

Financial services knowledge series on IFRS 17: General Measurement Model (GMM) Unwrapped

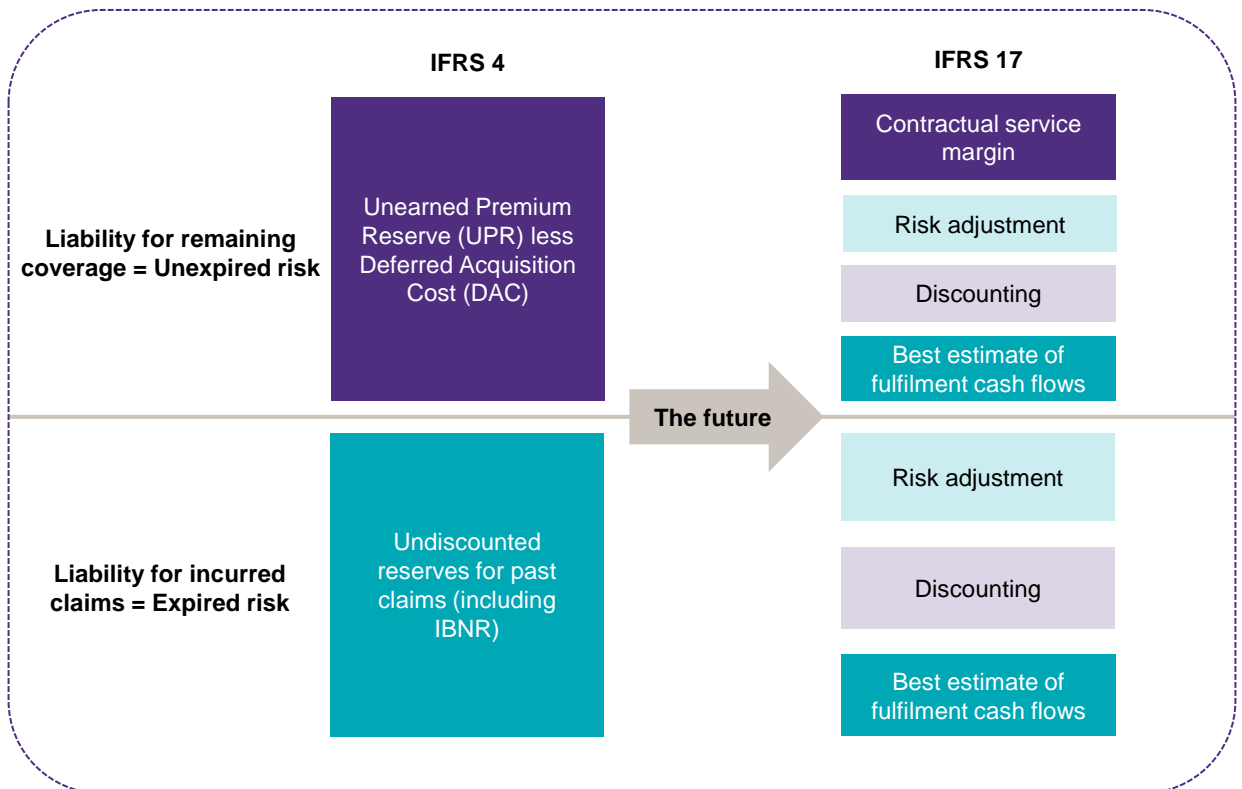
March 2023

Volume II



Introduction

This publication is a continuation of our financial services knowledge series on IFRS 17. In Volume I, we went through an overview of IFRS 17. This volume talks about measurement models of IFRS 17. The GMM is a 'default' measurement model for insurance contracts. The figure below shows the calculation approaches under IFRS 4 and IFRS 17 GMM and represents how the transition will look.



We discuss this model in detail below.

The general measurement model is the standard approach to calculate/estimate liabilities for the insurance contract under IFRS 17.

