General Model (aka Building Block Approach or BBA) Income statement

Initial Calibration of General Model

PV of Premium	CSM	▪ Contractual Service Margin	Represents unearned profit to be recognized as it provides the services in the future.
	RA	▪ Risk Adjustment	Adjustment equal to entity's required compensation for bearing uncertainty in underlying cash flows from non-financial risk.
	PV of Benefit and Expense CFs	▪ Present Value of Best Estimate of fulfilment cash flows	Present value of best estimate cash flows to fulfill the contract within the contract boundary; discounted at rates that reflect characteristics of the liability including timing, currency and liquidity.

Best estimate - Fulfilment Cash Flows

Objective: Estimate the expected (mean) present value of future cash flows

- Best estimate cash flows under all possible scenarios based on conditions as of the reporting date – captures the time value of options and guarantees

- Incorporate in unbiased way all reasonable and supportable information available without undue cost or effort about amount, timing and uncertainty of CFs.

- Reflect perspective of the entity as long as market variables are consistent with observable market prices for those variables

- Only include cash flows within the boundary of the contract

  - As long as the company can compel the policyholder to pay the premiums or has a substantive obligation to provide the policyholder with coverage

  - Until the company has the right or the practical ability to reassess the risks by changing the price or level of benefits

- Only include cash flows directly attributable to insurance contracts – excludes general overhead expense.

- May estimate cash flows at a higher level of aggregation than group of contracts

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Risk Adjustment

- Adjustment to PV of cash flows to reflect compensation entity requires for bearing uncertainty as to amount and timing of CFs due to non-financial risk

  - Financial risk is reflected in cash flows or in discount rate and not in the RA

  - Non-financial risk includes insurance risk and other risk such as lapse and expense risk

- Only reflects risk arising from insurance contracts; not general operational risk.

- Reflects degree of diversification the entity includes when determining the compensation to require. For measurement on a more granular level it will be necessary to allocate the amount of diversification (marginal approaches, game theory)

- Reflects both favorable and unfavorable outcomes in a way that reflects the entity's degree of aversion to risk.

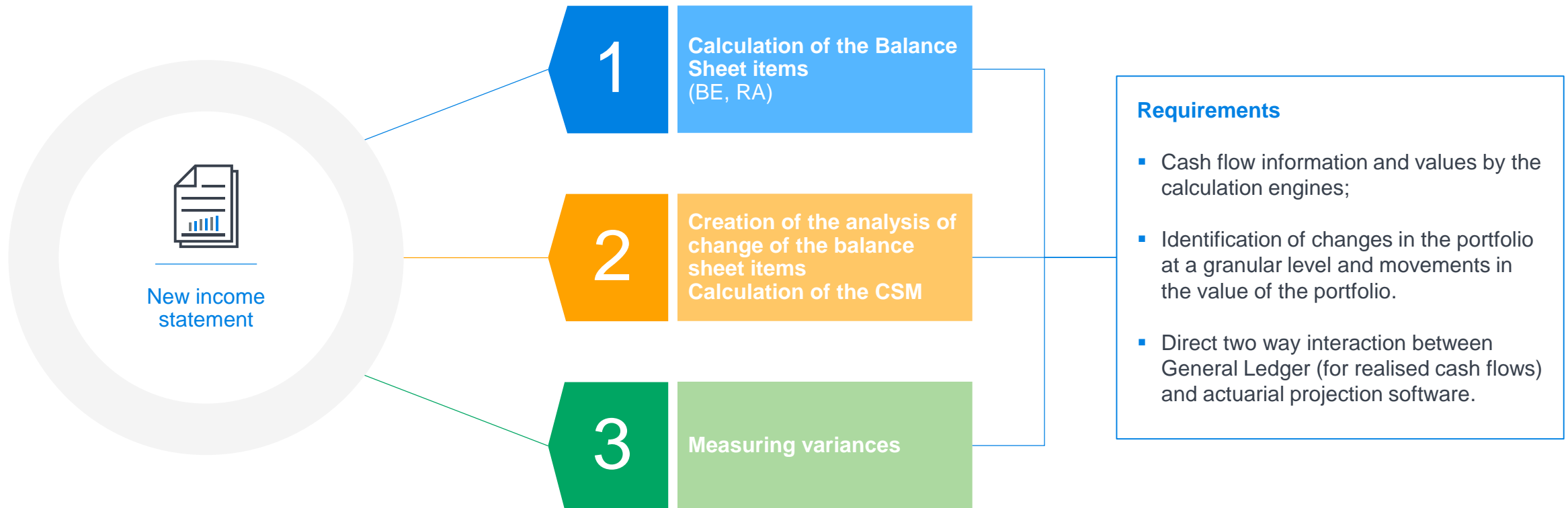- Key Observation: A larger risk adjustment means a smaller CSM and visa versa.

