
SCOR
The Art & Science of Risk

Italian Seminar

IFRS17

Unlocking the Potential Benefits of Reinsurance

June 2022

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Sections

01 **Introduction to IFRS 17**

02 Important concepts of Reinsurance Contracts Held

Introduction to the valuation of uncertainty

Deal or no deal ?

The candidate of this game has the choice between:

- Keep playing the game - and win the amount in one of the 6 remaining boxes
- Stop playing the game - and take the offered lump sum
- They can play only once

Playing the game:

- the outcome is highly uncertain (between USD 100 and USD 150,000)
- the average / expected outcome is USD 38,458

Take the offered lump sum

If the offered amount > the **perceived value of the game**

After removing 18 of the 24 indistinct boxes, containing each a monetary gain between 1$ and 250,000$, the 6 highlighted outcomes are still possible

When uncerta choose their ca for a hig

AS A SAFE AND PRUDENT PERSON, WHAT IS YOUR PERCEIVED VALUE OF THE GAME ?

Which monetary amount would you ask to stop playing the game ?

Equivalently, how much would you be willing to pay to be allowed to keep playing the game ?

100	500	5,000	10k	25k	38k	55k	75k	100k	150k

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Value of a insurance contract with an uncertain outcome

How does your company decide to write an insurance risk ?

1. **Underwriting / pricing**
   The loss ratio is good, it will cover our expenses
2. **Risk management**
   Did you run some stress tests, what's the worst-case scenario?
3. **Finance**
   What's the ROE stand compared to our 900bps spread target ?

In most current accounting standards, profitability is assessed on cash-flows:

P&L = premium – expected loss – expenses

Internally, companies take into account the cost of capital via a RORAC / ROE consideration:

Value = premium – expected loss – expenses – Cost of capital

IFRS 17: a new measure of “profitability”, considering uncertainty

Value of a contract = Present Value of Future Cash Flows – Risk Adjustement

IFRS 17 “Risk adjustment”

IFRS 17 captures the volatility of insurance business by adjusting the view on a policy’s expected profitability to its risk.

Uncertainty is taken into account by a “risk-adjustment” component

The IFRS17 RA can be determined:

- Cost of capital method
- difference between the best estimate and a given higher quantile of the loss distribution
- …

The RA model (and choice of parameters) is to be determined by each insurance company. It’s a private discussion between them and their auditors

A new definition of profitability

An insurance contract is “IFRS-17-profitable” if the present value of expected future cash-flows (PVFCF) is sufficient to compensate for the risk.

If so, the difference is called the contractual service margin (CSM).

Otherwise, the contract is onerous, and the difference is called the day-one loss (DOL).

A restricted scope of profitable contracts

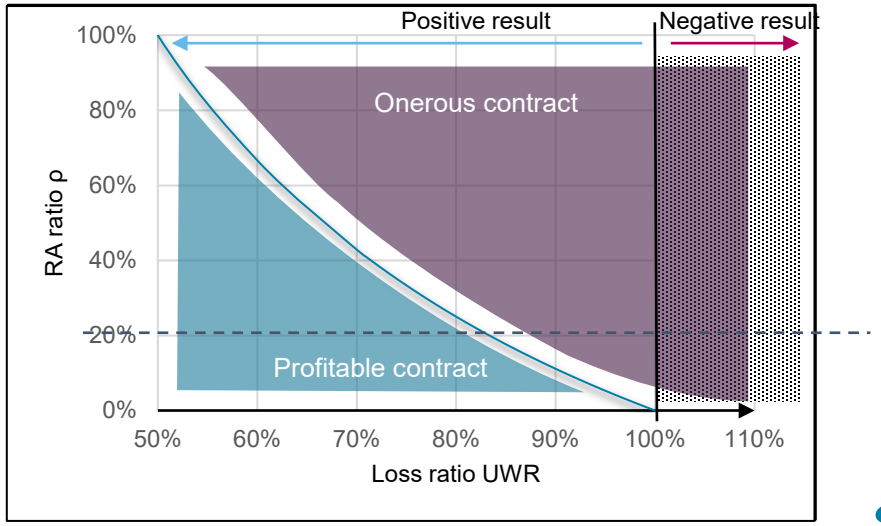

Illustration: when $RA = \rho \cdot \mathbb{E}[X]$, a contract is profitable if the expected underwriting ratio $UWR = \mathbb{E}[X] \leq 1/(1+\rho)$

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Case study 2

Profitable policy, risk-adjusted

Initial profitability analysis: PVFCF – RA at initial recognition date

Parameters

Insurance policy	
Premium	100
Expected loss ratio	75%
Costs	0%
RA for remaining coverage	20%
RA for incurred claims	10%

Profitability analysis

At recognition date (31-12-2022):

- the expected value of future cash-flows is 25
- Expected uncovered losses are 75.
- RA is 20% of this amount (= 15)
- The “IFRS-17-value” is 25 – 15 = 10 > 0

The contract is “IFRS-17-profitable”

- The positive value (10) is called the CSM

CoC method: RA is the sum of:

- “RA for uncovered” (pricing risk, CAT risk): % of expected future loss
- “RA for incurred” (reserving risk): % of OLR

