Society of Actuaries in Ireland

IFRS 17 – General Measurement Model

26th April 2019

Disclaimer

The views expressed in this presentation are those of the presenter(s) and not necessarily of the Society of Actuaries in Ireland

Agenda

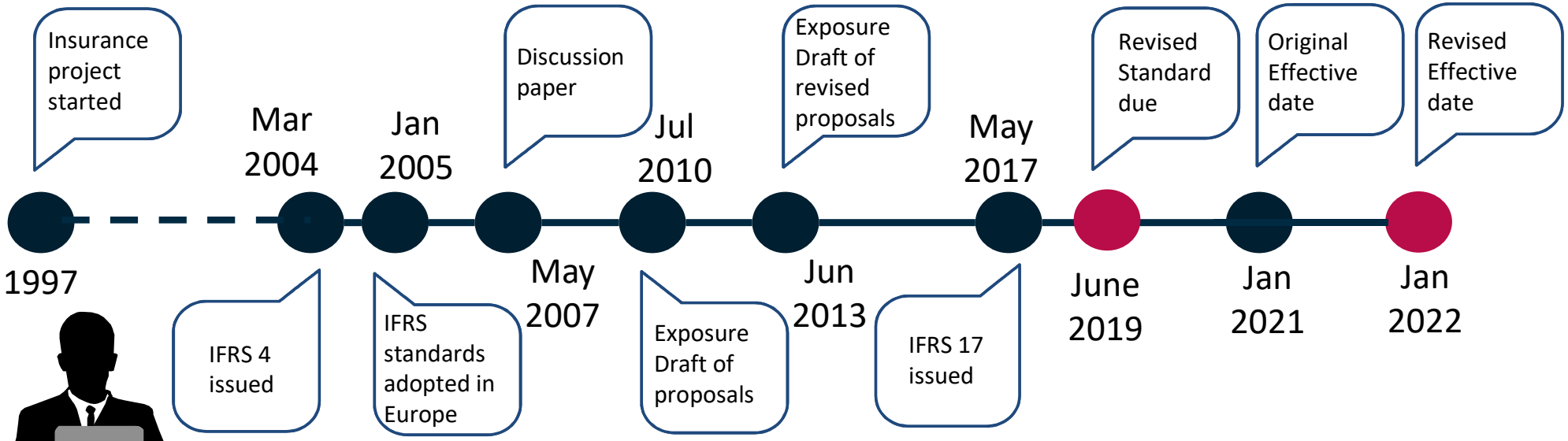
- Introduction
  - Previously covered
  - TRG updates
  - IASB updates
- Overview – Policy Liabilities under IFRS 17
- Present Value of Future Cashflows
- Risk Adjustment
- Contractual Service Margin
- Profit Emergence
- Conclusion

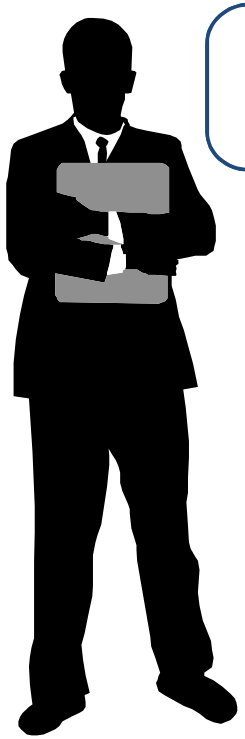
Abbreviations

AoC	Analysis of change	**IASB**	International Accounting Standards Board
BBA	Building Block Approach	**MRA**	Modified retrospective application (on transition)
BEL	Best estimate liability	**OCI**	Other comprehensive income
BoP	Beginning of period	**PAA**	Premium Allocation Approach
CoA	Chart of accounts	**RA**	Risk Adjustment
CoC	Cost of capital	**RM**	Risk margin under Solvency II
CSM	Contractual Service Margin	**SII**	Solvency II
EFRAG	European Financial Reporting Advisory Group	**TRG**	Transition Resource Group
EoP	End of period	**UoA**	Unit of account
GMM	General Measurement Model (GMM)	**VFA**	Variable Fee Approach
FCF	Fulfilment cash flows	**YE**	Year-end
FRA	Full retrospective application (on transition)		
FVA	Fair value approach (on transition)		

Background to the Standard

IASB's project on insurance contracts





- IFRS 9 – some insurers will use deferral option until 1 January 2022 based on IFRS 4 amendments
- IFRS 15 is effective 1 January 2018, IFRS 16 is effective 1 January 2019
- Investment contracts without discretionary participation features (e.g. unit linked investments) are in scope of IFRS 9 / IAS 39
- IFRS 17 delayed by a year to 1 January 2022, revised standard due late Q2 2019.
- FASB decided to only make targeted amendments to US GAAP

Previously Covered

- Scope
- **Contract** classification
  - IFRS 17 defines **insurance contracts** as contracts under which significant insurance risk is transferred.
- Unbundling
  - distinct components?
- Aggregation
  - profitable vs onerous contracts, Companies will need to set a definition of ‘similar risks’ and ‘managed together’ and complete a profitability analysis.
- Measurement models
  - GMM, PAA, VFA.
- Reinsurance
  - inward (“issued”) vs outward (“held”) reinsurance.
- Transition
  - Full retrospective, modified retrospective or fair value approach.
- Presentation and disclosures
  - amounts, judgements and risks.

TRG Discussion Topics

- February 2018:
  - Separation of insurance components of a single insurance contract;
  - Boundary of contracts with annual repricing mechanisms
  - Boundary of reinsurance contracts held
  - Insurance acquisition cash flows paid and future renewals
  - Determining the quantity of benefits for identifying coverage units
  - Insurance acquisition cash flows when using fair value transition

- May 2018
  - Combination of insurance contracts
  - Determining the risk adjustment for non-financial risk in a group of entities
  - Cash flows within the contract boundary
  - Boundary of reinsurance contracts held with repricing mechanisms
  - Determining the quantity of benefits for identifying coverage units

- September 2018:
  - Insurance risk consequent to an incurred claim
  - Determining discount rates using a top-down approach
  - Commissions and reinstatement premiums in reinsurance contracts issued
  - Premium experience adjustments related to current or past service
  - Cash flows that are outside the contract boundary at initial recognition
  - Recovery of insurance acquisition cash flows
  - Premium waivers
  - Group insurance policies
  - Industry pools managed by an association
  - Annual cohorts for contracts that share in the return of a specified pool of underlying items.

- April 2019
  - Investment components within an insurance contract
  - Policyholder dividends
  - Changes in the risk adjustment for non-financial risk due to time value of money and financial risk
  - Definition of insurance contracts with direct participation features— mortality cover
  - Consideration of reinsurance in the risk adjustment for non-financial risk
  - Changes in fulfilment cash flows as a result of inflation.

IASB – Areas considered for revision

No change proposed

Change proposed

1. Scope: Loans and other forms of credit that transfer insurance risk	10. Measurement: Business combinations - classification of contracts	18. Defined terms: Insurance contract with direct participation features
2. Level of aggregation	11. Measurement: Business combinations - contracts acquired during the settlement period	19. Interim financial statements: Treatment of accounting estimates
3. Measurement: Acquisition cash flows for renewals outside the contract boundary	12. Measurement: Reinsurance contracts held - initial recognition when underlying insurance contracts are onerous	20. Effective date: Date of initial application of IFRS 17
4. Measurement: Use of locked-in discount rates to adjust the contractual service margin	13. Measurement: Reinsurance contracts held - ineligibility for the variable fee approach	21. Effective date: Comparative information
5. Measurement: Subjectivity - Discount rates and risk adjustment	14. Measurement: Reinsurance contracts held - expected cash flows arising from underlying insurance contracts not yet issued	22. Effective date: Temporary exemption from applying IFRS 9
6. Measurement: Risk adjustment in a group of entities	15. Presentation in the statement of financial position: Separate presentation of groups of assets and groups of liabilities	23. Transition: Optionality
7. Measurement: Contractual service margin - coverage units in the general model	16. Presentation in the statement of financial position: Premiums receivable	24. Transition: Modified retrospective approach: further modifications
8. Measurement: Contractual service margin - limited applicability of risk mitigation exception	17. Presentation in the statement(s) of financial performance: OCI option for insurance finance income or expenses	25. Transition: Fair value approach: OCI on related financial assets
9. Measurement: Premium allocation approach - premiums received		

Agenda

- Introduction
- Overview – Policy Liabilities under IFRS 17
  - Measurement Models - which model when?
  - IFRS 17 General Measurement Model
- Present Value of Future Cashflows
- Risk Adjustment
- Contractual Service Margin
- Profit Emergence
- Conclusion

Which Model When

IFRS 17 Measurement Models

General Measurement Model

- Default approach
- Used at transition & live/production
- Both life & general insurance
- (aka "BBA", Building Blocks Approach)

Modifications to the General Measurement Model

Variable Fee Approach (mandatory)

(Ins. Contracts with Direct Participation Features)

MUST be used, if at inception* of contract **:

(i) Policyholder contractually participates in clearly identified pool of underlying items;

&

(ii) Policyholder receives substantial share of the returns on the underlying items;

&

(ii) Changes in policyholder benefits substantially vary with the change in underlying items.

Premium Allocation Approach (optional)

(Liability for remaining coverage)

MAY be used, if at inception of group:

(i) not differ materially to GMM

or

(ii) coverage period of group is max one year. (Many GI contracts; possibly annual renewable life contracts.)

(Note other preferences may also impact on decision here.)

* For transition business this varies
** Approach not necessarily seriatim

Which Model When – Likely Product Types

IFRS 17 Measurement Models

General Measurement Model

Long term business

"Life" examples

- Whole of life
- Term assurance
- Protection
- Annuities
- Reinsurance written

"Non-Life" examples

- Multi-year motor
- Warranty cover
- Certain types of Loss Portfolio Transfers / Adverse Development Cover

Modifications to the General Measurement Model

Variable Fee Approach (mandatory)

(Ins. Contracts with Direct Participation Features)

- Unit linked (UL)
- Variable annuity (VA) & equity index-linked contracts
- Continental European 90/10 contracts
- UK with profits contracts
- Unitised with profits

Judgements re possible breaches of VFA requirements:

- For VA, guarantee aspects.
- For UL, if death benefit sufficient to justify insurance contract treatment.
- European "formulaic with profits"

Premium Allocation Approach (optional)

(Liability for remaining coverage)

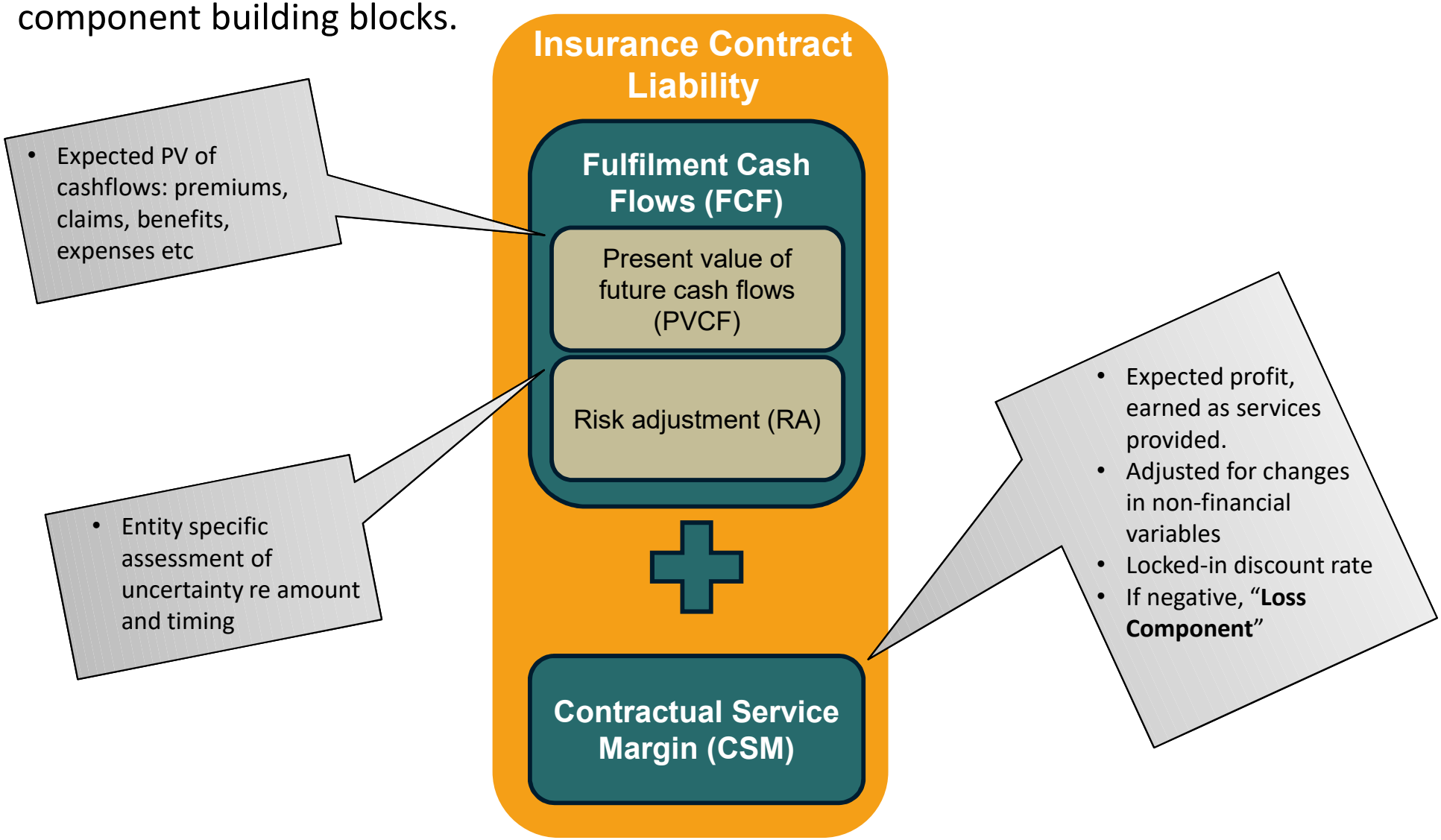
- Short term general insurance business
- Short term life and certain group contracts

Judgements re possible breaches of PAA requirements:

- For annual renewable business, whether guarantee at renewal date

General Measurement Model Overview

- **General Measurement Model (GMM)** determines the insurance contract liability via component building blocks.