Contractual Service Margin

- An amount that reflects the excess of the consideration charged for the contract over the risk-adjusted expected present value of the fulfilment cash outflows.

- The contractual service margin is a measure of the service the entity would perform in fulfilling the contract. Accordingly the entity would not recognise the excess as an immediate gain, but would instead recognise that gain over time as the entity satisfies its obligation to provide service over the coverage period.

- The contractual service margin can not be negative.

- Amortized over coverage period in proportion to service provided (i.e., insurance coverage or benefits).

- CSM released in year t = (expected FA in year t) / (sum of expected FA in all years)

- CSM unlocked for changes in estimates of future cash flows related to providing future service that derive from non-financial risks.

- CSM not unlocked for changes in discount rates

About IFRS 17
Balance sheet and income statement components

To construct the new income statement "requires" a three step approach

New income statement

1 Calculation of the Balance Sheet items (BE, RA)

2 Creation of the analysis of change of the balance sheet items
Calculation of the CSM

3 Measuring variances

Requirements

- Cash flow information and values by the calculation engines;

- Identification of changes in the portfolio at a granular level and movements in the value of the portfolio.

- Direct two way interaction between General Ledger (for realised cash flows) and actuarial projection software.

Analysis of change

Essential input for the income statement

Best estimate	Risk Adjustment	Contractual Service Margin	Revaluation reserve (Other comprehensive income)
Release of estimate cash flows	Release of estimated RA	Release of estimated CSM	
Roll forward discount rate	Roll forward discount rate	Roll forward discount rate	
New business	New business	New business	
New onerous contracts	New onerous contracts		
Change of the discount rate and economic parameters	Change of the discount rate and economic parameters	Change of the discount rate and economic parameters	Change of the discount rate and economic parameters
Change in non economic assumptions	Change in non economic assumptions	Changes in BE and RA to be absorbed by the CSM	
Variances the portfolio	Variances the portfolio	Variances the portfolio	
Best estimate end of period	**RA end of period**	**CSM end of period**	**OCI end of period**

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Presentation – Insurance revenue

Profit and loss account
Release of CSM
Release of Risk Adjustment
Release of liability for claims, losses and premiums (based on estimates)
Release of liability for expenses
Insurance revenue

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Presentation – Profit and loss account

Profit and loss account
Insurance revenue
Losses of Onerous Contracts
Claims and losses incurred
Expenses
Insurance service expenses
Insurance service result
Investment income
Interest accretion on insurance liabilities
Investment result
Profit or loss

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Challenges of IFRS 17

Challenges of IFRS 17

PARAMETERS

Historical information – parameters and results

Discount rate – top down or bottom up, evidence of correctness

Expense allocation – only attributable

PRESENTATION

Balance sheet and income statement components

Presentation of income statement – need to develop template

Granularity, homogeneous value groups/unit of account

CALCULATIONS
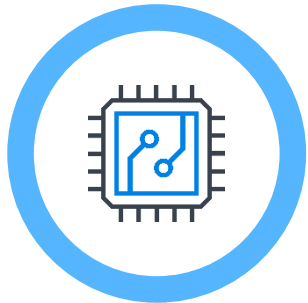
Retrospective application to in-force business

CSM – need historical information and asymmetric treatment of "negative CSM". Determination of the "coverage unit" per line of business

