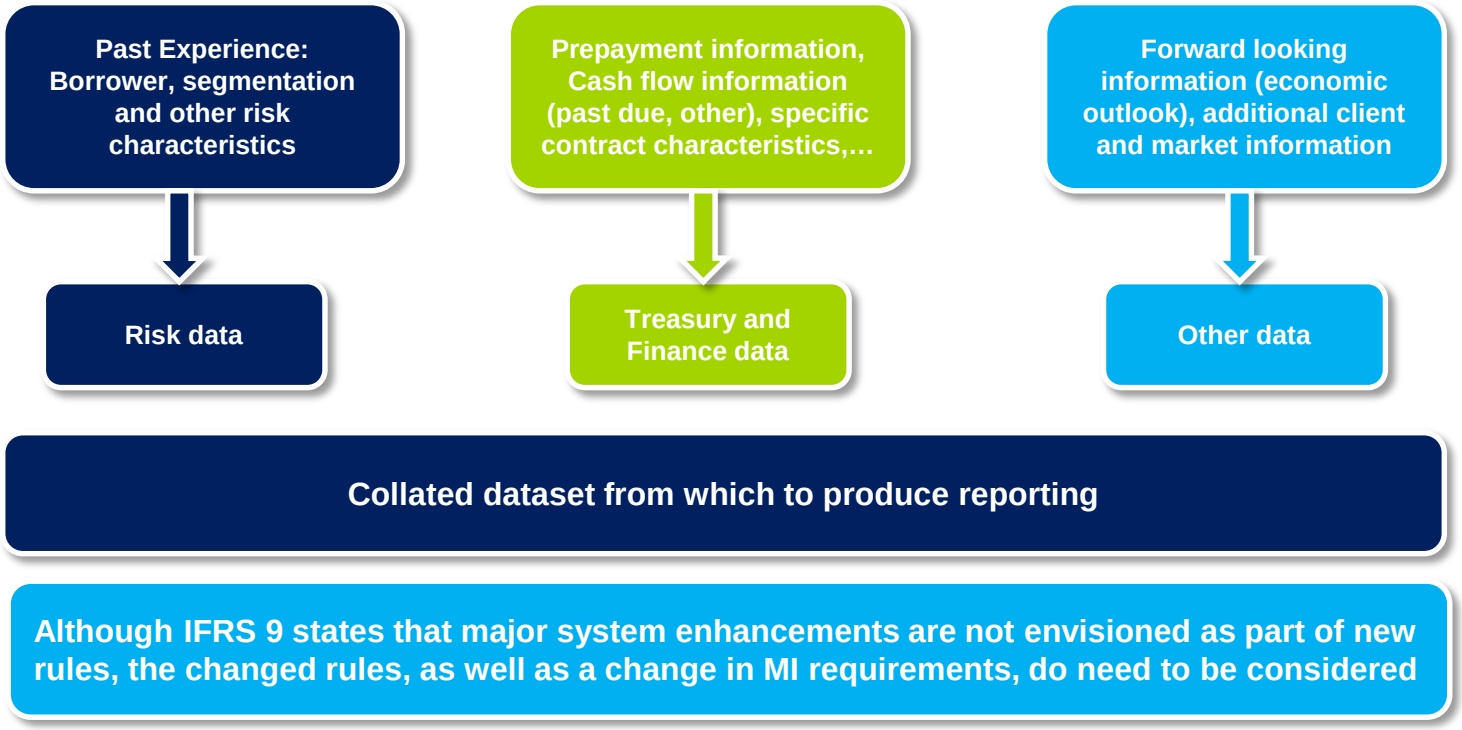
Source: the 4th Banking Survey

Will data management really be a challenge?



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.