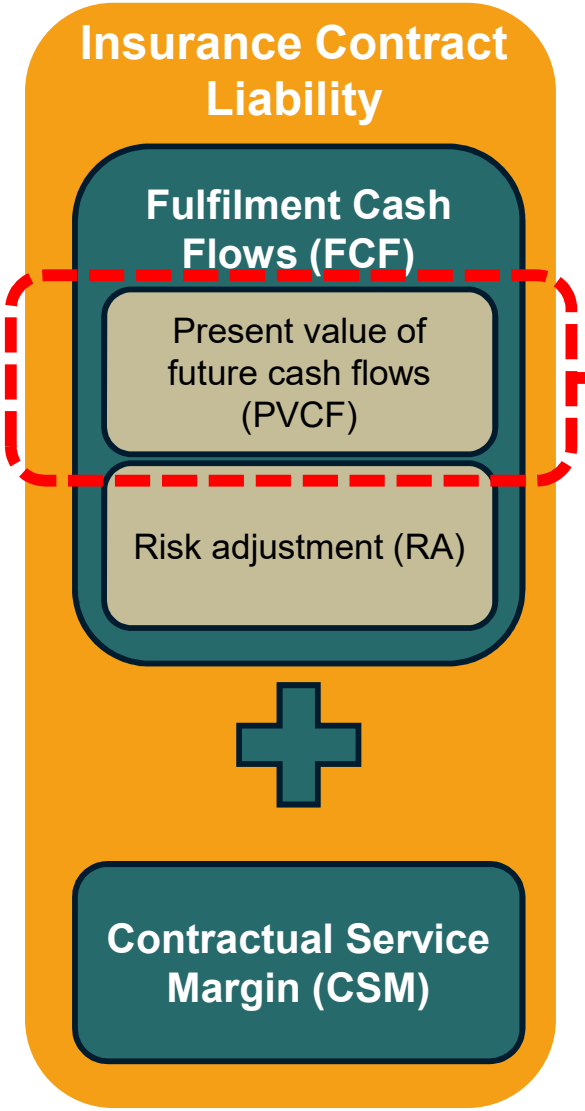


- We'll go through each of these in more detail in the following sections.

Agenda

- Introduction
- Overview – Policy Liabilities under IFRS 17
- Present Value of Future Cashflows
  - Overview
  - Which cashflows?
  - Contract Boundaries
  - Discount rates
- Risk Adjustment
- Contractual Service Margin
- Profit Emergence
- Conclusion

Present Value of Future Cashflows - Overview



Expected Future Cashflows:

- Based on current estimates
- Probability weighted
- Unbiased
- Stochastic modelling where required for financial options and guarantees

Time Value of Money

- Adjustment to convert the expected future cashflows into current values

Expected Future Cashflows should:

✓Be within the boundary of the contract

✓Relate directly to the fulfilment of the contract

✓Include cashflows over which the entity has discretion

Which Cashflows?

Examples of cashflows to include:

- Claims and benefits paid to policyholders, plus associated costs
- Surrender and participating benefits
- Cashflows resulting from options and guarantees
- Costs of selling, underwriting and initiating that can be directly attributable to a portfolio level
- Transaction-based taxes and levies
- Policy administration and maintenance costs
- Some overhead-type costs such as claims software, etc.
- Adjustment to convert the expected future cashflows into current values

Cashflows excluded:

- Investment returns
- Payments to and from reinsurers
- Cashflows that may arise from future contracts
- Acquisition costs not directly related to obtaining the portfolio of contracts
- Cashflows arising from abnormal amounts of wasted labour
- General overhead
- Income tax payments and receipts
- Cashflows from unbundled components

Attributable Acquisition Expenses

- All directly attributable acquisition expenses that can be allocated to the individual insurance contracts (or group) are included in the CSM calculations.
- Includes also costs that cannot be attributed directly to individual insurance contracts (or group) but are in the portfolio – should be allocated on a rational and consistent basis
- Asset / liability set up for costs paid/received before group's coverage period begins

EXAMPLES

- Examples: External Commissions, Sales bonuses, Salary of sales team, Overhead of sales department
- Acquisition costs that are not considered directly attributable to a portfolio of contracts would be expensed when they are incurred in profit or loss.

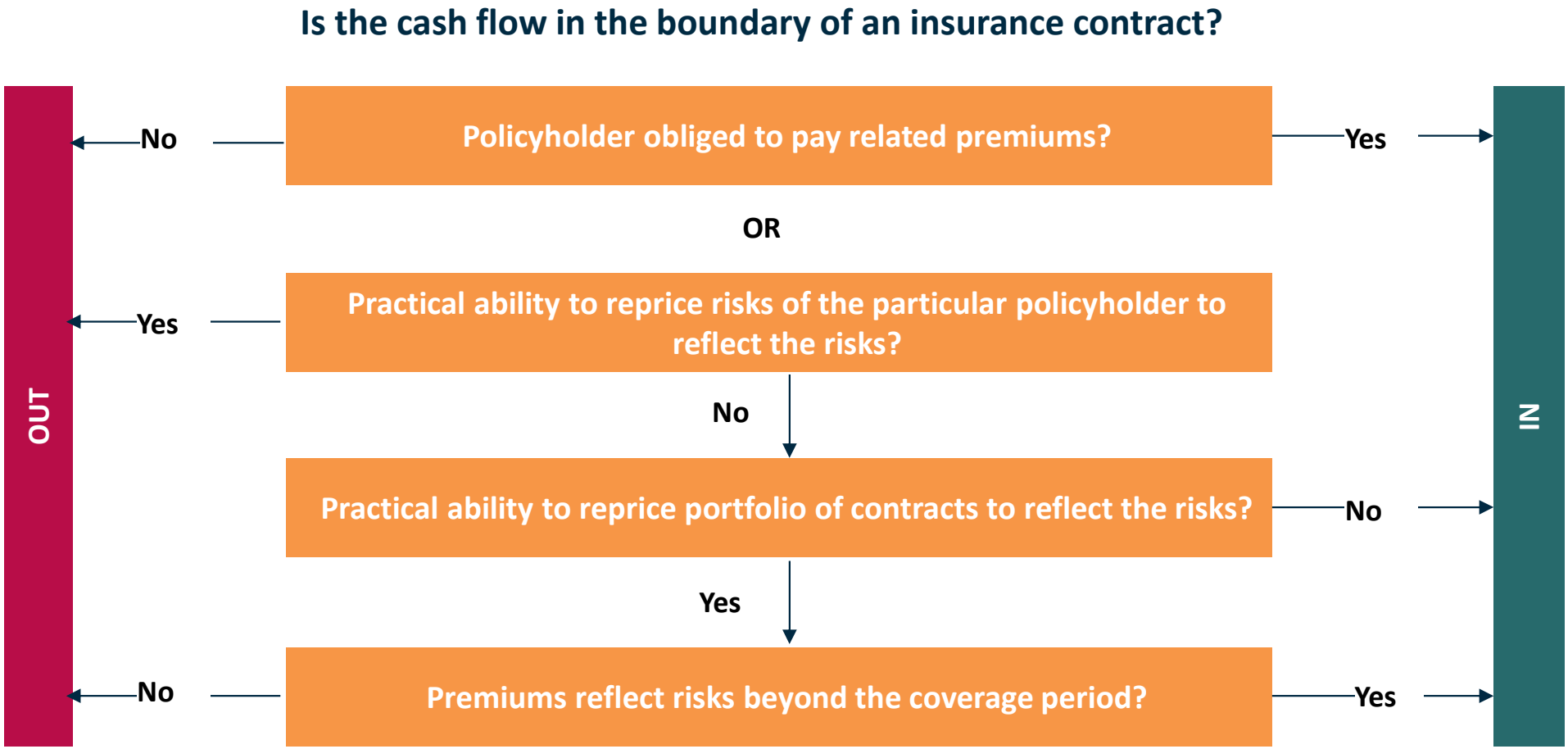
WHEN RECOVERABILITY TESTING DOES NOT APPLY

- Generally no recoverability testing before initial recognition of group
- Implicit recovery testing through CSM calculation, if CSM < 0 then loss is recognised in P&L.

WHEN RECOVERABILITY TESTING DOES APPLY

- Recent development from January 2019 IASB – if acquisition costs incurred relate to cash flows outside contract boundary (e.g. future renewals), maintain asset for costs related to future renewals.
- Need to assess recoverability of asset each period until associated renewals recognised.

Contract Boundaries



Contract Boundaries – IFRS 17 Vs SII

IFRS 17 contract boundary:

- No longer has substantive rights to receive premiums or obligations to provide services since the risks of the policyholder or portfolio in setting the price or level of benefit can be reassessed.

Solvency II Contract boundary:

- No longer required to provide coverage or can amend terms to 'fully reflect risk' at portfolio level (unless individual life underwriting took place).

Definition could differ between each regime…

The view from EIOPA:

> *"Even though Solvency II uses slightly different wording than IFRS 17 to express the objective, one cannot expect material differences to the resulting contract boundaries, other than in circumstances where the insurer has the legal right to reprice the premium for the re-assessed risk, but can reasonably justify the insurer does not have the* ***practical ability*** *to reprice."*
> *EIOPA's analysis of IFRS 17 Insurance Contracts, October 2018*

Discounting

Market Consistency:

- IFRS 17 requires insurers to use fair value and market-consistent approaches to liability valuations as the basis for reporting their accounts.
- Careful consideration required in constructing the discount rates.
- Two approaches:
  - "Top-Down"
  - "Bottom-Up"

Discounting – "Bottom-Up"

- Foundation is a fully liquid yield curve
  - No explicit definition of the basis for deriving a risk free curve
  - If using EIOPA what is the UFR?
- Credit Adjustment may be required
  - E.g. if underlying instruments carry some level of risk
- Estimating the liquidity adjustment likely to be challenging
  - Unlike the Solvency II Volatility Adjustment & Matching Adjustment this must be set by reference to the liabilities rather than the assets.
  - Other approaches:
    - Bid-ask spreads?
    - Pricing hypothetical liquidity swaps?

Discounting – "Top-Down"

- Starting point may appear more straightforward
  - However, a flat discount curve is unlikely to be suitable
- Adjust for credit losses
  - No prescribed method – potential approaches:
    - Historical defaults
    - Distribution-based derivation of losses
    - Credit Default Swap
    - Solvency II Fundamental Spread
- Mismatch Risk
  - Discount rate must reflect the characteristics of the liability not the asset.
  - Adjustment to allow for mismatches between cashflows of the assets and those of the liabilities.

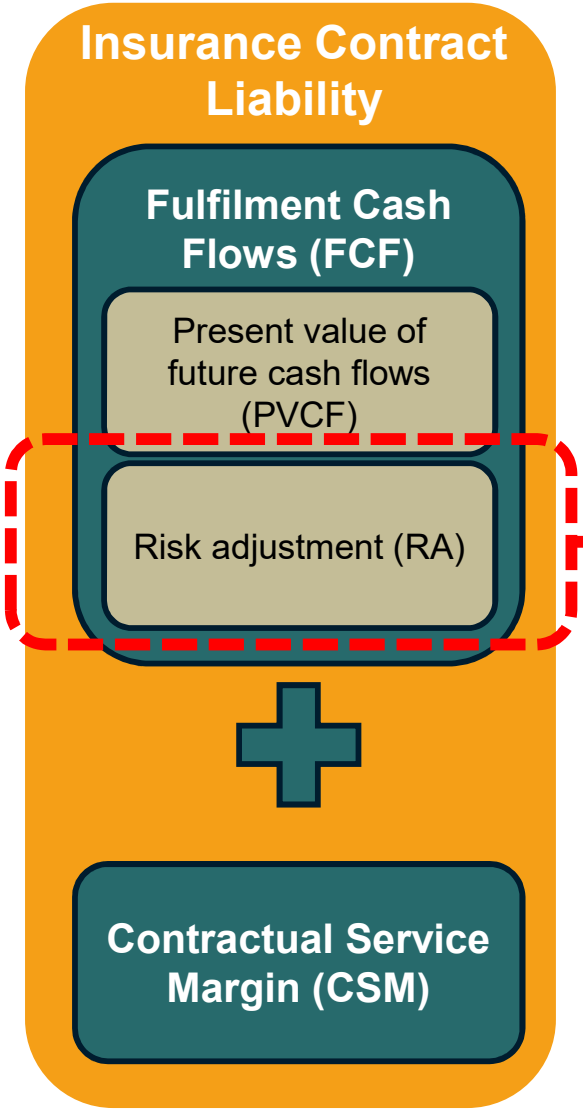
Discounting

Likely to be differences between the results of each approach!