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Case study 2

Profitable policy, risk-adjusted

Comparison of income statements

Q4 2022 | Q1 2023 | Q2 2023 | Q3 2023 | Q4 2023 | Q1 2024 | Q2 2024 | Q3 2024

IFRS 4

	0	1	2	3	4	5	6	7	Total
Earned premiums		25,00	25,00	25,00	25,00	0,00	0,00	0,00	100,00
Total revenue		25,00	25,00	25,00	25,00	0,00	0,00	0,00	**100,00**
- Claims		-18,75	-18,75	-18,75	-18,75	0,00	0,00	0,00	**-75,00**
- Claims (settlements)		*-9,38*	*-15,00*	*-18,75*	*-18,75*	*-9,38*	*-3,75*	*0,00*	*-75,00*
- Claims (changes in liabilities)		*-9,38*	*-3,75*	*0,00*	*0,00*	*9,38*	*3,75*	*0,00*	*0,00*
Total claims		-18,75	-18,75	-18,75	-18,75	0,00	0,00	0,00	**-75,00**
P&L before tax - IFRS 4		**6,25**	**6,25**	**6,25**	**6,25**	**0,00**	**0,00**	**0,00**	**25,00**

IFRS 17

	0	1	2	3	4	5	6	7	Total
Insurance revenue		25,00	25,00	25,00	25,00	0,00	0,00	0,00	**100,00**
expected claims		*18,75*	*18,75*	*18,75*	*18,75*	*0,00*	*0,00*	*0,00*	***75,00***
release of risk adjustment		*3,75*	*3,75*	*3,75*	*3,75*	*0,00*	*0,00*	*0,00*	***15,00***
release of CSM		*2,50*	*2,50*	*2,50*	*2,50*	*0,00*	*0,00*	*0,00*	***10,00***
- Incurred claims and expenses	0,00	-19,69	-19,13	-18,75	-18,75	0,94	0,38	0,00	**-75,00**
- incurred claims		*-18,75*	*-18,75*	*-18,75*	*-18,75*	*0,00*	*0,00*	*0,00*	***-75,00***
- change in RA for incurred claims		*-0,94*	*-0,38*	*0,00*	*0,00*	*0,94*	*0,38*	*0,00*	***0,00***
Insurance service result	0,00	5,31	5,88	6,25	6,25	0,94	0,38	0,00	**25,00**
P&L before tax - IFRS 17	**0,00**	**5,31**	**5,88**	**6,25**	**6,25**	**0,94**	**0,38**	**0,00**	**25,00**

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Case study 3

Onerous policy (110%)

Initial profitability analysis

Parameters

Insurance policy	
Premium	100
Acquisition costs (broker)	0%
Expected loss ratio	110%
Claim handling cost	0%
Contract handling costs	0%
RA for remaining coverage	20%
RA for incurred claims	10%

Profitability analysis

At recognition date (31-12-2022):

- the expected value of future cash-flows is -10
- Expected uncovered losses are 110
- RA is 20% of this amount (= 22)
- The “IFRS-17-value” is -10 – 22 = -32 < 0

The contract is “IFRS-17-onerous”

- The negative value (-32) is called the loss component

Case study 3

Onerous policy (110%)

Comparison of income statements

IFRS 4

	Q4 2022	Q1 2023	Q2 2023	Q3 2023	Q4 2023	Q1 2024	Q2 2024	Q3 2024	Total
	0	1	2	3	4	5	6	7	
Earned premiums		25,00	25,00	25,00	25,00	0,00	0,00	0,00	100,00
Total revenue		25,00	25,00	25,00	25,00	0,00	0,00	0,00	**100,00**
- Claims		-27,50	-27,50	-27,50	-27,50	0,00	0,00	0,00	**-110,00**
- Claims (settlements)		*-13,75*	*-22,00*	*-27,50*	*-27,50*	*-13,75*	*-5,50*	*0,00*	*-110,00*
- Claims (changes in liabilities)		*-13,75*	*-5,50*	*0,00*	*0,00*	*13,75*	*5,50*	*0,00*	*0,00*
Total claims		-27,50	-27,50	-27,50	-27,50	0,00	0,00	0,00	**-110,00**
P&L before tax - IFRS 4		**-2,50**	**-2,50**	**-2,50**	**-2,50**	**0,00**	**0,00**	**0,00**	**-10,00**

IFRS 17

	0	1	2	3	4	5	6	7	Total
Insurance revenue		25,00	25,00	25,00	25,00	0,00	0,00	0,00	**100,00**
expected claims		*27,50*	*27,50*	*27,50*	*27,50*	*0,00*	*0,00*	*0,00*	***110,00***
release of risk adjustment		*5,50*	*5,50*	*5,50*	*5,50*	*0,00*	*0,00*	*0,00*	***22,00***
adjustement for loss component		*-8,00*	*-8,00*	*-8,00*	*-8,00*	*0,00*	*0,00*	*0,00*	***-32,00***
release of CSM		*0,00*	*0,00*	*0,00*	*0,00*	*0,00*	*0,00*	*0,00*	***0,00***
- Incurred claims and expenses	-32,00	-20,88	-20,05	-19,50	-19,50	1,38	0,55	0,00	**-110,00**
- incurred claims		*-27,50*	*-27,50*	*-27,50*	*-27,50*	*0,00*	*0,00*	*0,00*	***-110,00***
- change in RA for incurred claims		*-1,38*	*-0,55*	*0,00*	*0,00*	*1,38*	*0,55*	*0,00*	***0,00***
- day 1 loss	***-32,00***								***-32,00***
- amortisation of loss component		*8,00*	*8,00*	*8,00*	*8,00*	*0,00*	*0,00*	*0,00*	***32,00***
P&L before tax - IFRS 17	**-32,00**	**4,13**	**4,95**	**5,50**	**5,50**	**1,38**	**0,55**	**0,00**	**-10,00**
Including day one loss	**-32,00**								