Risk adjustment – need to select method and calibration

OCI – when to use it and how to structure calculations to support it

PERFORMANCE & RECONCILIATIONS
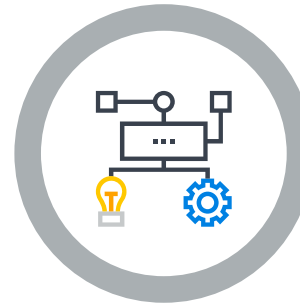
Forecasting – How to forecast under new regime

Performance metrics – more focus on the development of the CSM and the OCI

Reconciliations – to current IFRS regime and other reporting bases (SII, etc)

Interaction with IFRS 9
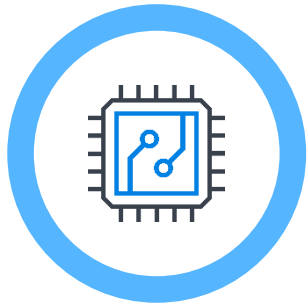
Challenges of IFRS 17 (2)

DATA

Higher data requirement: more granular, more historical information

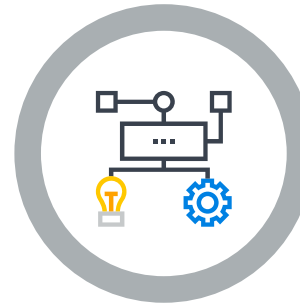Effective data storage

Better auditability

PEOPLE & STRUCTURE

Training & Education

Integration of Actuarial, Risk and Finance functions

Policies & processes

TECHNOLOGY
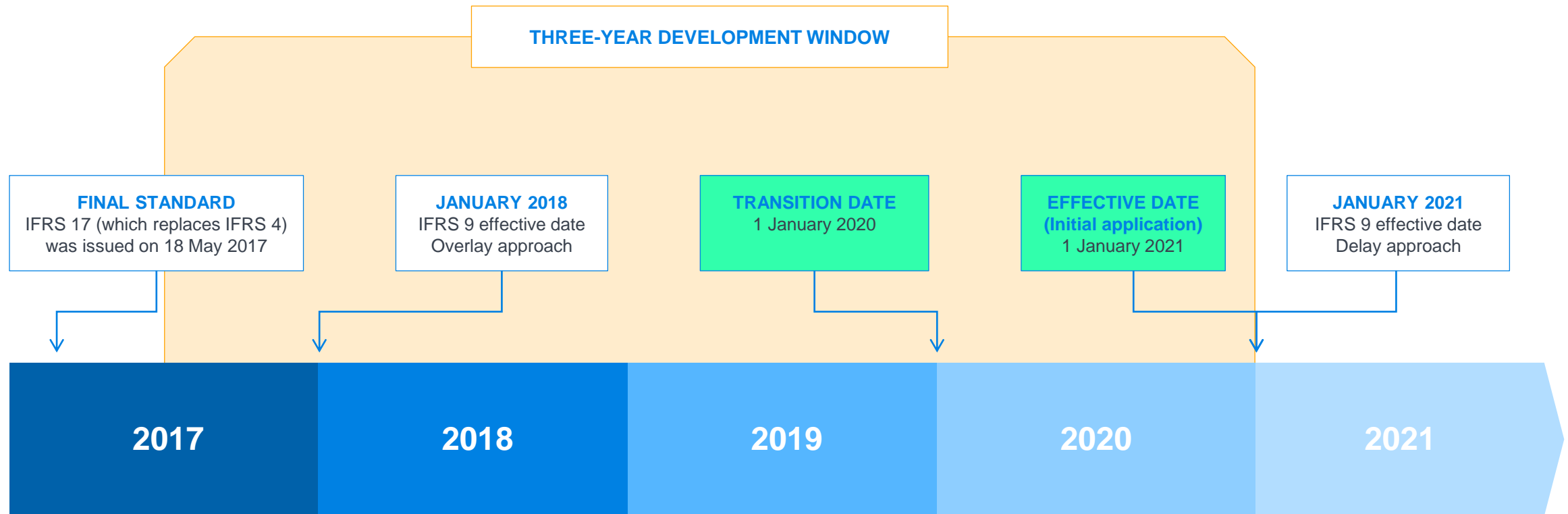
Better technology and less End-User-Computing
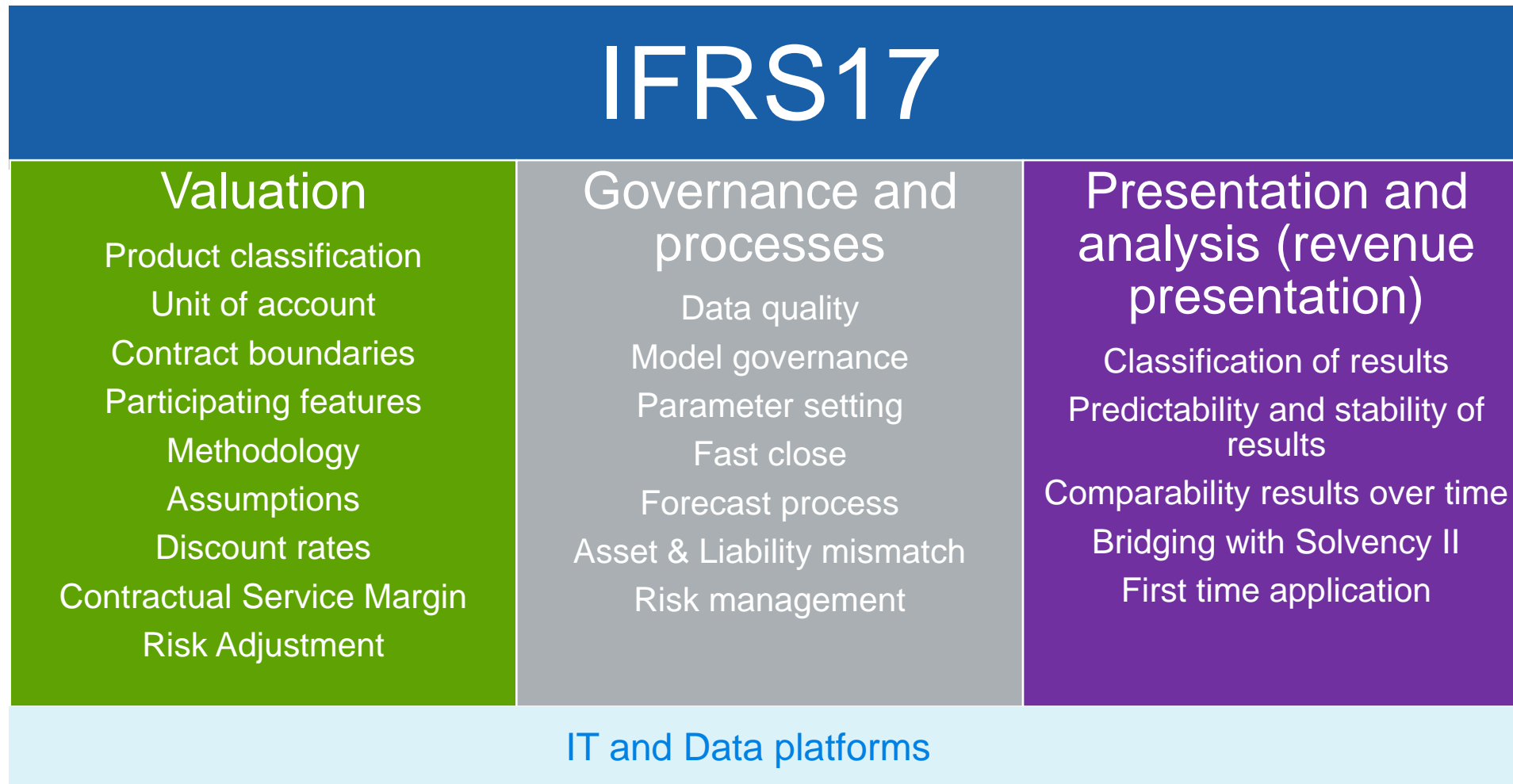
STRATEGY & GOVERNANCE