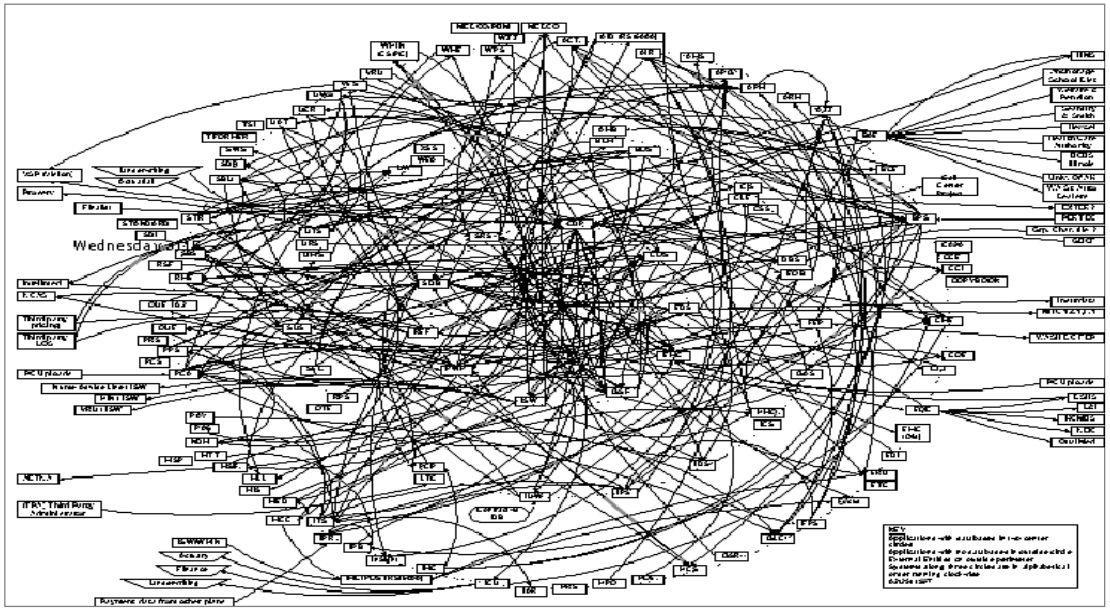
It’s a messy world of data out there…

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……..

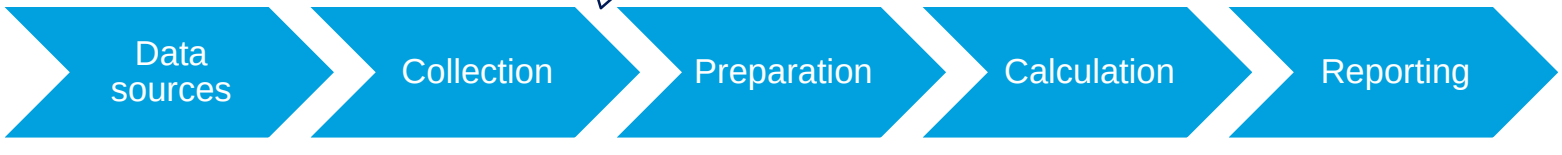


Will data management really be a challenge in order to reach IFRS9?

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

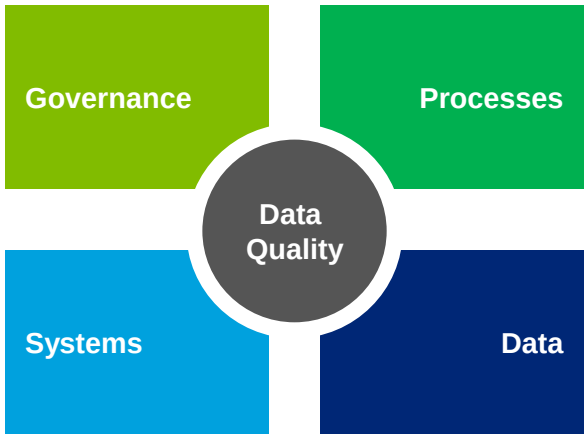
Deep dive on some data management challenges

Key elements to achieve superior Data Quality

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

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

Operating model



Supporting enablers

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

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

Any standards from a regulatory point of view?