Case study 4

Onerous policy (90%)

Initial profitability analysis

Parameters

Insurance policy	
Premium	100
Expected loss ratio	90%
Costs	0%
RA for remaining coverage	20%
RA for incurred claims	10%

Profitability analysis

At recognition date (31-12-2022):

- the expected value of future cash-flows is +10
- Expected uncovered losses are 90
- RA is 20% of this amount (= 18)
- The “IFRS-17-value” is 10 – 18 = -8 < 0

The contract is “IFRS-17-onerous”

- The loss component is -8

Case study 4

Onerous policy (90%)

Comparison of income statements

IFRS 4

	Q4 2022	Q1 2023	Q2 2023	Q3 2023	Q4 2023	Q1 2024	Q2 2024	Q3 2024	Total
	0	1	2	3	4	5	6	7	
Earned premiums		25,00	25,00	25,00	25,00	0,00	0,00	0,00	100,00
Total revenue		25,00	25,00	25,00	25,00	0,00	0,00	0,00	**100,00**
- Claims		-22,50	-22,50	-22,50	-22,50	0,00	0,00	0,00	**-90,00**
- Claims (settlements)		*-11,25*	*-18,00*	*-22,50*	*-22,50*	*-11,25*	*-4,50*	*0,00*	*-90,00*
- Claims (changes in liabilities)		*-11,25*	*-4,50*	*0,00*	*0,00*	*11,25*	*4,50*	*0,00*	*0,00*
Total claims		-22,50	-22,50	-22,50	-22,50	0,00	0,00	0,00	**-90,00**
P&L before tax - IFRS 4		**2,50**	**2,50**	**2,50**	**2,50**	**0,00**	**0,00**	**0,00**	**10,00**

IFRS 17

	0	1	2	3	4	5	6	7	Total
Insurance revenue		25,00	25,00	25,00	25,00	0,00	0,00	0,00	**100,00**
expected claims		*22,50*	*22,50*	*22,50*	*22,50*	*0,00*	*0,00*	*0,00*	***90,00***
release of risk adjustment		*4,50*	*4,50*	*4,50*	*4,50*	*0,00*	*0,00*	*0,00*	***18,00***
adjustement for loss component		*-2,00*	*-2,00*	*-2,00*	*-2,00*	*0,00*	*0,00*	*0,00*	***-8,00***
release of CSM		*4,50*	*4,50*	*4,50*	*4,50*	*0,00*	*0,00*	*0,00*	***18,00***
- Incurred claims and expenses	-8,00	-21,63	-20,95	-20,50	-20,50	1,13	0,45	0,00	**-90,00**
- incurred claims		*-22,50*	*-22,50*	*-22,50*	*-22,50*	*0,00*	*0,00*	*0,00*	***-90,00***
- change in RA for incurred claims		*-1,13*	*-0,45*	*0,00*	*0,00*	*1,13*	*0,45*	*0,00*	***0,00***
- day 1 loss	*-8.00*								***-8,00***
- amortisation of loss component		*2,00*	*2,00*	*2,00*	*2,00*	*0,00*	*0,00*	*0,00*	***8,00***
P&L before tax - IFRS 17	**-8,00**	**3,38**	**4,05**	**4,50**	**4,50**	**1,13**	**0,45**	**0,00**	**10,00**
Including day one loss	**-8,00**								

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Shifting to IFRS 17

Key takeaways

IFRS 17 requires modelling all future expected cash-flows

Which cash-flows? Contract boundaries? allocated costs?

A risk-adjustment materializes volatility of insurance risk / compensation for bearing such risk. This reflects the uncertainty on future cash-flows, until their full fulfilment. Ex: 20% of future claims + 10% of actual reserves

RA model and calibration are key

A contract is profitable if the initial present value of the expected future cash-flows is greater than the risk-adjustment

At which level to measure profitability? What about programs? long-term client relationship?

Contracts deemed onerous will result in a significant P&L loss at recognition date

Based on initial pricing assumptions

Ultimate result is the same, regardless of accounting standard, but P&L recognition pattern can be slower under IFRS 17