Agenda

- Overview – Policy Liabilities under IFRS 17
- Present Value of Future Cashflows
- Risk Adjustment
  - Concept & Background
  - Risk Adjustment v Risk Margin
  - Risks covered
  - Calculation Methods: CoC / VaR / TVaR / PAD
- Contractual Service Margin
- Profit Emergence

Risk Adjustment – Concept



The risk adjustment is the compensation that the entity requires for bearing the uncertainty about the amount and timing of the cash flows that arises from non-financial risk.

- Range of possible outcomes versus a fixed cashflow with same NPV are equal
- Entity's internal view of non-financial risk

Risks Covered

Risks Covered

- ✓ Claim occurrence, amount, timing and development
- ✓ Lapse, surrender, premium persistency and other policyholder actions
- ✓ Expense risk associated with costs of servicing the contract
- ✓ External developments and trends, to the extent that they affect insurance cash flows
- ✓ Claim and expense inflation risk, excluding direct inflation index linked risk

Risks Not Covered

- ✗ Financial risk
- ✗ Asset-liability mismatch risk
- ✗ Price or credit risk on underlying assets
- ✗ General operational risk
- ✗ Risk from cyber attack

Risk Margin vs. Risk Adjustment

Solvency II Risk Margin		IFRS 17 Risk Adjustment
Market plus regulatory	≠	Entity plus financial statements
Prescribed calibration at 99.5% confidence internal	≠	No prescribed calibration but must be disclosed
Based on the Solvency II cost of capital method	≠	No prescribed method
The cost of capital rate used is prescribed by EIOPA	≠	The cost of capital rate used is not prescribed
No group diversification for solo entity	≠	Group diversification may be permitted for solo entity
Net of reinsurance basis	≠	Separately for primary insurance and reinsurance contracts held
All the NH risks	≠	Only insurance risks, lapse risk and expense risks

Cost of Capital Approach (1/2)

Cost of Capital

$$\textbf{Risk Adjustment} = \sum_{i=1}^{n} \frac{CoC_t \cdot Capital_t}{(1+d_t)^t}$$

CoC_t: Cost of capital at time t

d_t: discount rate at time t

$Capital_t$: Capital from non-financial risk at time t

Cost of Capital Approach (1/2)

Pros

- Leverages Solvency II calculations
- Flexibility
- Simplicity
- Simple to understand

Cons

- Judgement needed
- Result sensitive
- Choice of risks
- Need future capital figures
- Company’s confidence level

Value-At-Risk (“VaR”) / Tail-VaR (“TVaR”) (1/2)

Value at Risk

- Value at Risk (VAR) calculates the expected loss on a portfolio at a specified confidence level.

Tail Value at Risk

- Tail VaR (TVaR) calculates the average expected loss on a portfolio given the loss has occurred above a specified confidence interval.

Calculation Approaches

Three potential approaches to calculate VaR :

(1) Historical returns
(2) Assume standard normal distribution
(3) Monte Carlo simulation

VaR / TVaR Approach (2/2)

VaR

- Need to choose confidence interval (for both)
- Easy to communicate (for both)
- Need to calculate the statistical distributions of the liabilities

TVaR

- Highly sensitive in the tail
- Data points in tail may be limited
- Stochastic modelling

Provision for Adverse Deviation Approach (PAD)

Approach

$$\boldsymbol{Risk\ Adjustment = FCF\ (Padded) - FCF\ (Best\ Estimate)}$$

Pros

- Similar to IFRS 4 reporting
- Easy to understand and leverages off current architecture

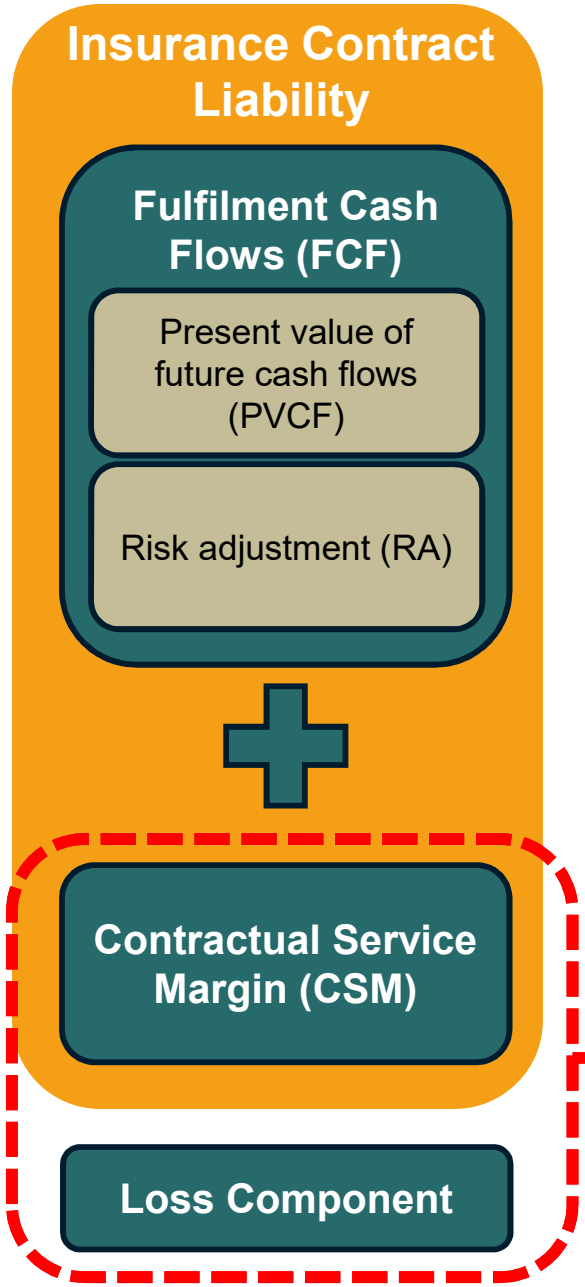
Cons

- Need appropriate confidence level
- Need statistical distributions for the risks
- Lot of runs

Agenda

- Introduction
- Overview – Policy Liabilities under IFRS 17
- Present Value of Future Cashflows
- Risk Adjustment
- Contractual Service Margin
  - Concept
  - Initial Recognition & Subsequent Measurement
  - Loss Component
- Profit Emergence
- Conclusion

Contractual Service Margin – Concept



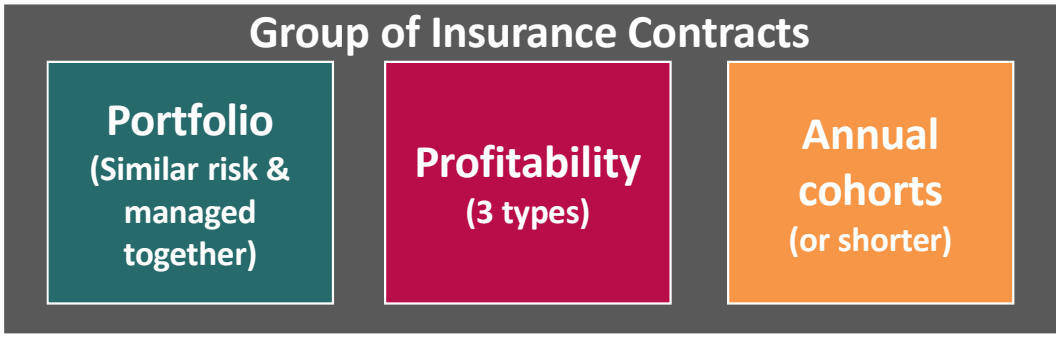
New concept under IFRS 17 – profit deferral mechanism measured at a "group" level

- Offsets initial risk adjusted profits (excluding non-attributable expenses)
- Reduced over time to provide steady release of profits into P&L in line with service provided
- Absorbs changes for group profitability related to future service (e.g. basis changes)
- Cannot offset losses*, those hit P&L but recorded and tracked by a Loss Component

*Except for Reinsurance Held

CSM – Not a seriatim calculation

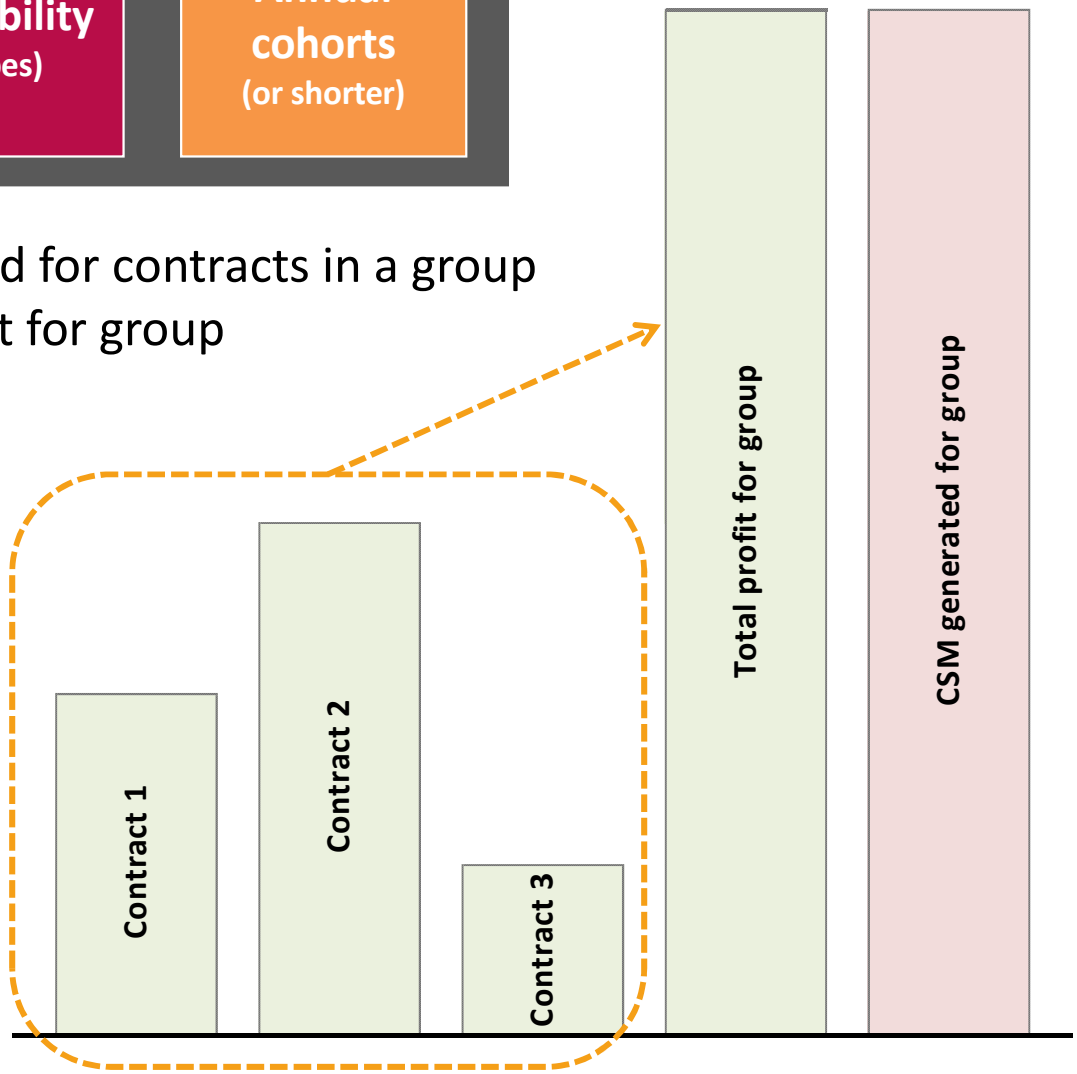
- CSM calculated for a "Group"



- Cash flows and risk adjustment measured for contracts in a group and combined to give risk adjusted profit for group
- CSM generated for the group to offset risk adjusted profit

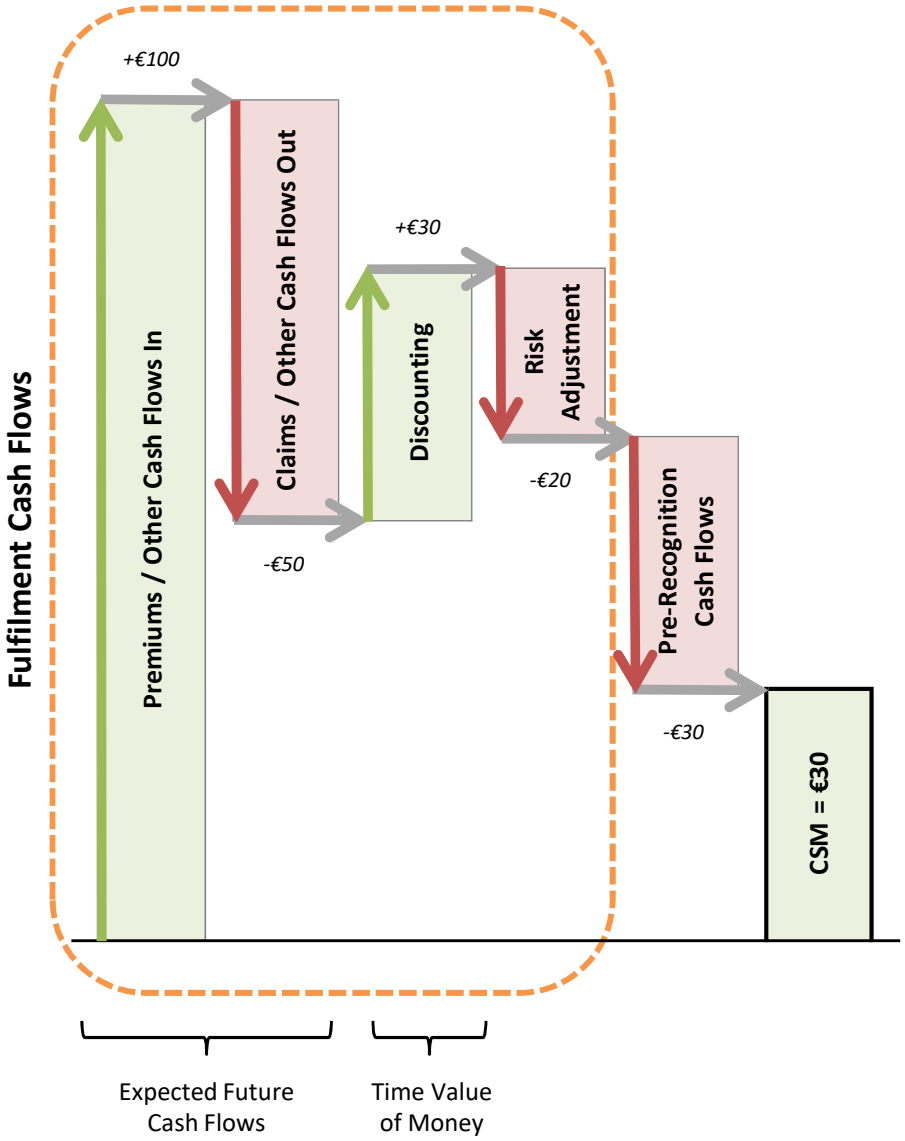
Key point: CSM is not a policy level concept. Calculated and measured for a group of contracts, not for a single contract.