Capital generation and earnings

Asset allocation and ALM

Product design and distribution

Operational impact of the transition

Pathway to Implementation

Time lines IFRS 17 and IFRS 9

THREE-YEAR DEVELOPMENT WINDOW

FINAL STANDARD
IFRS 17 (which replaces IFRS 4) was issued on 18 May 2017

JANUARY 2018
IFRS 9 effective date
Overlay approach

TRANSITION DATE
1 January 2020

EFFECTIVE DATE
(Initial application)
1 January 2021

JANUARY 2021
IFRS 9 effective date
Delay approach

| 2017 | 2018 | 2019 | 2020 | 2021 |

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Three pillar approach – Re-use Solvency II experience

IFRS17

Valuation

Product classification

Unit of account

Contract boundaries

Participating features

Methodology

Assumptions

Discount rates

Contractual Service Margin

Risk Adjustment

Governance and processes

Data quality

Model governance

Parameter setting

Fast close

Forecast process

Asset & Liability mismatch

Risk management

Presentation and analysis (revenue presentation)

Classification of results

Predictability and stability of results

Comparability results over time

Bridging with Solvency II

First time application

IT and Data platforms

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Example project plan in different work streams (1/2)

Valuation	Governance	Presentation	Data and IT
Mainly Actuarial	**Predominantly Risk** with involvement of Actuarial	**Mainly management and financial accounting** with involvement of Actuarial	**IT related** workstreams
1. Methodology, parameter setting, data specifications 2. Development of the calibration model / process 3. Development of the reporting model (incl. movement)	4. Governance regarding models, parameters and data. 5. Impact on Risk Management	6. Financial reporting including disclosures 7. Development of chart of accounts and implementation in financial reporting chain 8. First time application	9. Data and assumptions: extraction and storage 10. Management of tools and data warehouse 11. Data exchange interface between actuarial and accounting

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Example project plan in different workstreams (2/2)

	2017	2018	2019	2020

Pillar 1
- 1. Methodology, entity specific interpretation of the standard
- 2a Model performance
- 2b Model phase 1 coding
- 2c Model phase 2 coding
- 3 Non-Life modelling
- 4 Reinsurance modelling

Pillar 2
- 5 Governance / Validation
- 6 Risk Management
- 7 Strategy

Pillar 3
- 8 Development of chart of accounts
- 10 IFRS 17 update of the accounting ledger
- 9 Inventory and design of disclosures
- 13 Transition

IT
- 11 Data definitions, development of data warehouse and data exchange interfaces
- 12 Integration of actuarial models and results in the accounting closing process

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Transition

IAS 8 – Accounting Policies, Changes in Accounting Estimates and Errors

The implementation of the IFRS 17 standard will be performed consistent with IAS 8.

IAS 8 recognizes three types of changes in valuations:

1. Change in accounting policy: The implementation of IFRS 17
   a) This requires a retrospective application for each prior period presented
   b) This means adjusting the opening balance of each affected component of equity for the earliest prior period presented and the other comparative amounts disclosed for each prior period presented as if the new accounting policy had always been applied.
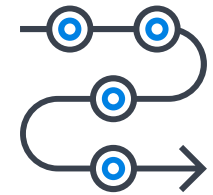
2. Errors:
   a) This requires restating all figures from the moment the error occurred or for each period presented
   b) Consequence: the implementation of IFRS 17 requires the highest level of quality, because in case of an error a retrospective application is required.

3. Change in accounting estimate:
   a) Prospective application: restate all figures from the moment the change is applied

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Transition to IFRS 17

- The following opening adjustments need to be made:
  - Measurement of all insurance liabilities as sum of BE and RA

  - Measurement of the CSM

  - Adjustment of the accumulated OCI, by including the difference on the fulfillment cash flows between current discount rates and initial discount rates

  - Adjustment of the retained earnings

  - Derecognition of DAC and intangible assets from previous business combinations that do not meet the definition of an intangible asset (VOBA)

  - Recognition of any assets or liabilities from business combinations not previously recognized

Challenge

- Easy parts are the determination of: Best estimate and Risk Adjustment
  - Forward looking
  - "Comparable" with Solvency II or Economic Balance sheet

- Difficult parts are the calculation of the Contractual Service Margin and Other Comprehensive Income as per the transition and effective date
  - Historical information for product classification and CSM/reserve for onerous contracts as per recognition date of the group of contracts
  - Movements in the portfolio between recognition date and transition date