Relies highly on internal modelling of the company

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Sections

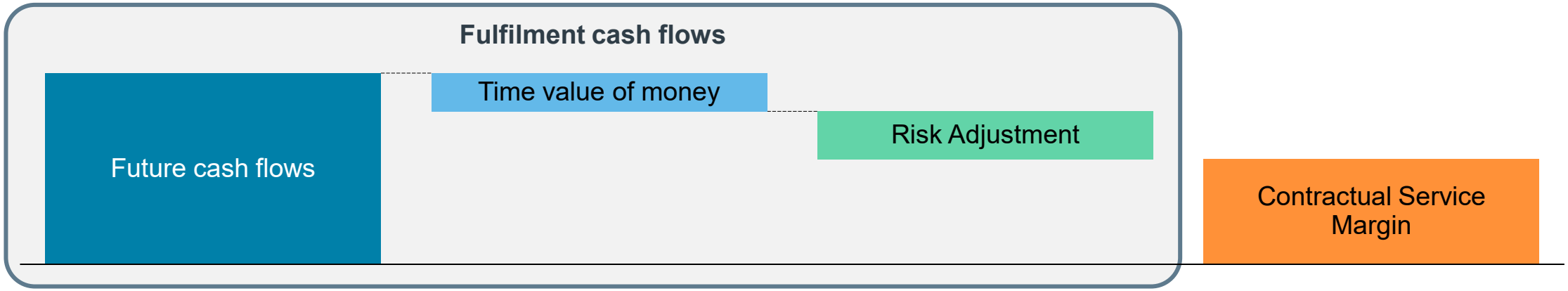
01 Introduction to IFRS 17

02 Important concepts of Reinsurance Contracts Held

Introduction
Framework of the presentation

- This presentation does not provide any accounting views and is meant as a basis for discussion. Our focus is on the accounting implications of **reinsurance contracts held** by an insurer rather than reinsurance contracts issued by a reinsurer.
- **Reinsurance contracts held must be accounted separately** from the underlying insurance contracts issued by the insurer. Unlike IFRS 4, the concept of “netting contractual obligations” is no longer applicable based on the principle that policyholders’ obligations are not extinguished simply because the underlying insurance contracts are reinsured.
- Reinsurance contracts held are treated as an asset (rather than a liability) and generally represent a net cost to the insurer. The reinsurance cost can be deferred over the lifetime of the contract if it relates to future obligations, otherwise a loss must be recognized at inception for incurred claims.
- The contract boundaries of a reinsurance contract held can differ from the underlying insurance contract issued leading to a difference in the timing of recognition of profits between contracts.
- A reinsurance contract held can fall under the simplified Premium Allocation Approach if the eligibility criteria are met, otherwise the Building Block Approach would apply. The Variable Fee Approach is not allowed for reinsurance contracts held as they are generally not considered participating contracts.

Reinsurance Contract Held
Building Blocks Approach



- Future cash flows within the boundary of a reinsurance contract include Ceded Premiums, Ceded Claims, Ceded Commissions (treated as reduction in premiums if payment is not contingent on claims, otherwise negative expenses), Profit commissions (treated as a reduction to claims).

- Use the same discount rates as the reinsured insurance contracts.

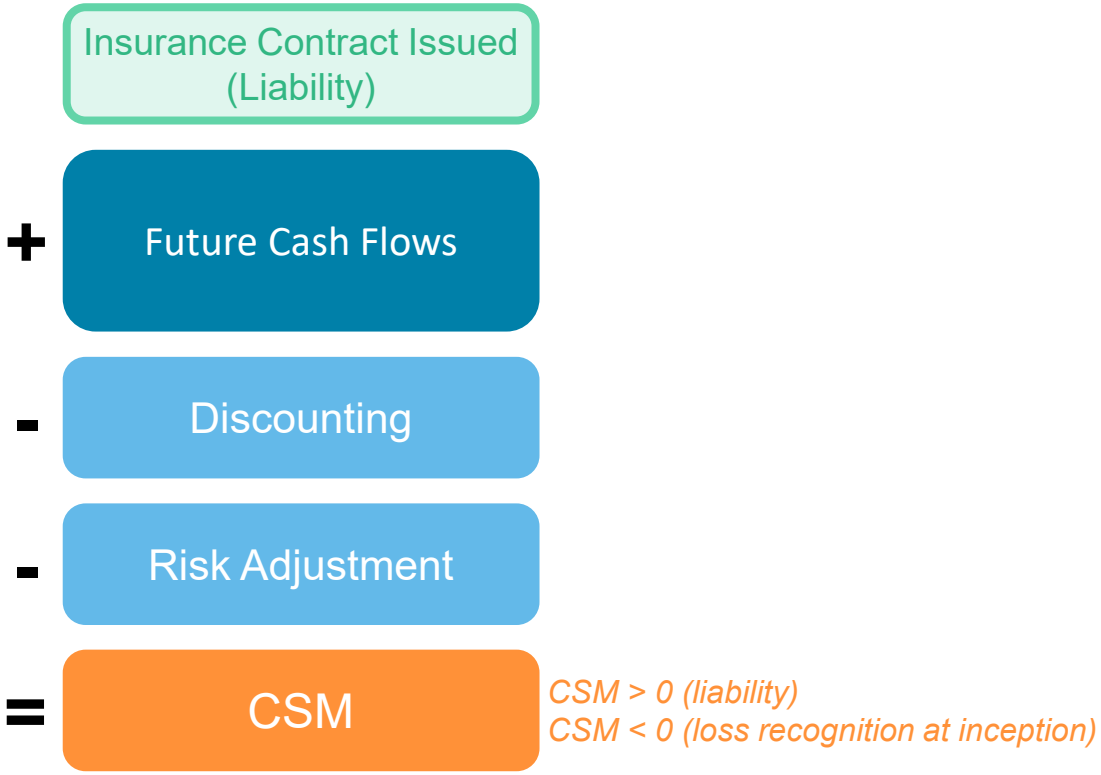
- Risk adjustment can be allocated to risk being transferred by the cedent.
- e.g., Mortality reinsurance would cede mortality risk capital but not the investment risk capital.