➢ Systems development implications



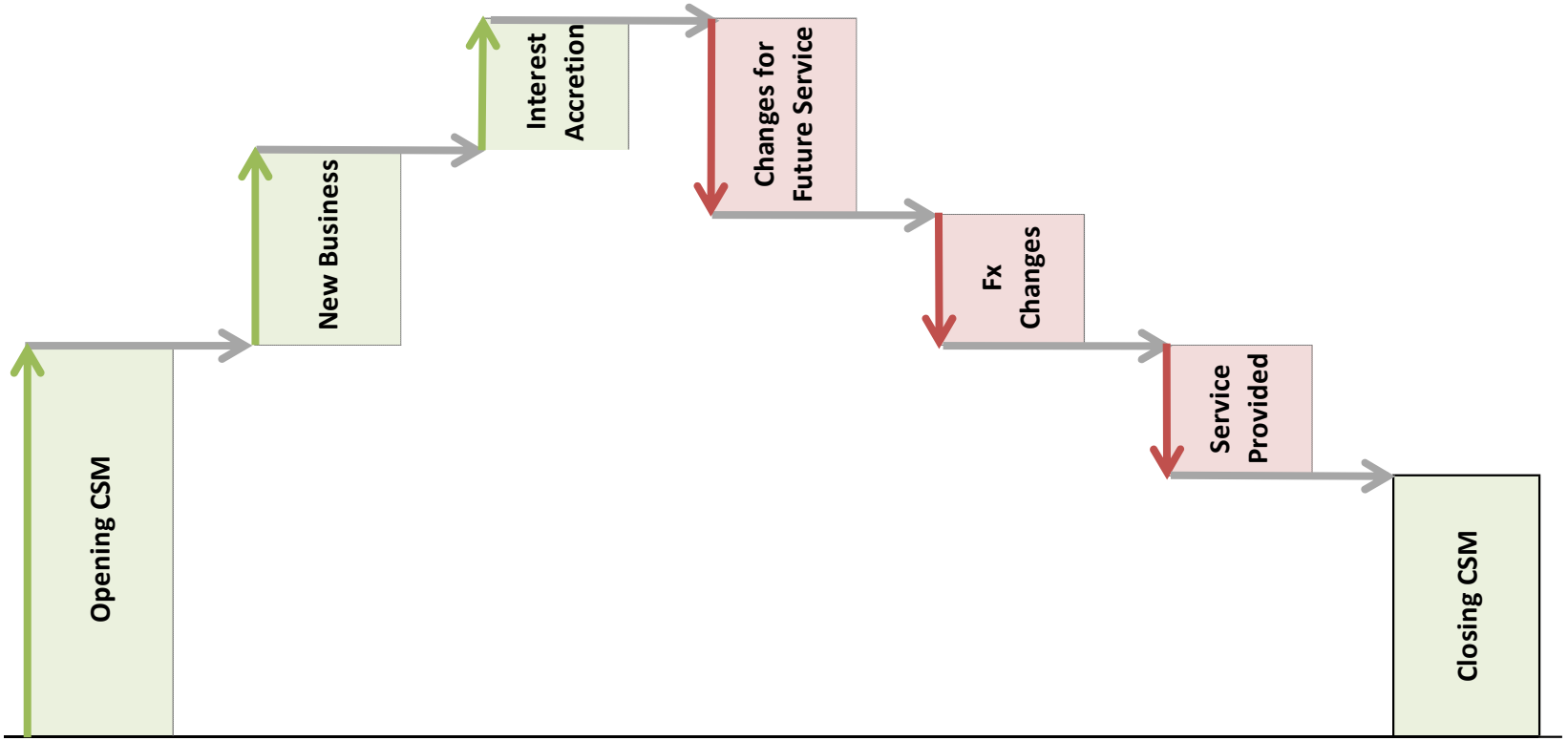
CSM – Initial Recognition

- CSM on initial recognition offsets risk-adjusted profits for the group.



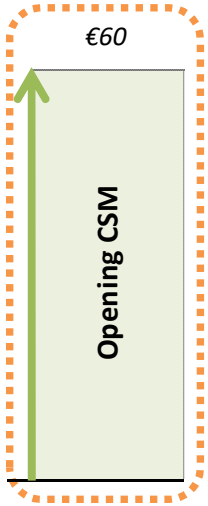
- Expected cashflows @ best estimate assumptions.
  - Total inflows of 100, outflows of 50.
  - Excluding time value of money.
- Time value calculated @ current discount rates.
  - The impact overall was positive 30.
  - Could be positive / negative depending on the cashflow pattern.
- Risk adjustment calculated using one of the methods described previously.
  - The impact was negative 20.
- Other cashflows not included in the FCFs included as the pre-recognition cashflows:
  - Attributable acquisition cash flows
  - Other day 1 cash flows
- Risk adjusted profit for group = 30, so a CSM of 30 is generated to offset this.

CSM – Subsequent Measurement



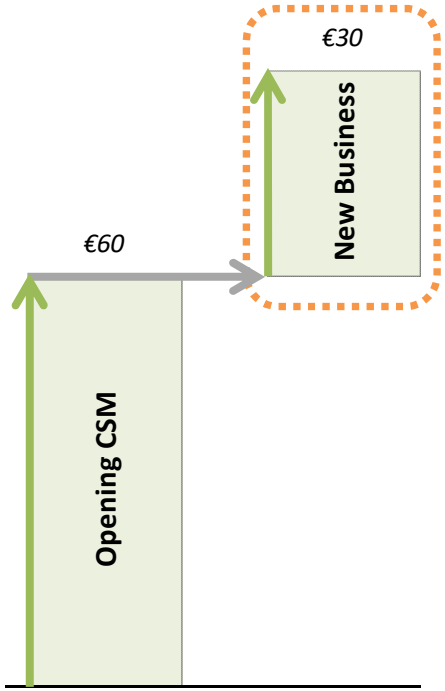
- Graphical illustration of subsequent measurement of CSM over a period.
- Will walk through each step in following slides

CSM – Subsequent Measurement Example



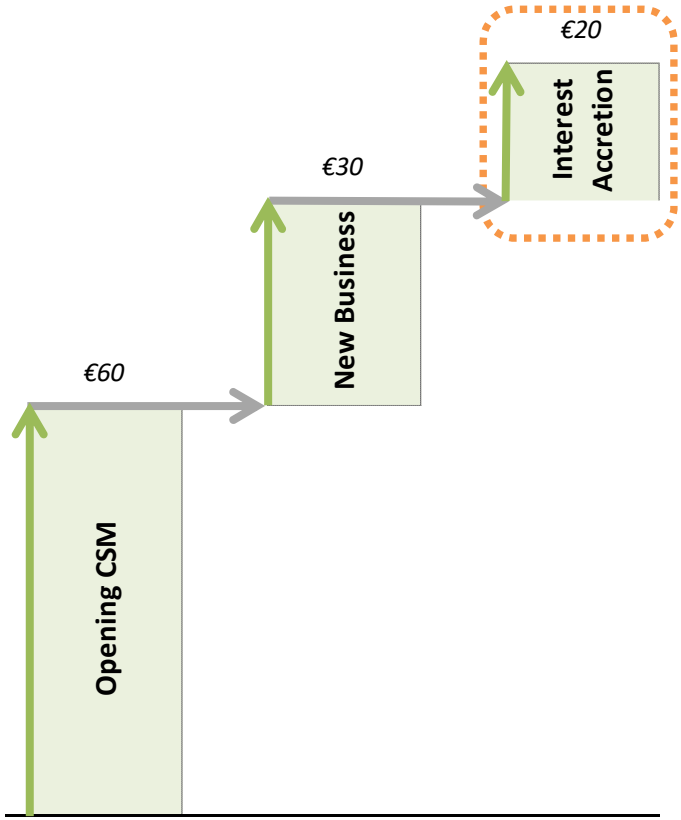
- The opening CSM balance is the closing CSM balance from the previous reporting period.

CSM – Subsequent Measurement Example



- The CSM for new business recognised during the period is added.
- This is measured as described previously.
- Only occurs when group is still forming an annual cohort.

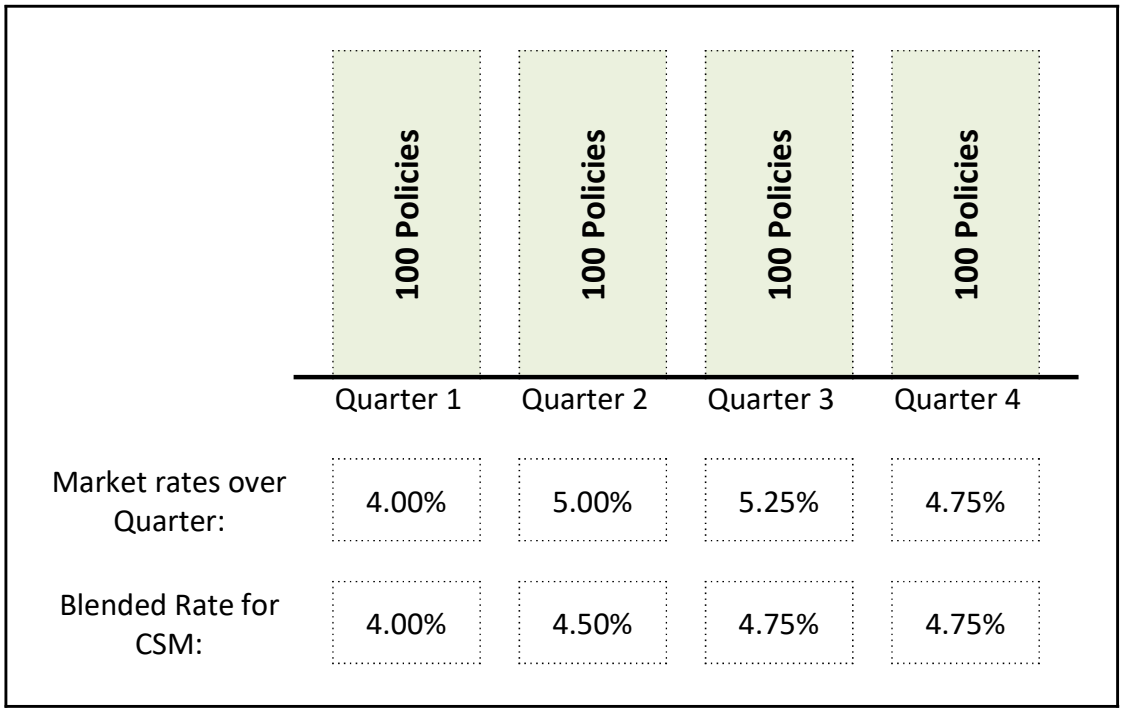
CSM – Subsequent Measurement Example



- Interest is accreted on the CSM balance based on the “locked-in” rate at initial recognition
- As new business is still being added, the locked in rate for the group is still being established.
- Once rates are locked in, they do not change.
- Need to track appropriate locked-in rate for each group identified