Insurance undertakings

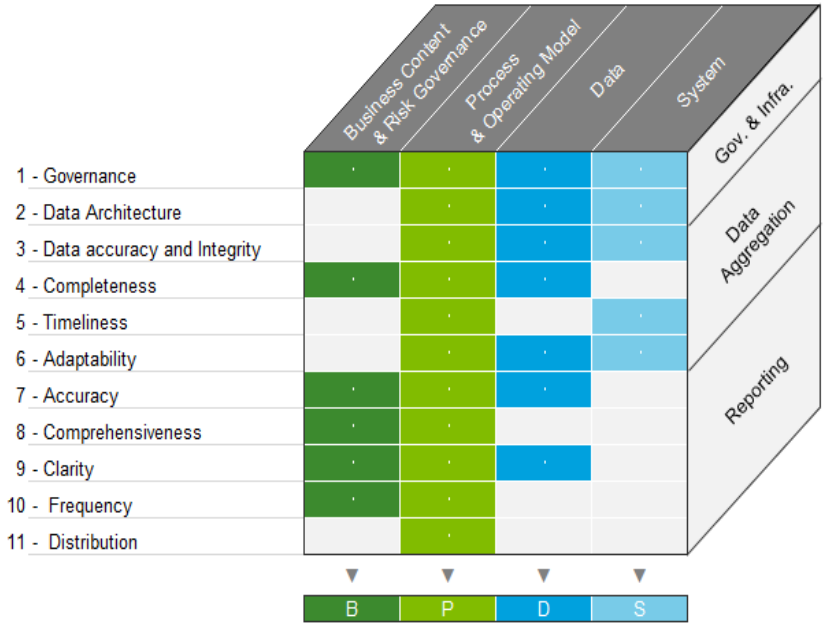
Solvency II requirements for data quality (technical provisions / internal model)

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

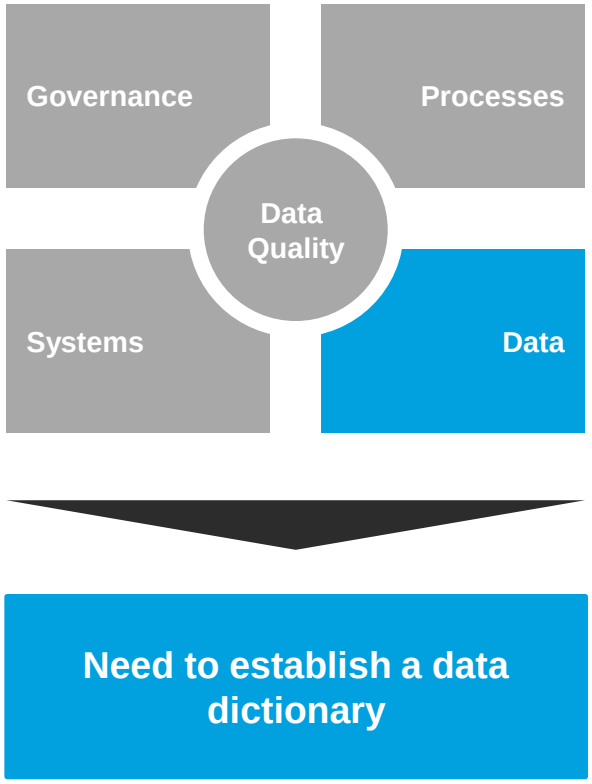
BCBS 239 (Effective Risk Data Aggregation and Risk Reporting) defines eleven principles that banking institutions should follow



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 occurs during data processing and determines their origin.

Metadata Management

What does Metadata Management stands for ?