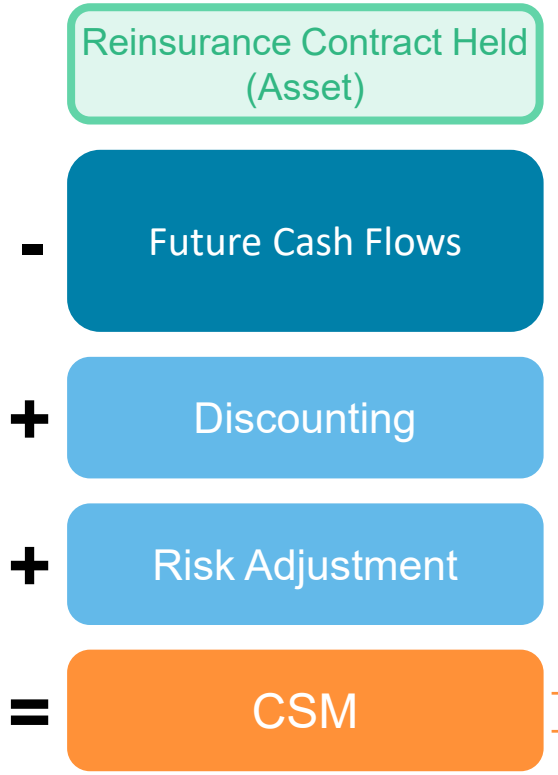
- Reinsurance contract with a net cost is not necessarily recognized immediately but can be deferred over the lifetime of the contract (except when reinsuring an onerous insurance contract).
- Reinsurance can be recognized as a net loss (debit CSM) or net gain (credit CSM).

**Credit risk of reinsurer to be adjusted in cash flows.*
**A mismatch in maturities between contracts is reflected in the boundary of the contract.*

Contractual Service Margin (CSM)
Insurance Contract Issued vs Reinsurance Contract Held

The Contractual Service Margin (CSM) on reinsurance contracts held is equal to the inverse of the future cash flows on insurance contracts issued adjusted with their own respective contract boundaries, discounting and risk adjustments.





- Reinsurance contract held is treated as an asset on the insurer's balance sheet
- Net cost from reinsurance is treated as an asset (i.e., "negative" CSM).

– CSM > 0 (reinsurance cost)
– CSM < 0 (reinsurance gain)
Need to take the negative amount as this would be recognized as an asset.

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IFRS 17
Solutions Proposed by SCOR

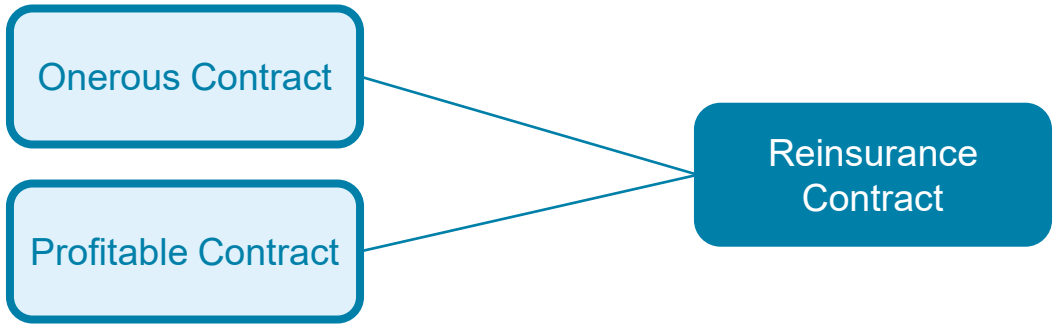
	Transition to IFRS 17		Under IFRS 17			
Subject	**Recognition of Onerous Contracts**	**Use of Fair Value Approach**	**Change in P&L Release**	**Risk Adjustment**	**Increase in P&L Volatility**	**New Product Development**
Issue	Valued separately & future losses recognised immediately	Restate the values of the contracts using a "***market***" value at the time of implementation	No "**day 1**" profits under IFRS 17, unlike certain products under IFRS 4	Inadequate provisioning of FCF could significantly reduce future profits	Any mismatch between A&L will lead to increased variability of performance	Take regulation, accounting and reinsurance pricing impacts into account
Solution	Traditional Q/S on portfolios including both profitable & onerous contracts	Wide Q/S treaty covering a small vertical slice of the business	Variable commissions or Q/S agreements that would influence the timing of profit release	Solutions that reduce the Risk Adjustment to crystalize the realization of future profits	The degree of risk-sharing can be tailored using **FWH** accounts or shorter maturity on the reinsurance treaty than the underlying business	Share some of the implementation costs of new products through a reinsurance buy-in program to distribute acquisition expenses more efficiently

Detailed answers in appendix

Mutualisation of Profits

Potential for mutualization of profits using reinsurance

- Grouping of insurance contracts must use the following 3 principles upon initial recognition. These principles ensure greater transparency in the valuation of insurance contracts while avoiding potential cross subsidy of profits within different groups.
  1. **Profitability:** (1) group that are onerous on initial recognition, (2) group that are profitable on initial recognition and (3) remaining group of contracts
  2. **Homogenous risk group:** Contracts must be grouped among homogenous risk set. Contracts within the same product line would be expected to have a similar risk profile and grouped within the same category.
  3. **Annual Cohorts:** Contracts that are issued for more than one year apart shall not be in the same group.
- Reinsurance contracts held would also follow the same principles with the lowest possible aggregation unit being the reinsurance contract itself.
- An insurer can therefore still achieve some mutualization of profits of insurance contracts issued within the same reinsurance contract by grouping different contracts with limited risk of having to disintegrate the reinsurance contracts to its individual components.
- For example, mutualization of profits could be achieved by combining onerous and profitable insurance contracts into a single reinsurance contract held. Transparency of reporting would still be preserved as both insurance and reinsurance contracts must be reported separately.