Locking in discount rate

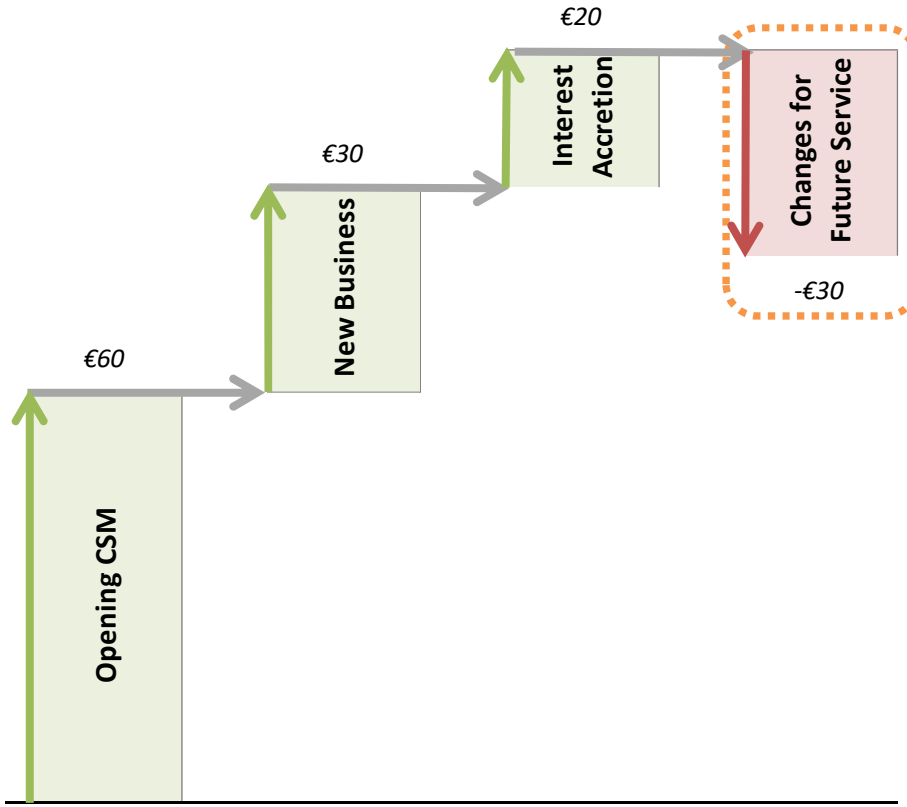
- Interest is accreted on the CSM at locked in rates for the group. These are the IFRS 17 rates for the group at the time it is formed.
- Once a group is closed, the rates are fixed and are not updated.
- As the group is forming, the rates can be rebalanced to reflect appropriate weighted average rates for the group (per paragraphs 28 & B73).
- Simple example for an annual group forming with 100 identical policies issued each quarter. Here the current market rates as assumed to be flat, and the blended rates are weighted by the number of policies.



- General formula:
  (# BoP policies x previous blended rate +
  # New policies * current rate)
  / # EoP Policies
- Quarter 1: (100 x 4%) / (100)
  = 4.00%
- Quarter 2: (100 x 4% + 100 x 5%) / (200)
  = 4.50%
- Quarter 3: (200 x 4.5% + 100 x 5.25%) / (300)
  = 4.75%
- Quarter 4: (300 x 4.75% + 100 x 4.75%) / (400)
  = 4.75%

- In practice this will be more complex. Rates will likely be a term structure and there are different approaches to blending the different rates together.

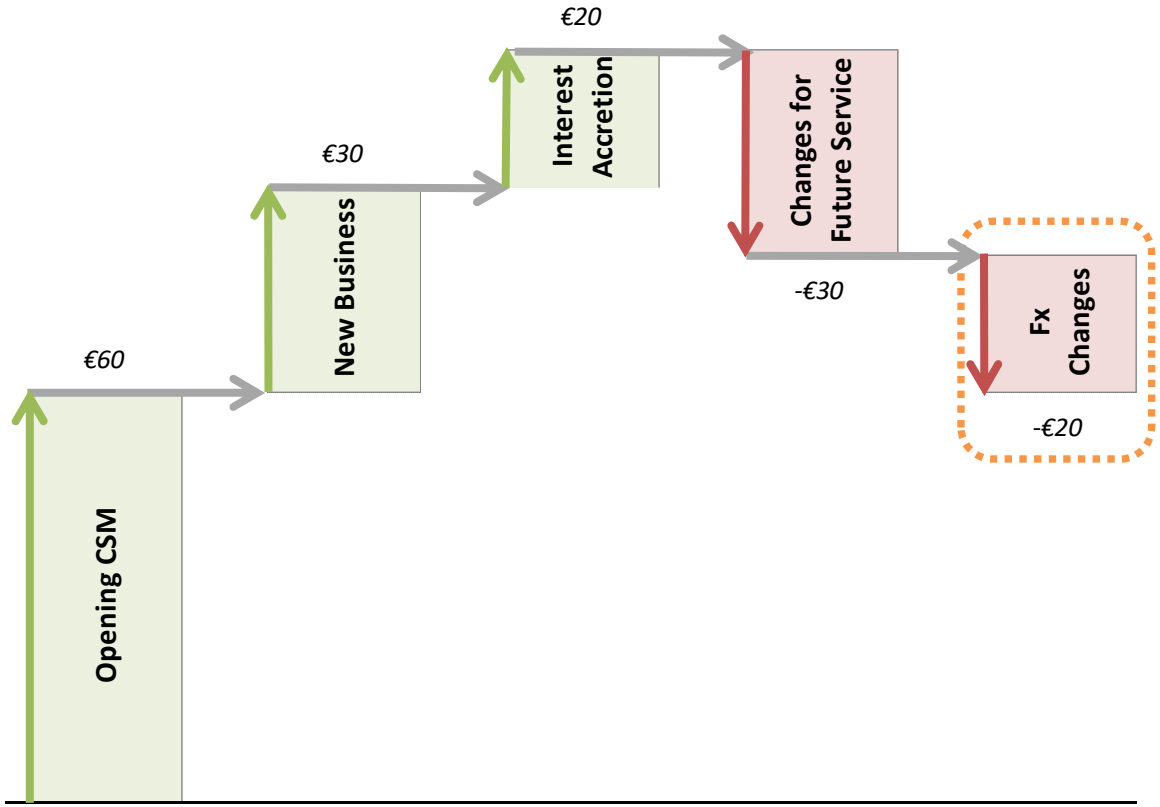
CSM – Subsequent Measurement Example



Changes include:
- Experience Variance for future service
- Basis changes for non-financial assumptions

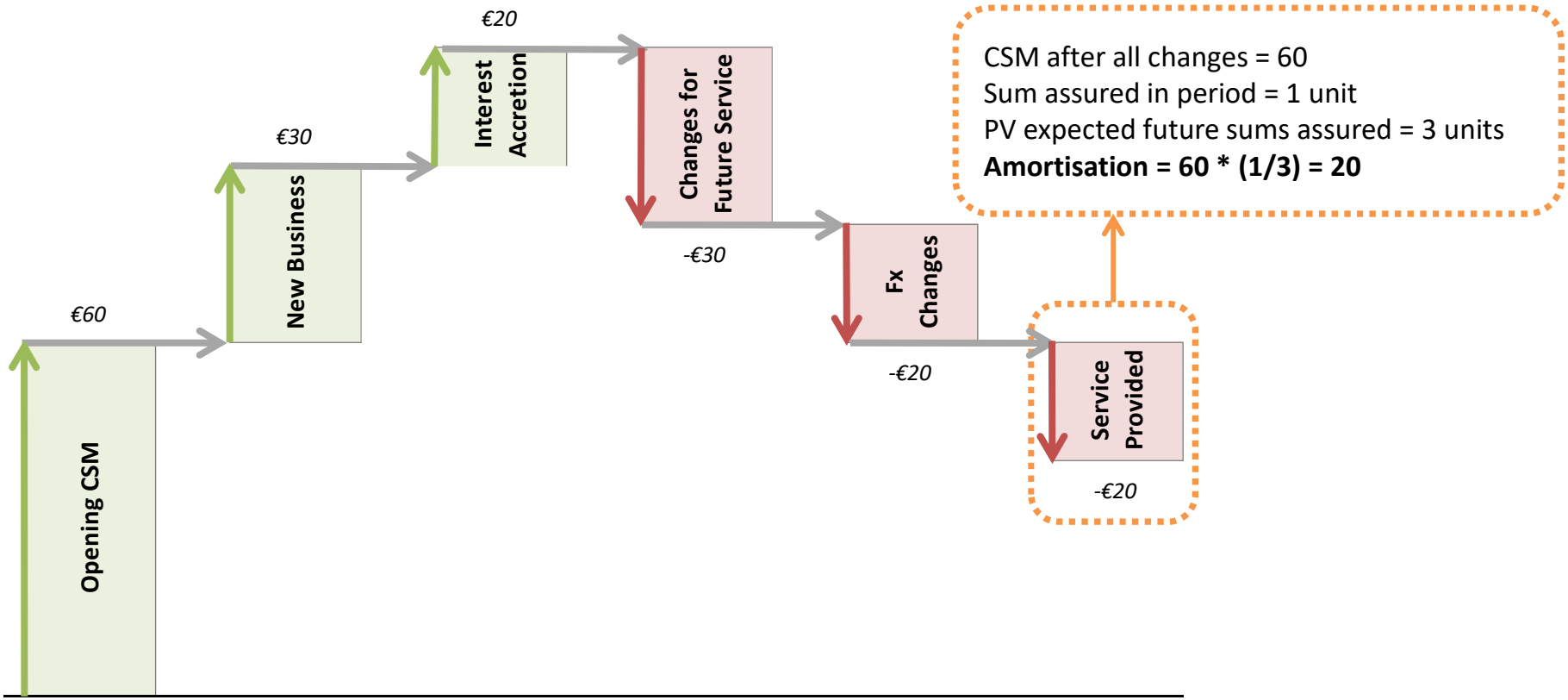
- The CSM is adjusted for changes in the fulfilment cashflows that relate to future service
- The impact of these changes is measured at locked in rates – need to value FCFs on locked in rate for CSM.
- Not included here are changes due to financial risk or changes for past/current service

CSM – Subsequent Measurement Example



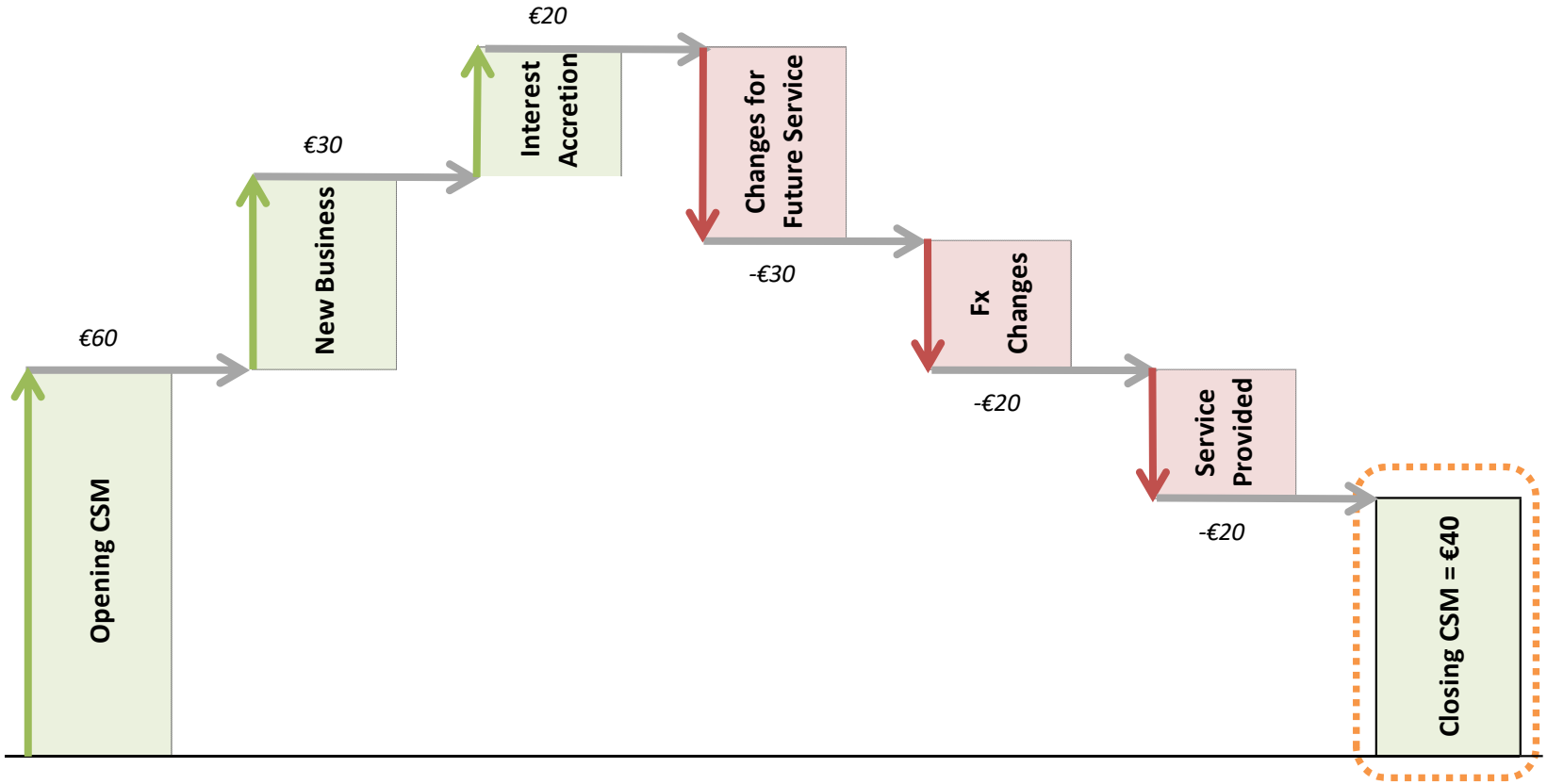
- Update for the effect of any currency exchange differences on the CSM

CSM – Subsequent Measurement Example



- The total CSM after all changes is aggregated. This balance is then amortised for services provided in the period. The amount amortised is released into the P&L as profits recognised.
- Different methods can be used to recognised service provided, e.g.:
  - Sum assured in period vs. all future expected sums assured
  - Policy count in period vs. all future expected policy counts
  - Can be discounted or undiscounted
- More on coverage units later

CSM – Subsequent Measurement Example



- Closing CSM balance combines all of the component movements.
- This represents the remaining risk-adjusted profits on the group which relates to future service
- This will be released as profit in the future as the service is provided.