Illustration

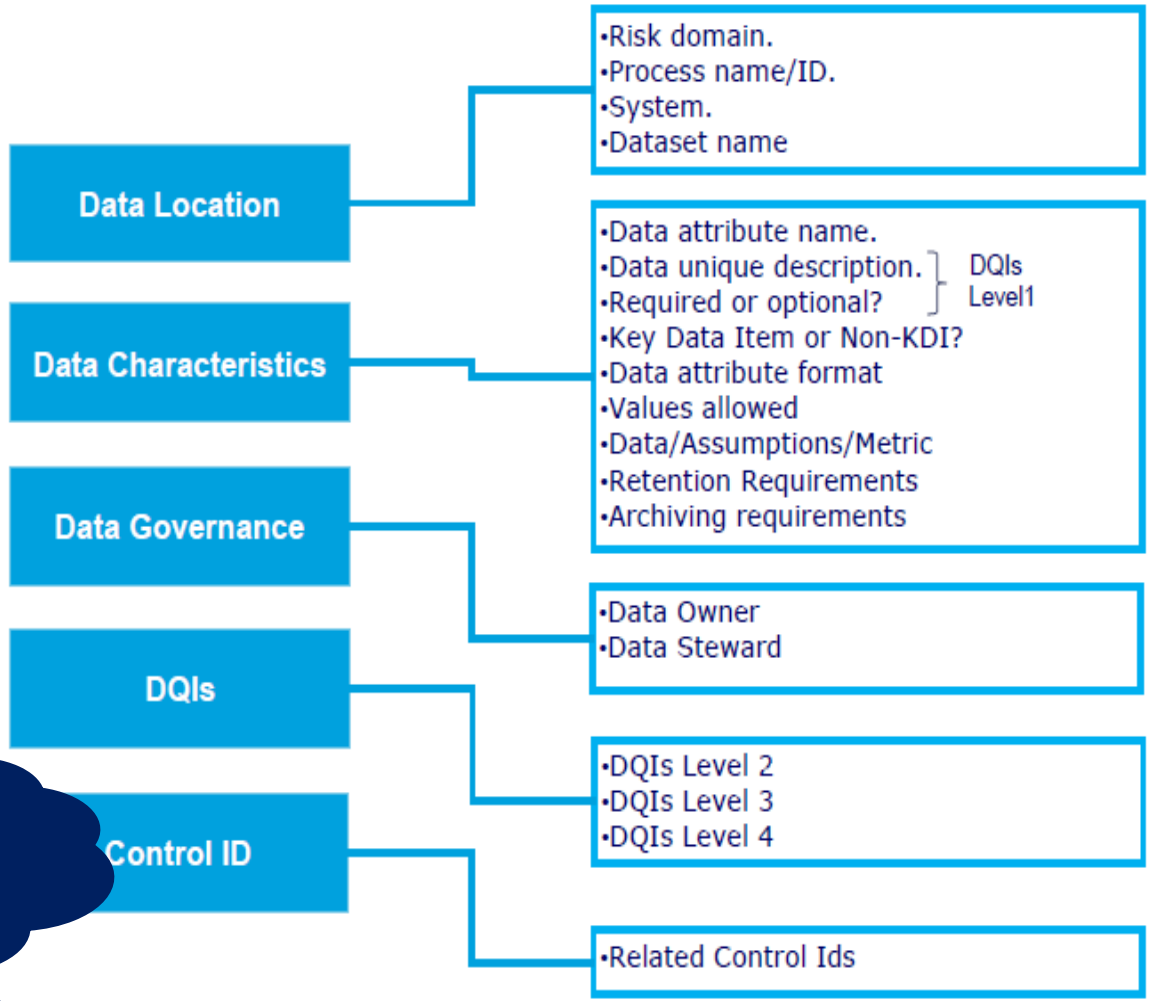
Containing information allowing to identify and locate precisely the given Data Item

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

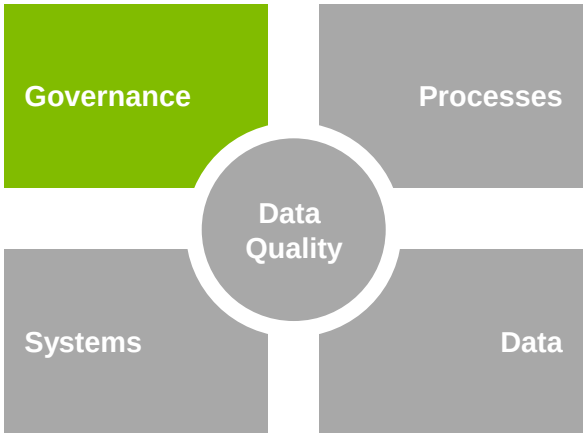
Link Finance and Risk data together in order to improve the Single Customer View across the organisation



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



Need to define roles and responsibilities within processes.

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**.

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

Senior Function

Data Quality Officer

Coordination

Sign-off

Data Owner | **Data Owner** | **Data Owner** | ...

Data handling

Data Steward	Data Steward	Data Steward	Data Steward	Data Steward	Data Steward	Data Steward	Data Steward	Data Steward	Data Steward	Data Steward	...

System maintenance

Data Custodian	Data Custodian	Data Custodian	Data Custodian	Data Custodian	Data Custodian	Data Custodian	Data Custodian	Data Custodian	...