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Transition – three approaches

Full retrospective approach	Modified retrospective approach	Fair value approach
- Required where not 'impracticable' - Requires day 1 data and assumptions and full history to date of transition - If impracticable, choose between modified retrospective and fair value approach	- Retrospective with simplifications to address data gaps - Assumes that the historical cash flows are equal to the estimated cash flows at recognition. - Simplifications can be applied on a piecemeal basis	- Comparison of fulfilment value to IFRS 13 fair value - Determination of fair value of insurance contract is unclear - Could result in limited CSM and future profits - Could lead to counter intuitive results for renewals and onerous contracts

Inception

Transition

Full retrospective and modified retrospective approaches

FV=Forward looking
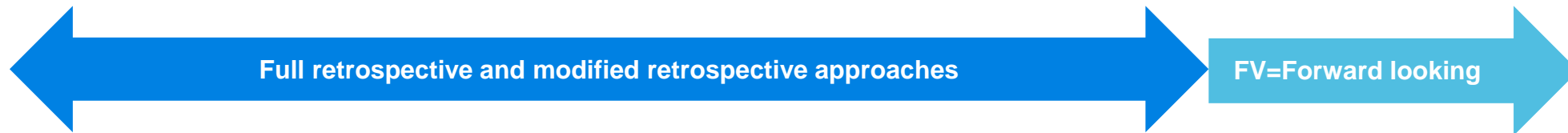
$CF_{t=0}$ $CF_{t=1}$ $CF_{t=2}$ $CF_{t=3}$ $CF_{t=n}$

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Modified retrospective approach

The modified retrospective approach allows for the following simplifications (GM)

TOPIC	SIMPLIFICATION
Expected cash flows at initial recognition	- Realized cash flows until 1 January 2020 - Expected cash flows from 1 January 2020 on by using assumptions as per 1 January 2020
Discount rate at initial recognition	- Use applicable observable curve as approximation if available - Otherwise, determine an average spread over an observable yield curve
Risk margin at initial recognition	Adjust risk margin at 1 January 2020 with the expected release between initial recognition and 1 January 2020
Developments between initial recognition and 1 January 2020	Estimate contractual service margin at 1 January 2020 by scaling based on coverage units
Grouping of contracts	- Grouping is allowed for contracts from different contract years - Grouping of contracts can be done at contract inception date or at 1 January 2020

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Some practical issues with the modified approach

Portfolio with 3 years of new business.

Availability of data; What if historical data before this moment is not available

Transition

Grouping of data; how about the recognition date of the group of contracts

Segmentation of financial data per issue year? Does the financial administration have information per issue year?

CFt=0   CFt=1   CFt=2   CFt=3

CFt=0   CFt=1   CFt=2   CFt=3

CFt=0   CFt=1   CFt=2   CFt=3

Value of options and guarantees at recognition of the group of contracts.

How to determine the value for a portfolio with contracts with different inception dates?

How about changes in the portfolio that can't be identified easily?

For instance premium payments on universal life contracts, partial withdrawals and indexation of losses.

In case of mergers and acquisitions, the date of recognition for the holding is the acquisition date. For the acquired company the recognition date is the date of recognition of the group of contracts.

The fair value approach is the best solution for this situation.

Fair value approach

Define the CSM at 1 January 2020 as the difference between the fair value at exit value (IFRS 13) and the fulfillment cash flows (IFRS 17) at that date.

The following is included in the IFRS 13 fair value:

- Non-performance risk of the insurance company (example: FAS157)

- Overhead (non-attributable) expenses

- All effects influencing the fair value, but irrelevant to the cash flows of the insurance contract

- Demand feature is not applicable: IFRS 13 fair value of a financial liability with a demand feature is not less than the discounted amount payable on demand.

Other differences: entity's perspective

- Level of the Risk Adjustment

- Level of the Discount Rate

- Renewals/Contract boundary may be different from a fair value perspective

The results can be counter intuitive. A less profitable product will have a higher fair value and hence, a higher CSM. Onerous contracts could generate a significant CSM.

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