CSM – Subsequent Measurement Summary

Subsequent measurement of CSM

General Measurement Model	Comments
Opening CSM Balance	Per Paragraph 44 of the IFRS 17 standard, the starting point for the re-measuring the CSM is to take the closing CSM balance from the previous period.
+ New Business	The CSM is adjusted for the impact of new business added to the group in the period, measured using the initial recognition approach detailed previously.
+ Interest accretion at locked in inception rates	CSM is increased for interest at rates locked in from initial recognition. Note that the rates will not be locked into until the (annual) cohort is fully formed (Paragraphs 28 & B73).
+ − Changes in fulfilment cash flows for future service	Changes in fulfilment cash flows related to future service adjust the CSM, for example if there is a basis change which updates future expected claims this will go into the CSM rather than directly into the P&L. Does not include changes in financial risk and changes are valued at locked in rates.
+ − Exchange Rate Movements	The CSM is updated for the effect of any currency exchange differences.
+ Apply Zero Floor	The CSM is floored to zero, it cannot be an asset to offset future loses (except for Reinsurance Contracts Held).
− Amortisation of CSM into P&L	The CSM is amortised to reflect the services provided in the period. This is for insurance services provided, but as per the January 2019 IASB meeting will now include “investment return” services (paper AP2E).
= Closing CSM Balance	

Loss Component

- CSM only for deferral of future risk adjusted profits.
- If losses identified, they are immediately recognised in P&L.
- These losses are tracked as a "loss component". Group can only have a CSM or a Loss Component at any one point in time, but can move between both regularly.

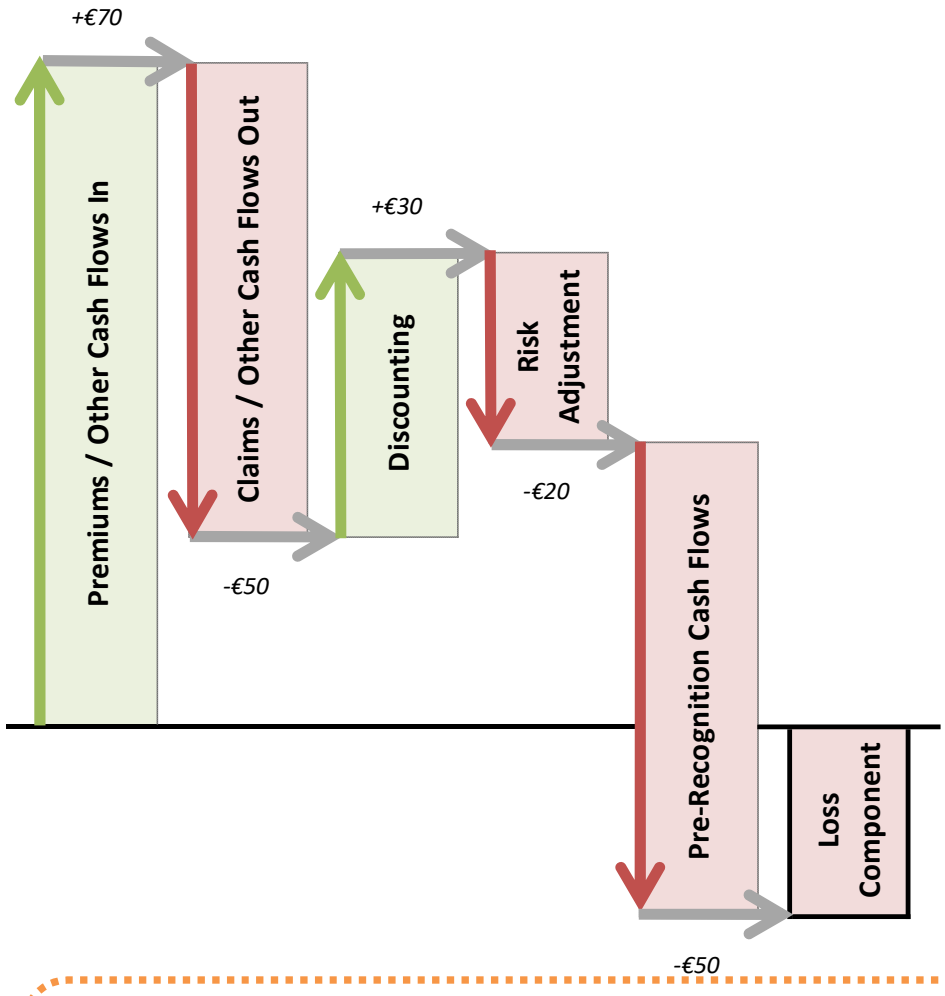
When is Loss Component generated?

- On initial recognition: Group FCFs + pre-recognition cashflows are negative. This would likely form an "onerous group"
- On subsequent measurement: Group had CSM, but due to adjustments, e.g. a significant negative basis change, now viewed as loss making. This could be for an "onerous" or "non-onerous" group.

Important Point: Loss component not necessarily negative equity impact. The risk adjustment also represents unearned profit (compensation for risk) and when released without any adverse experience, may exceed the loss component.

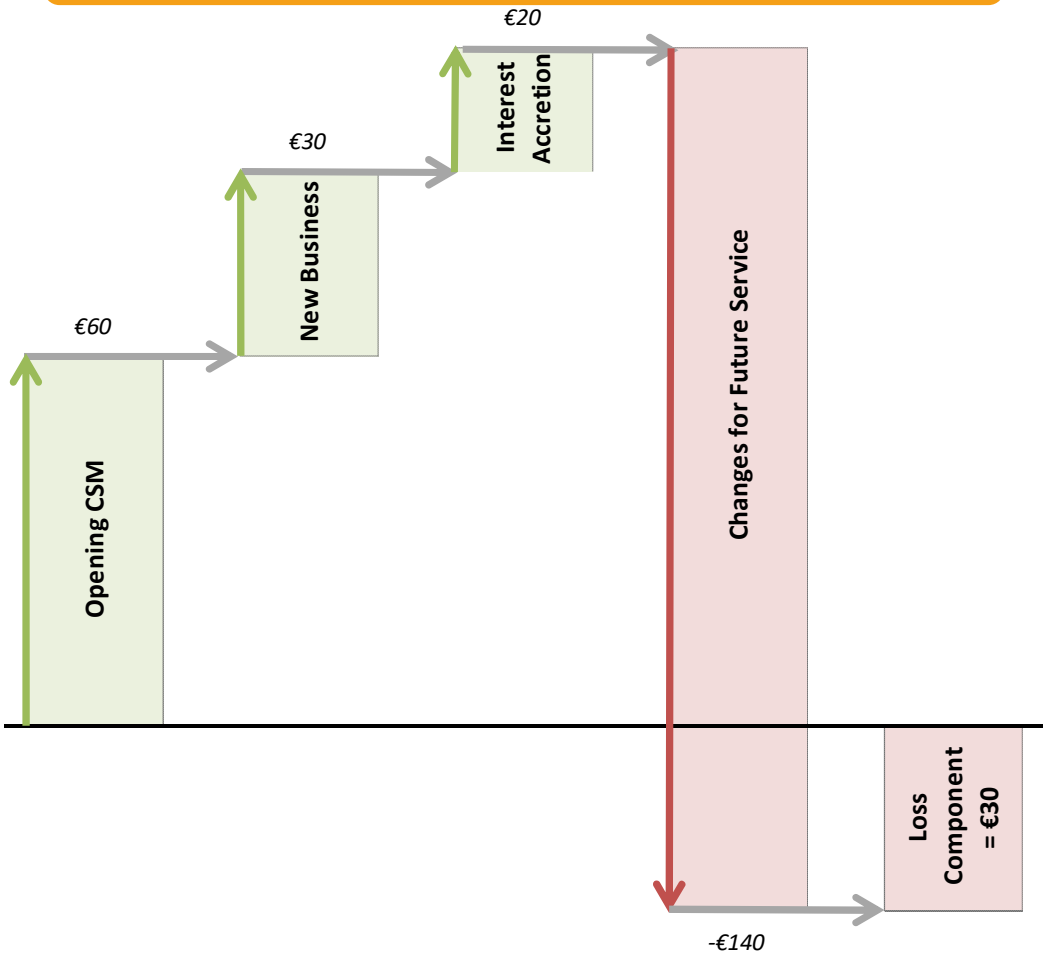
Loss Component - Examples

Loss Component on Initial Recognition



Initial recognition: Present value of cash outflows and risk adjustment exceed inflows – the loss amount is recognised in P&L and loss component established and tracked.

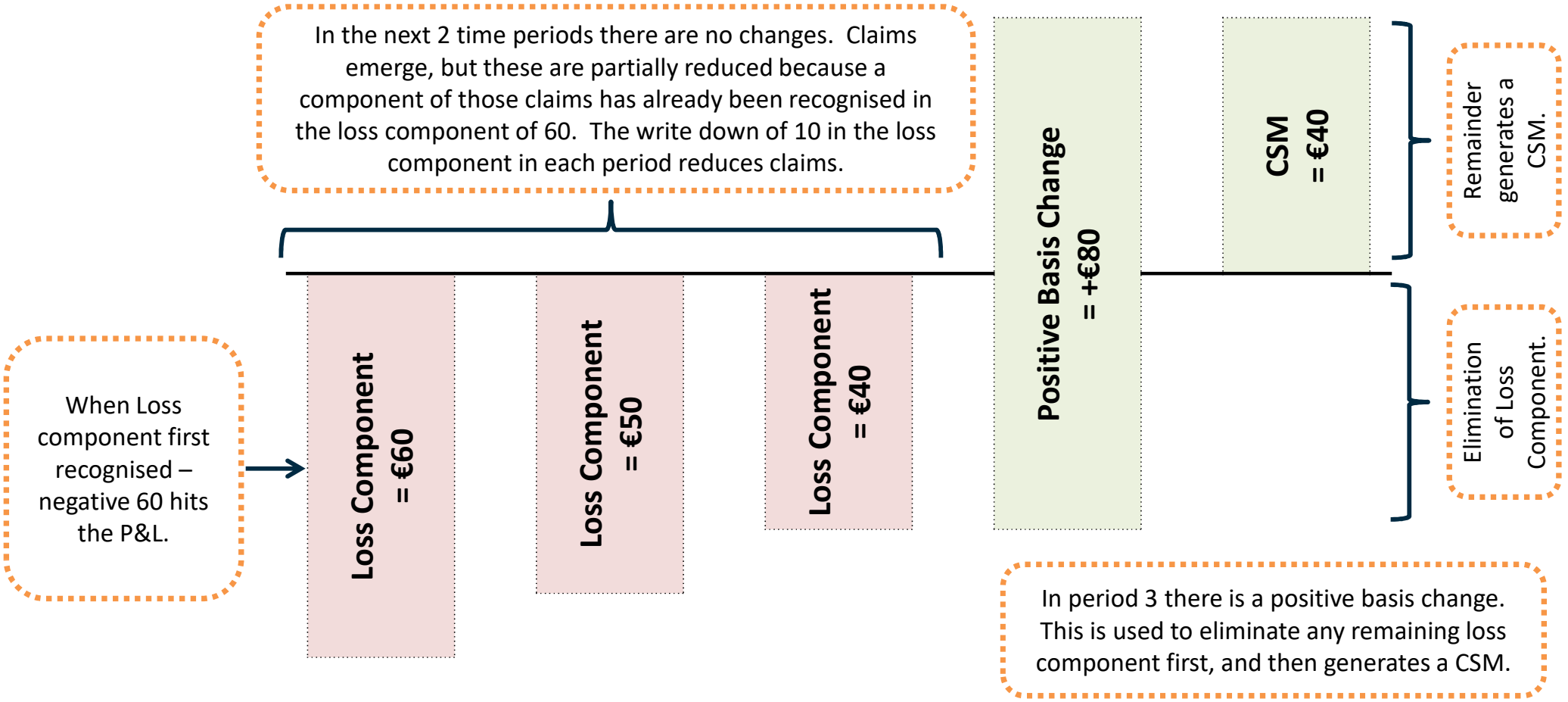
Loss Component on Subsequent Measurement



Subsequent measurement: A group here had expected future profits at the start of the period. However a change related to future service had a large negative impact (e.g. basis update) and eliminated the CSM. The excess hits the P&L and is tracked as a loss component

Tracking the Loss Component

- Once recognised, the loss component is tracked over time:
  - To monitor potential subsequent positive developments and know if/when to (re-)establish a CSM
  - Presentation of revenue and expenses in the P&L needs to be adjusted for any losses already recognised
    - Loss component needs to be allocated in each period for presentation of revenue and expenses in the financial statements.
    - This can follow a similar method to CSM, or use other methods



Agenda

- Introduction
- Overview – Policy Liabilities under IFRS 17
- Present Value of Future Cashflows
- Risk Adjustment
- Contractual Service Margin
- Profit Emergence
  - Level of Aggregation Impact
  - Coverage Units
- Conclusion