Data Governance

Illustration of the roles in a data management process

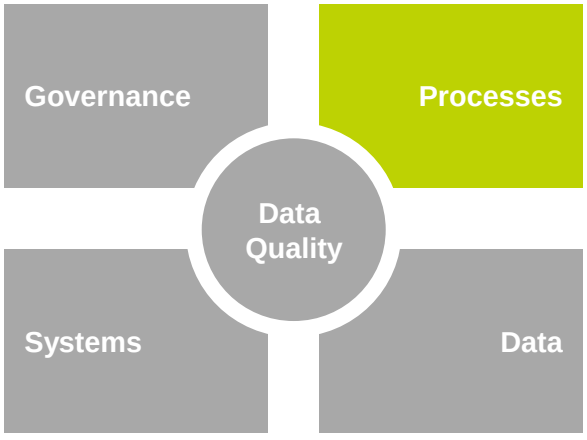
Who does what in the data quality process ?

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

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.



Need to establish policies and define indicators to assess the quality of 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.

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

			Importance of control							DQI						
Domain	Functional group	Materiality	Appropriateness	Completeness	Accuracy	Integrity	Timeliness	Validity	Accessibility	Appropriateness	Completeness	Accuracy	Integrity	Timeliness	Validity	Accessibility
Assets	Investments Data - Portfolio list	Medium	M	L	M	M	H	H	H							
Assets	Properties held for investment	Medium	M	M	L	M	H	M	H							
Assets	Derivatives data	Low	M	M	M	M	M	M	M							
Assets	Collective Investment Schemes	High	M	M	H	H	M	H	M							