Onerous Insurance Contracts
Recovery of Losses via Reinsurance

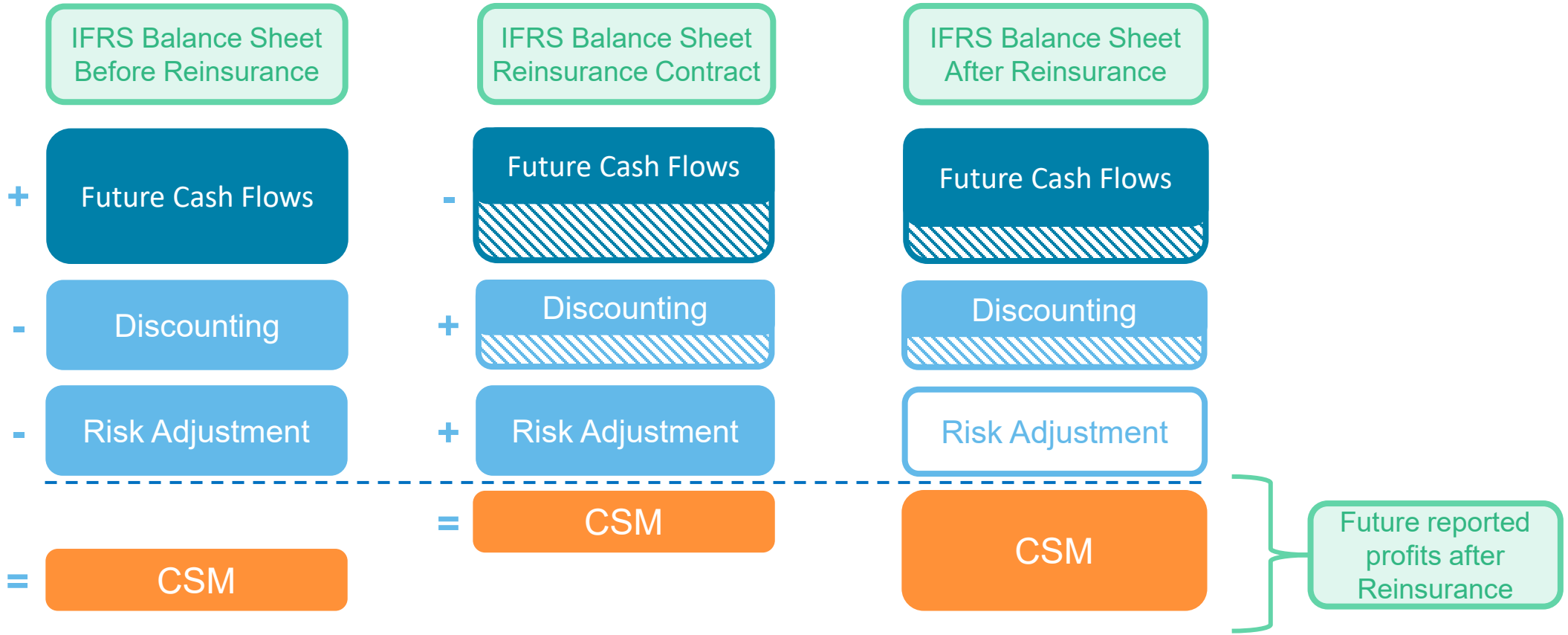
On December 2019, a revised Exposure Draft was presented to the IASB in favour of expanding the scope of reinsurance contracts held to offset the initial recognition of losses on a group of onerous insurance contracts.

	Latest Exposure Draft to IASB (released on December 2019)
• **What is an onerous insurance contract?**	• An insurance contract is deemed onerous when the total fulfilment cash flows after risk adjustment are less than zero, i.e. a loss making contract.
• **How can reinsurance help offset losses on onerous insurance contracts?**	• An insurer can offset the initial loss recognition on a group of onerous insurance contracts by entering into a reinsurance contract. • The loss recognized on a group of insurance contracts can be reduced at inception based on the total expected loss recovery from the reinsurance contract held. • Accounting symmetry can be maintained between contracts as long as the reinsurance contract held is recognized before or at the same time as the loss is recognised on the underlying insurance contracts. • The net cost/gain from reinsurance would still have to be recognized over the lifetime of the treaty.
• **What types of reinsurance contracts are most effective?**	• Proportionate reinsurance contracts are more effective as the reduction in loss recognition is determined based on the percentage of claims recovery on the reinsurance contract held. • Reinsurance contracts with minimum retention and excess limits would still be valid as long as the loss recovery can be measured at an individual contract level.