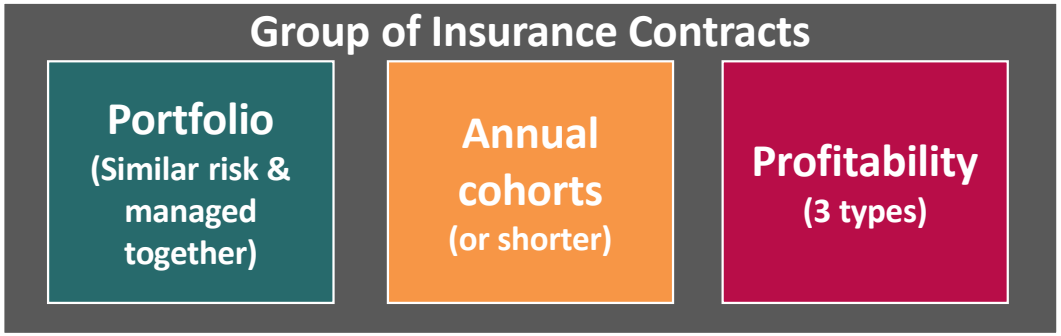
Profit Emergence under IFRS 17

- Profit emergence under IFRS 17 comes from several sources including
  - Release of risk adjustment – the "entity's compensation for accepting risk"
  - Release of CSM – the remaining risk-adjusted profit on the portfolio
  - Experience variance "noise"

- For CSM, several factors affect profit emergence. The following slides focus on two of those factors:
  - The impact of selected level of aggregation
  - The selection of appropriate coverage units

CSM – Level of Aggregation impact

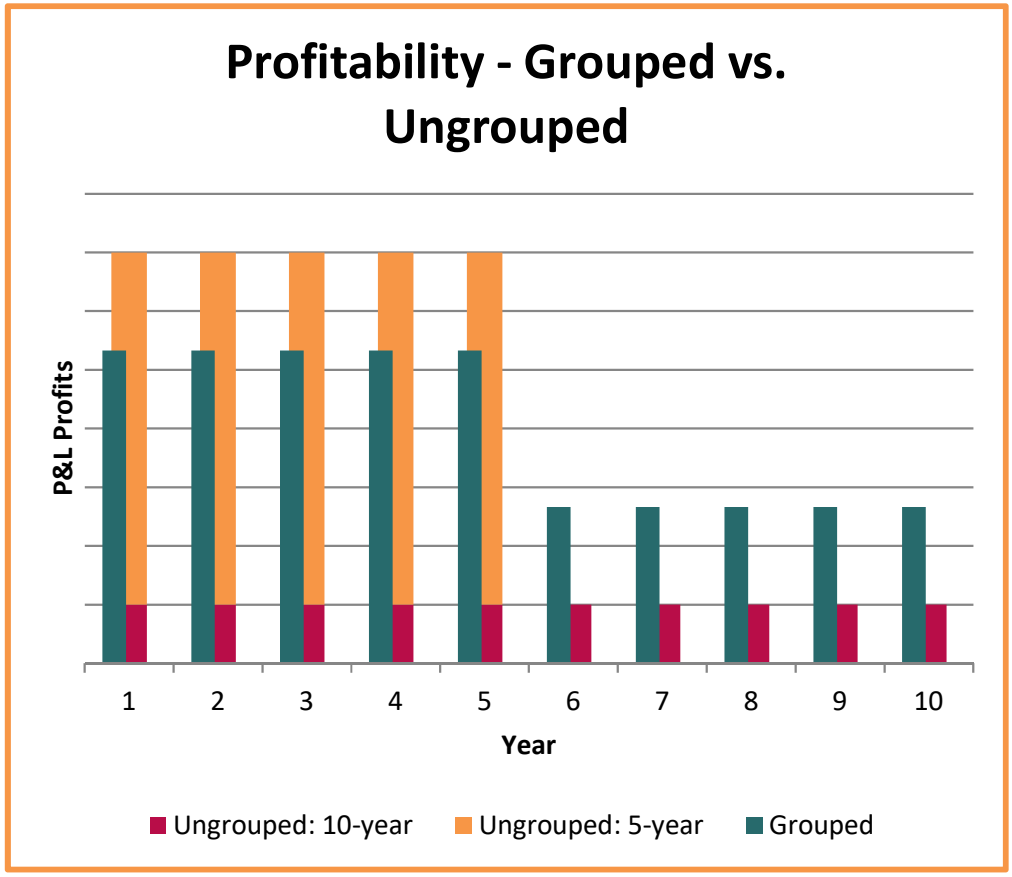
- The CSM is measured for a group of insurance contracts.



- Once recognised the risk-adjusted profitability (excluding non-attributable expenses) in that group establishes a CSM and is released into the P&L over the period services are provided **for the group collectively**.
- Different products in a group may have significantly different profitability per coverage unit
  - **The profit release profile may not look sensible.**
- IFRS 17 permits an entity to create groups more granular than specified above (criteria in Paragraph 21)
  - Forming more groups may improve profit emergence, but it will also have systems and data storage impacts as well.
- Simple examples on next slides to illustrate

CSM – Level of Aggregation impact

- Simple example: two term products – 5 year and 10 year terms. Both profitable, and same sum assured covered. 5 year product is 3 times more profitable than 10 year product on present value basis.



Grouped: The profits for both products are combined.

- 10 periods of service are provided in the first 5 years (5 periods on each of the two products)
- 5 periods of service are provided in the second 5 years (5 periods for the 10-year product only)

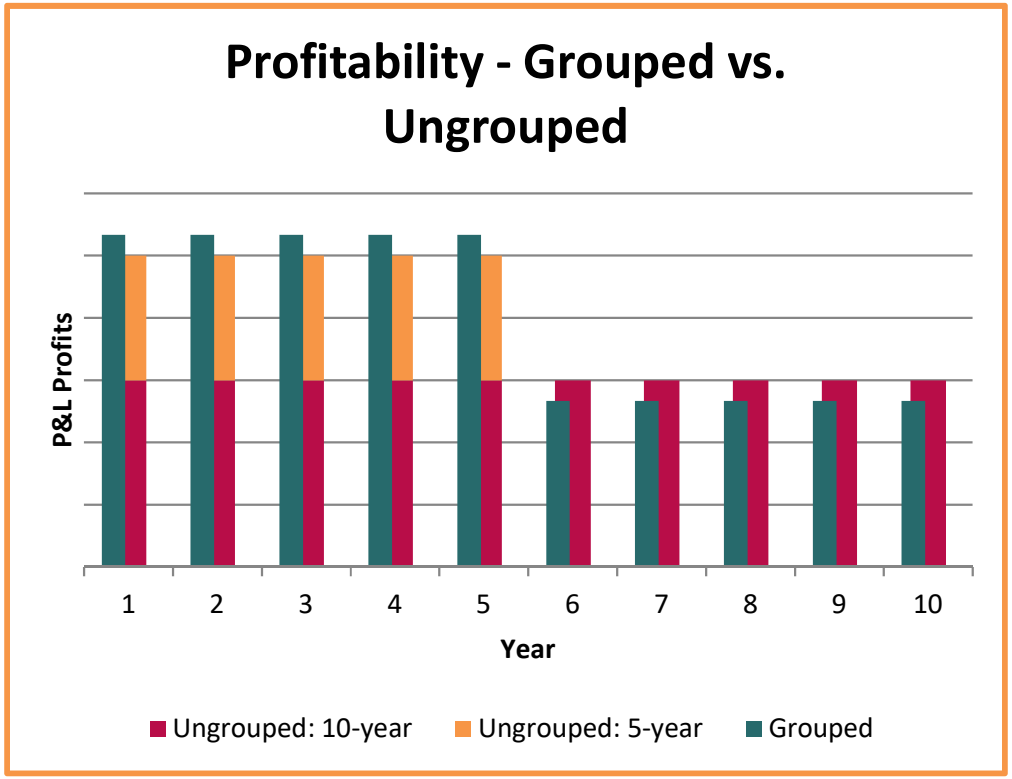
Ungrouped: Here, the profits from the 5 year product are released over 5 years, and the 10 year product over 10 years.

Important Point: When grouped, some of the profits from the more profitable product are deferred because the profit is viewed as applicable to the entire group as service earned for that group.

- This would have the opposite effect if the longer term product were the more profitable – next slide

CSM – Level of Aggregation impact

- Simple example: Same as previous slide, but now 10 year product is 3 times more profitable than 5 year product on a present value basis.



Grouped: As before, profit is identified for the group as a whole. Profitability from different underlying products is ignored & becomes overall profitability of the group. In effect, there is a cross-subsidy between different levels of profitability.

Ungrouped: As before, the profits from the 5 year product are released over 5 years, and the 10 year product over 10 years.

- This is a very simple example, more considerations in practice:
  - Complexity of creating additional groups vs. overall impact on profit emergence
  - Actual significance of difference in profitability
  - Other ways to compensate, e.g. selection of appropriately complex coverage units to recognise service, allowing for discounting in coverage units to reduce impact, etc.

Coverage Units – Introduction

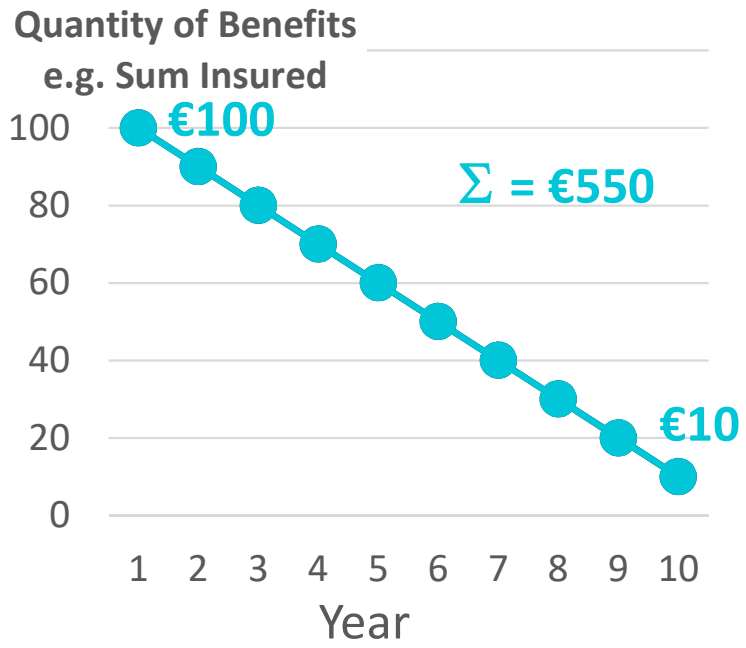
"Coverage units" establish the amount of the CSM recognised in P&L in the period for a group.

- Recognise profit as it is earned i.e. "spread" CSM over time.
- The CSM amount is allocated **equally** to each coverage unit.
- How to allocate coverage units consistently?
  - Consistency across heterogeneous contracts
  - Consistency over time

CU – Identification & Quantification

Key Aim?	**Measure "service"**	• **"Service" is the insurer standing ready to pay claims.** • Challenge is the variety of benefit types, benefit amounts, remaining term, claim likelihood, profitability … etc within a group of contracts. • Judgement and estimates, applied systematically and rationally. • **Not** expected average claims cost or claim likelihood!

How?	**Quantity of Benefit**	• Amount that **can** be claimed by a policyholder. • Variability across periods e.g. if max benefit decreases over time.
	Expected coverage duration	• Term of remaining coverage, adjusted for expected decrements.



CU – Other Considerations

Not Valid

Some notable aspects likely not appropriate

- Cashflows – unless demonstrate that reflective of service rather than expected claims.
- Premiums – not allowed unless reasonable proxy for service in period.

  (For example **not** ok if: timing difference premium versus service; premiums more reflect different probability of claims; premiums more reflect different profitability.)
- Entity's asset performance influence (if no investment component).
- Any approach where no allocation of CSM to a period where entity is standing ready to meet claims.

CU – Recognition of CSM in P&L

Ongoing	**Re-assessment**	• At end each period (before any CSM allocation for the period), reassess the expected coverage units and duration. • Re-allocate CSM equally to each coverage unit (in current period and future periods).
P&L	**Recognise CSM**	• For each period, recognise the amount of CSM (for the group) for coverage units allocated to that period.
Disclosure	**Coverage units relevant**	• Explanation of when entity expects to recognise the CSM in the future (either via time bands, or qualitative info) • General requirement to disclose significant judgements.