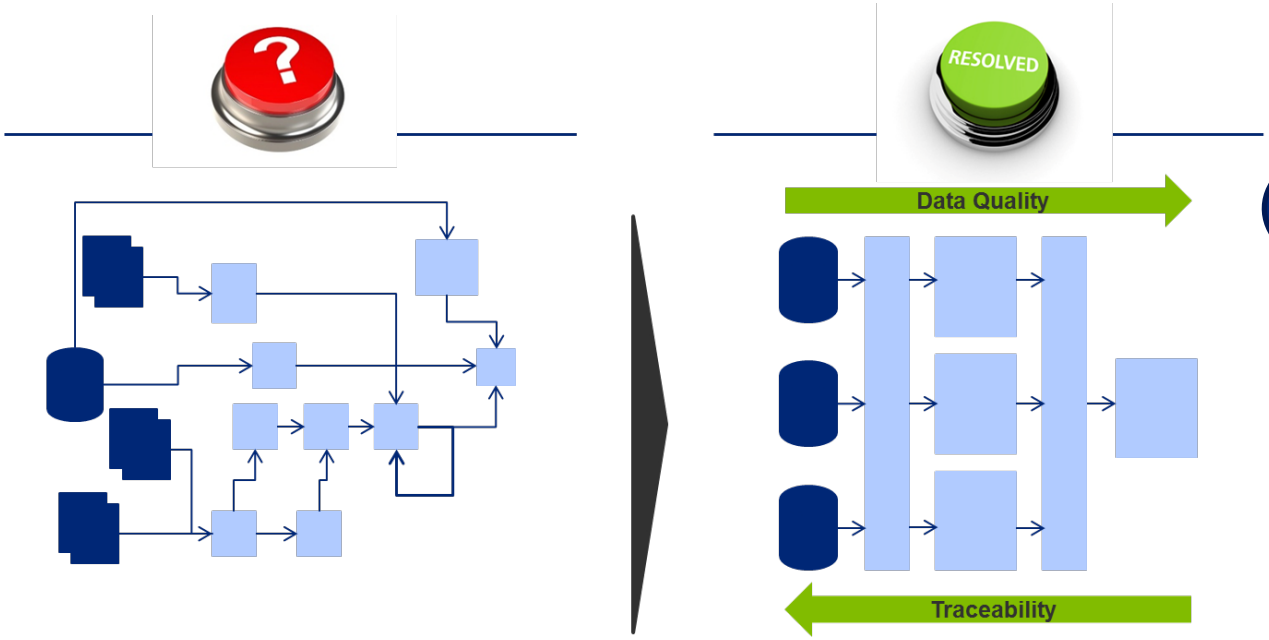
Data Quality Management

Measuring Data Quality in a 4-step-framework

Pre-requisite	Elementary controls		Complex controls
Level 1: Data Definition	**Level 2: Data Identification**	**Level 3: Data Validity**	**Level 4: Data Reasonableness**
Ensure that the data is clearly defined. Is a periodic review.	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.		
Compare Data Directory with model data needs The granularity of the data attribute must be specified and validated by an expert.	Control that all mandatory fields are filled in.	Verify that the field has an acceptable value, the right format and range of values.	Identify deviations from expected values based on expectations and reconcile data with other sources.

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?



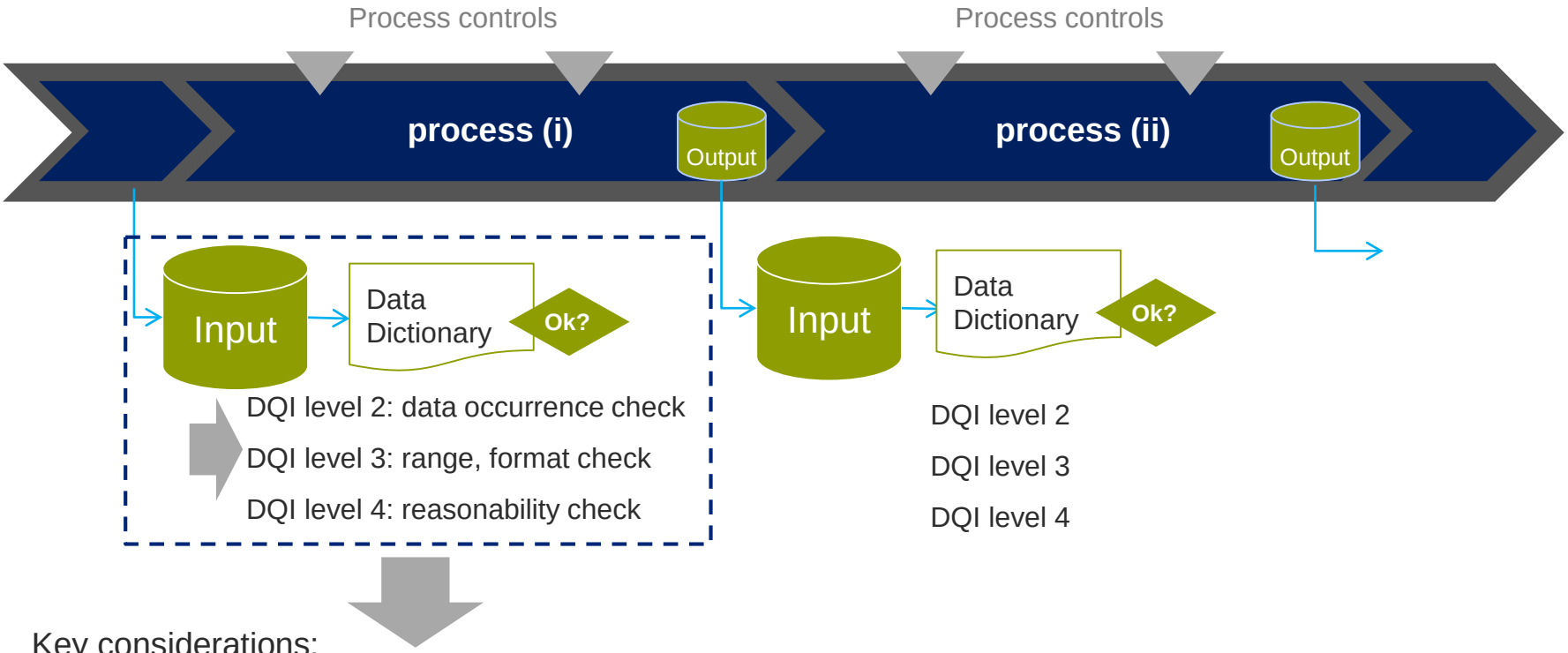
- Mainly manual with high risk of mistake
- Origin of data sometimes unknown
- Undocumented

- 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

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