Non-Onerous Insurance

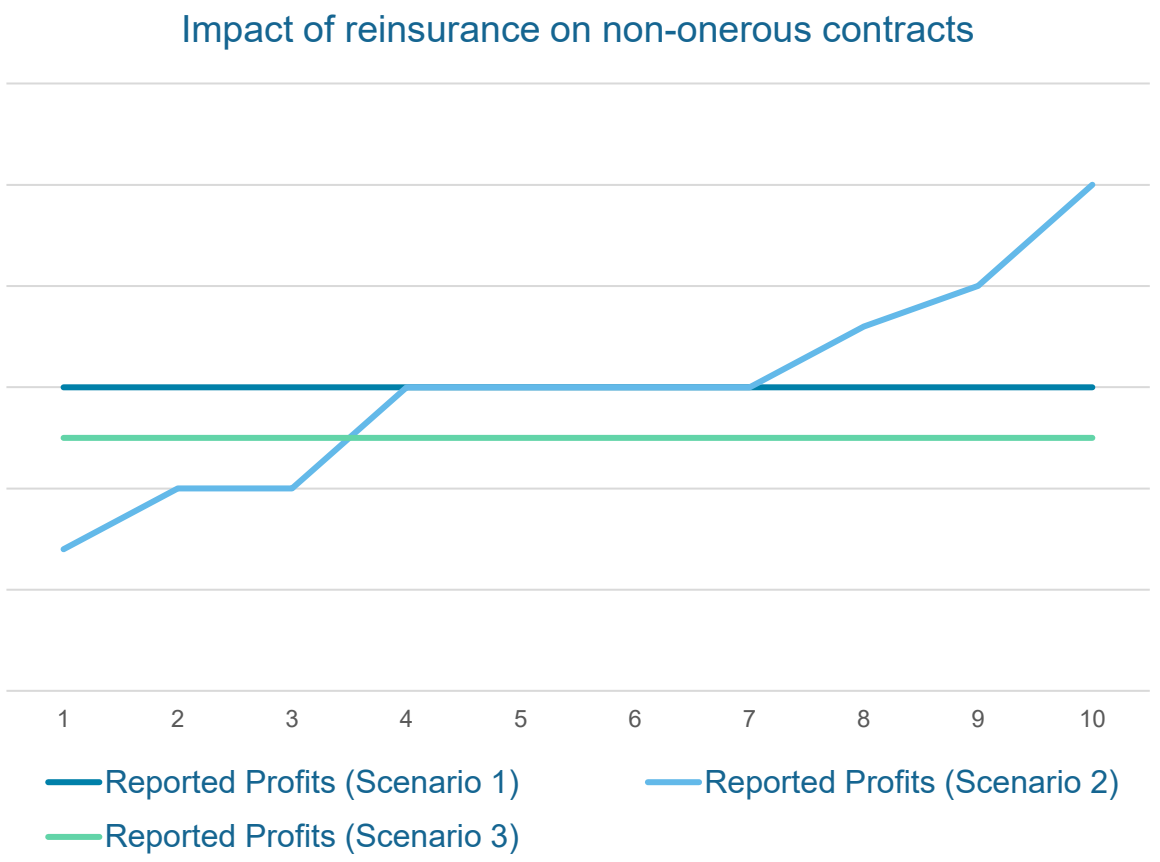
Reinsurance on non-onerous insurance contracts issued

Reinsurance can “convert” the Risk Adjustment into a CSM component thus ensuring future profits will remain stable.



Illustrative Example
Reinsurance on non-onerous insurance contracts

- The following graph shows the insurance service results (i.e. reported IFRS earnings) for 3 scenarios:
  - **Scenario 1:** Insurance contract where the future releases of CSM and Risk Adjustment are the same.
  - **Scenario 2:** Insurance contract where the future releases of Risk Adjustment is slower than the release of CSM.
  - **Scenario 3:** 100% reinsurance on contract 2 where the Risk Adjustment is effectively offset.
- Under Scenario 3, the initial CSM is higher than under Scenario 1, despite having lower future reported profits than Scenario 1. Solution 3 has materially reduced the risk adjustment allowing a higher upfront recognition of CSM.
- Unlike scenarios 1 or 2, profits are much more stable under scenario 3 with little risk of divergence in profits patterns.



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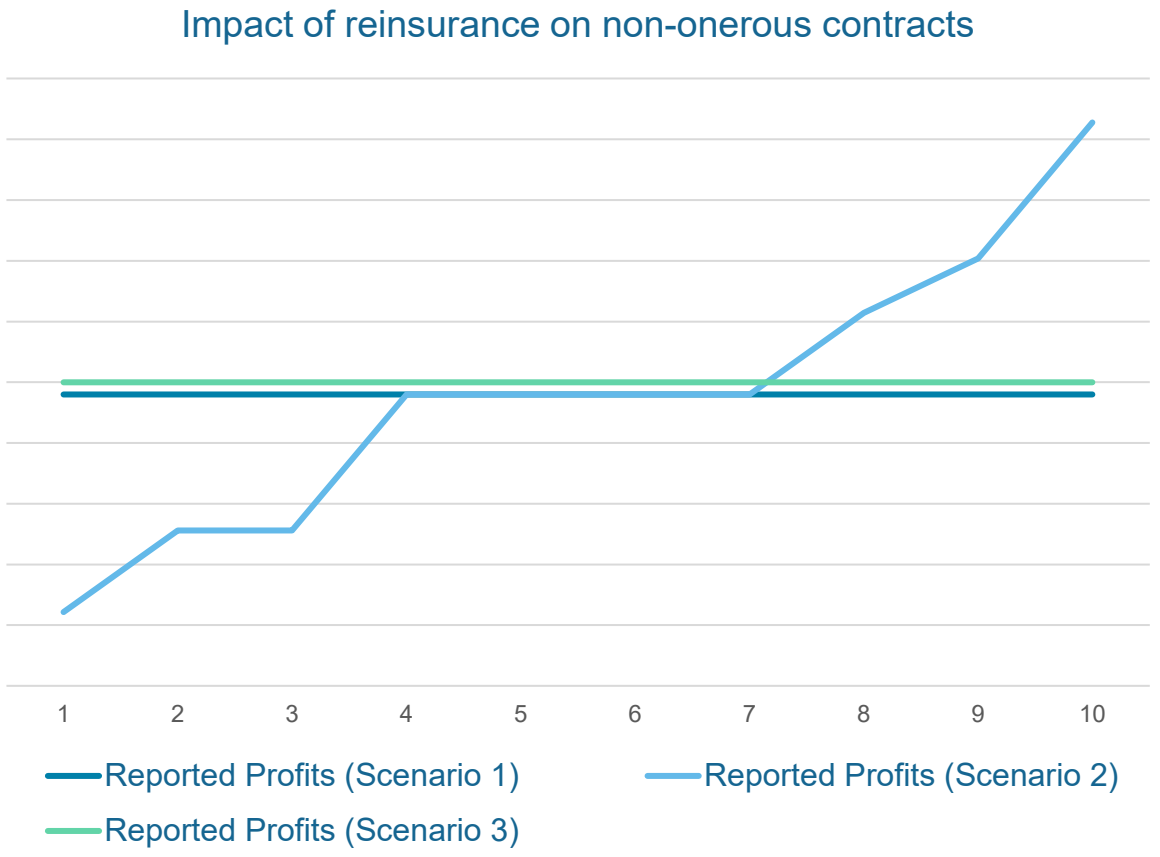
Illustrative Example