CU – Simple Example

Illustrative example

Details of product

- Sum insured decreases over time in known steps, cannot be increased.
- Fixed contract term.
- *(e.g. Mortgage term assurance)*

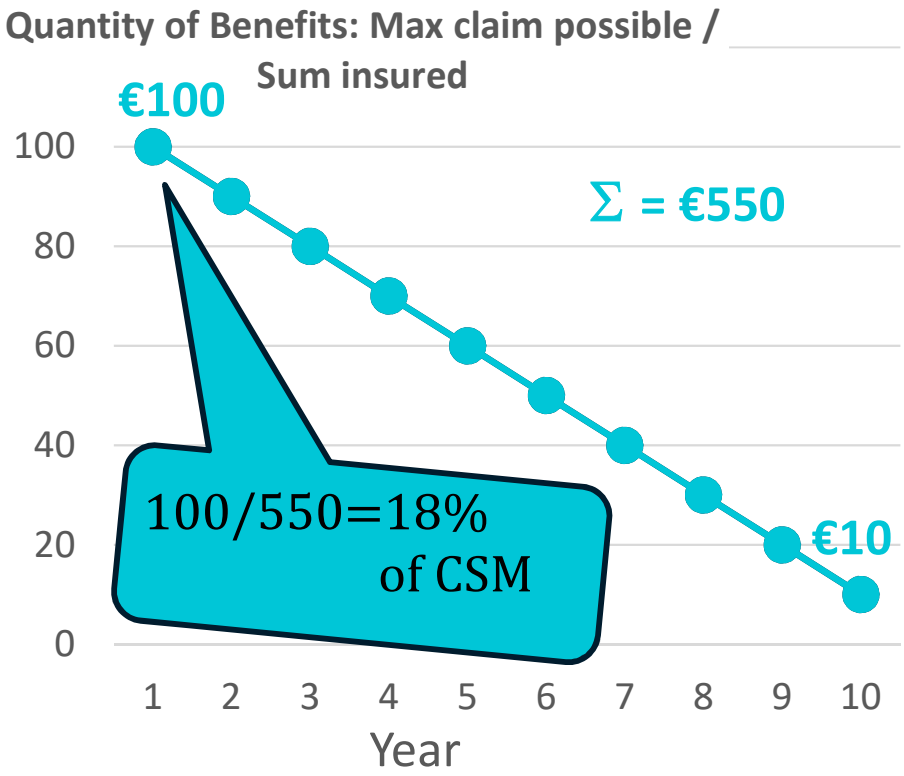
Analysis comments from TRG paper

Expected coverage duration

- Should reflect term of coverage, and also expected deaths and lapses.

Quantity of benefits

- Decreasing sum insured – valid as it is the maximum contractual cover and also the expected amount that the policyholder can validly claim if insured event occurs.
- Note TRG felt that a constant cover (e.g. representing a generic "death benefit") is not valid.



CU – Warranty Cover

Illustrative example

Details of product

- 5 year warranty – new replacement if an item fails during 5 years.
- Claim timing skewed toward end of coverage period as item gets older.

Analysis comments from TRG paper

Expected coverage duration

- 5 years, over which the cover is provided, adjusted for any expected lapses.
- (*See note re an extended warranty cover.*)

Quantity of benefits

- If price of the item is static (i.e. no inflation) - constant cover over period.
- If inflation – need to allow for increasing price (i.e. increasing cover).

However – extended warranty cover

Note if this were "extended" product warranty (i.e. after manufacturer's original warranty expired):

- ***Expected coverage duration** – does not start until the manufacturer's original warranty has expired. The policyholder cannot make a valid claim to the entity until then.*

CU – Health Cover (1/4)

Illustrative example

Details of product

Health cover for 10 years, specified types of medical costs.

- Up to €1m total costs covered, over the life of the contract.
- The expected amount and expected number of claims increases with age.

Analysis comments from TRG paper

Expected coverage duration

- 10 years during which cover is provided, adjusted for expected lapse, and any expectations of the limit being reached during the 10 years.

Quantity of benefits

(see next slides, with full details in appendix slide)

CU – Health Cover (2/4)

Illustrative example

Details of product

Health cover for 10 years, specified types of medical costs.

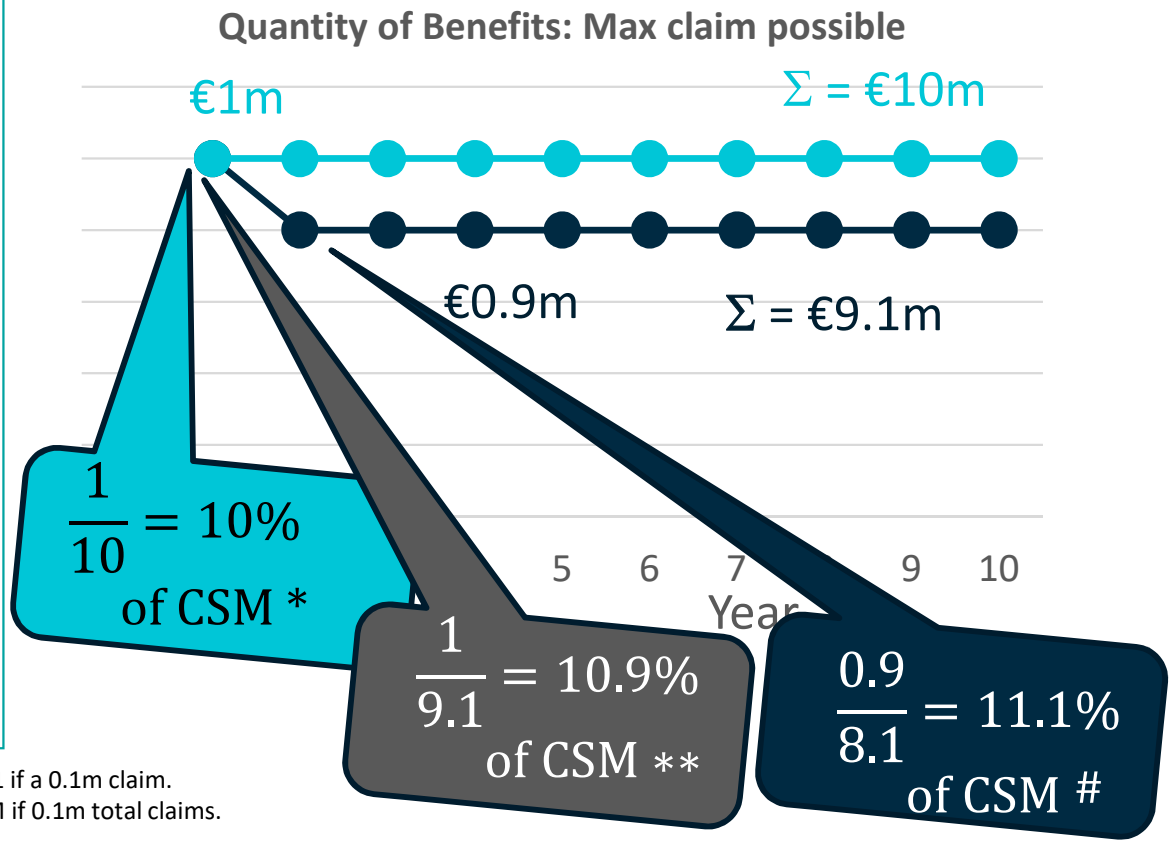
- Up to €1m costs covered, over the life of the contract.
- The expected amount and expected number of claims increases with age.

Analysis comments from TRG paper

Quantity of benefits – either:

(a) Constant coverage, max possible claim
- At outset, 10 CU in total, 1 for each year.
- And adjust to reflect claims as they arise (so coverage level reassessed down for all years after a claim, say €0.1m in year 1)

(b) …



* Year 1, if no claims; ** Year 1 if a 0.1m claim.
# Year 2 P&L & Remaining CSM if 0.1m total claims.

CU – Health Cover (3/4)

Illustrative example

Details of product

Health cover for 10 years, specified types of medical costs.

- Up to €1m costs covered, over the life of the contract.
- The expected amount and expected number of claims increases with age.

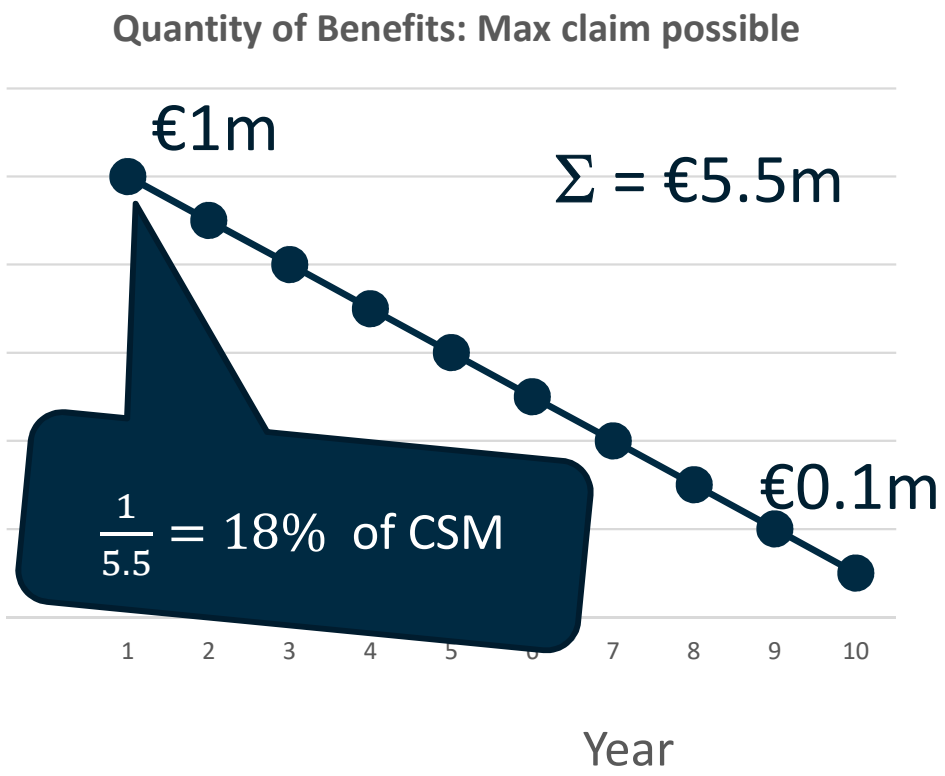
Analysis comments from TRG paper

Quantity of benefits – either:

(a) …

(b) Capture interaction via using expected claim in each year (say €0.1k p.a.)

- Involves looking at the claim likelihood (contrary to general principle).
- However, here, claims in one period do affect the amount of cover for future periods, so do affect the level of service in future periods.



CU – Health Cover (4/4) – Appendix: Calc detail

Illustrative example

Details of product

Health cover for 10 years, specified types of medical costs.

- Up to €1m costs covered, over the life of the contract.
- The expected amount and expected number of claims increases with age.

Analysis comments from TRG paper

Quantity of benefits – either:

(a) Constant coverage of max possible claim and adjust coverage to reflect claims as they arise

(b) Capture interaction via using expected claim in each year

Footnote re (a) – constant coverage

- At outset, level €1m cover for each of 10 yrs. So total is €1m*10=10m. Need to observe incurred claims in each year. If none in year 1, will allocate 1/10 (10%) of CSM in year 1.
- If a claim say in year 1 of €0.1m, then remaining cover is €0.9m … so 1 year of €1m coverage and 9 yrs of €0.9m = €1+€8.1 = €9.1m total cover. So allocate 1/9.1 of CSM in first year.

Footnote re (b) – capture interaction via expected claims

- If expected claims pattern is €0.1 per annum, so total coverage is €1m in year 1, €0.9m (yr 2), €0.8m (yr 3) etc. This sums to €5.5m total coverage. So allocate 1/5.5 of CSM to first year.
- Note this does use expected claim amounts, (which appears against the general principle) but only to establish level of coverage in periods when the periods impact each other, rather than directly using expected claims amount of establish the amount of service.

CU – Further Examples

Transition Resource Group papers provide several further examples and detailed commentary. (Feb 2018, May 2018)

More complex/bespoke situations are also covered in the TRG examples.

- E.g. unlimited sum insured, unpredictable sum insured, contingent sum insured, multiple benefits on a contract, interactions between benefits on a contract, coverage pattern variations, deferral before coverage, VFA, reinsurance, etc.

Note TRG felt that facts and circumstances are important in forming a valid judgement.

Agenda

- Introduction
- Overview – Policy Liabilities under IFRS 17
- Present Value of Future Cashflows
- Risk Adjustment
- Contractual Service Margin
- Profit Emergence
- Conclusion

Summary – Present Value Future Cashflows

Cashflows included	• Best estimate future cashflows. • Relating directly to fulfilment of the contract. • Within contract boundary.
Contract boundaries	• No longer has substantive rights to receive premiums or obligations to provide services since the risks of the policyholder or portfolio in setting the price or level of benefit can be fully reassessed.
Discounting	• IFRS 17 requires insurers to use fair value and market-consistent approaches to liability valuations as the basis for reporting their accounts. • Bottom-up or Top-down approach.

Summary – Risk Adjustment

Cost of Capital	• The Risk Adjustment is calculated as the discounted value of future capital for non-financial risk at required confidence interval multiplied by the company's internal cost of capital.
Value at Risk	• Value at Risk (VAR) calculates the expected loss on a portfolio at a specified confidence level. This value less the discounted value of best estimate cashflows gives the Risk Adjustment.
Tail Value at Risk	• Tail VaR (TVaR) calculates the average expected loss on a portfolio given the loss has occurred above a specified confidence interval. This value less the discounted value of best estimate cashflows gives the Risk Adjustment.
Provision for Adverse Deviation	• Cashflows revalued using padded non-financial assumptions calibrated to reflect the company's risks and chosen confidence level. The risk adjustment is the difference between this and the best estimate.

Summary – CSM

Initial recognition	• At initial recognition, the CSM is set to offset any profits on the group of contracts and represents the unearned profits on that group.
Subsequent Measurement	• Movements will allow for new business, interest accretion, changes in fulfilment cashflows, exchanges rate movements and amortisation.
Loss component	• No negative CSM. • Losses must be tracked as a loss component.
Profit Emergence	• Level of aggregation effect – CSM is for a group of contracts. • "Coverage units" establish the amount of the CSM recognised in P&L in the period for a group.

Thank you.

Questions?