Reinsurance on non-onerous insurance contracts

- As a continuation to the previous illustration, let's assume an adverse experience adjustment with actual claims being 10% higher than expected for each of the previous 3 scenarios.
- Future profits are unchanged under scenario 3 while for scenarios 1 and 2 the reported profits are lower.

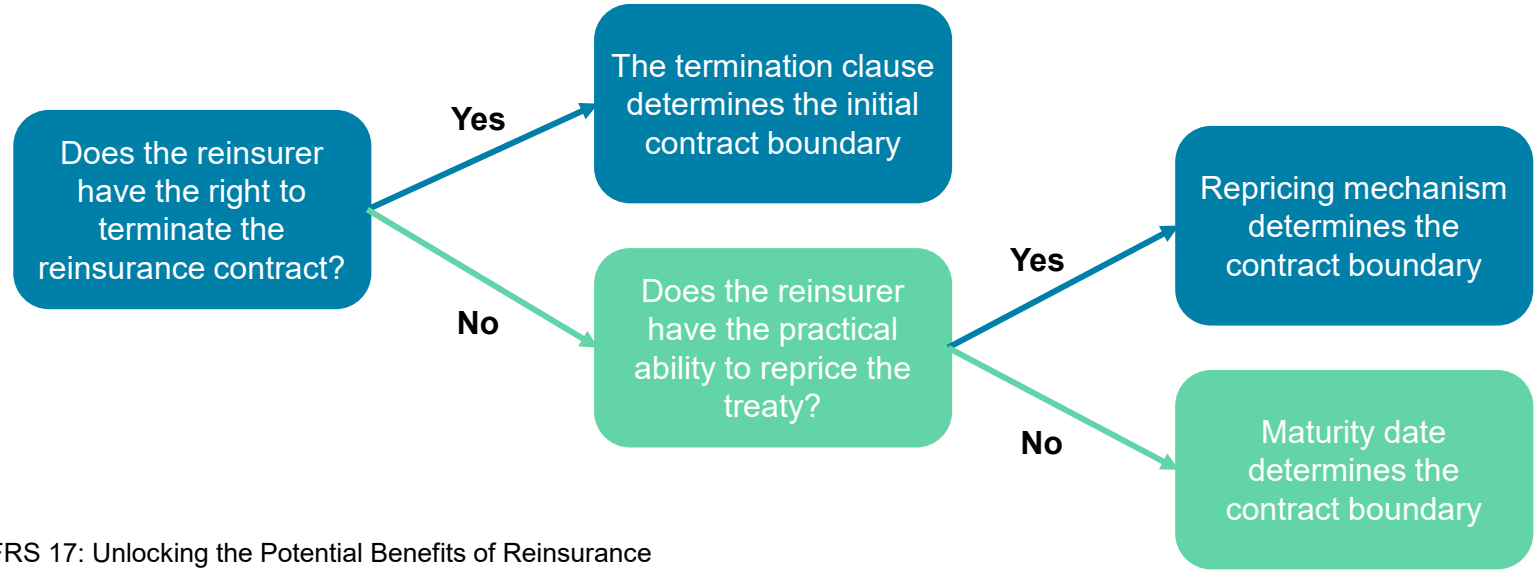


Contract Boundary

Contract Boundary in Reinsurance Contracts Held

- The contract boundary of reinsurance contracts held may be different then the insurance contracts issued which can lead to potential accounting asymmetry and operational complexity for the insurer.
- Example: contract boundaries for open-ended treaty
  - Future business ceded by an insurer is within the contract boundary of the reinsurance contract held up to the cancellation notice period (i.e. 3-month notice) and/or its ability to fully reprice the treaty.
  - The insurer is effectively upfronting the cost of reinsurance for up to a 3-month period where new business has yet to be issued.
  - To preserve accounting symmetry in P&L, the cost of reinsurance shall not be reported until reinsurance services have been provided by the reinsurer.

Roadmap for contract boundary in reinsurance contracts held



VIF (or CSM) Reinsurance Financing

- Can additional future profits beyond the existing contract boundaries be recognized via “CSM” reinsurance financing deals?
- If the practical ability to reassess risk is set at a longer term than the underling insurance contract, then an “additional” reinsurance CSM component

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