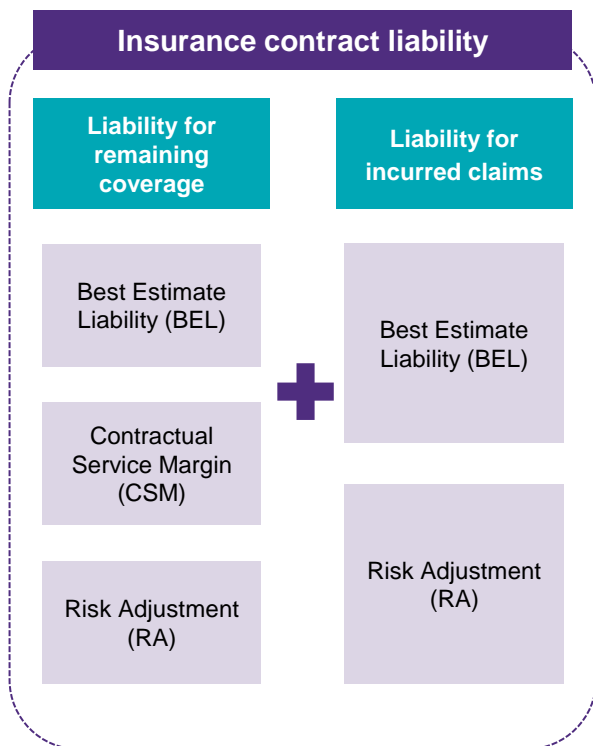
This model focuses on providing key information on the expected cash flows and profitability of the insurance contracts. The GMM is applicable to contracts with longer terms.

As per the definition of the GMM, at initial recognition, an entity shall measure a group of contracts as the total of (a) the amount of Fulfilment Cash Flows (FCF), which comprise estimates of future cash flows, an adjustment to reflect the time value of money and the financial risks associated with those future cash flows and the Risk Adjustment (RA) for nonfinancial risk, and (b) the Contractual Service Margin (CSM) representing the unearned profit from the contract.



Introduction (Contd.)

The total liability for a group of insurance contracts includes the following:



1) Liability for remaining coverage

This liability is related to the coverage provided for the insured events that can occur in the future.

This liability exists as the cash flows at the inception of the period are time value and have not been earned yet. These cash flows come bearing risk and are considered a liability. On initial and subsequent recognition, this is calculated as the sum of the following:

- 1) BEL, i.e., the present value of cash inflows and outflows, plus
- 2) Risk adjustment for the compensation of bearing the uncertainty of amounts and timings of the cash flows, plus
- 3) CSM, which is defined as the amount of unearned profit that the entity will recognise in profit and loss (P&L) as services are provided

A brief description of all these elements of GMM is covered in the next section.



2) Liability for incurred claims

This liability refers to unpaid claims and expenses for the insured events that have already transpired.

Under IFRS 17, contract liability can be displayed as the sum of the following components or building blocks:

- 1) Best estimate liability
- 2) Risk adjustment for non-financial risks

If the total of the above-mentioned liabilities equals a net outflow, the group of contracts is said to be onerous, and the loss component is immediately recognised in the profit and loss accounts.

The general model can be used for both life and non-life insurance contracts. Also, this approach does not distinguish between different insurance products.



Elements of GMM

Elements of GMM

Best Estimate Liability

BEL is the first building block of the general model. It is the present value of expected future cash flows discounted using a risk-free yield curve, i.e., the present value of outflow less the present value of inflows.

All assumptions should be the best estimate, with no prudential margins. The projections should allow for all expected decrements and policyholder actions, including lapses.

Two major components while calculating the best estimate liabilities are estimates of the expected future cash flows and discount rates.

1) Estimate of expected cash flows

The first component required while calculating the best estimate liability in the general model is an estimate of the future cash flows over the life of each contract, i.e., the expected cash flows that the insurance company expects to receive and pay.

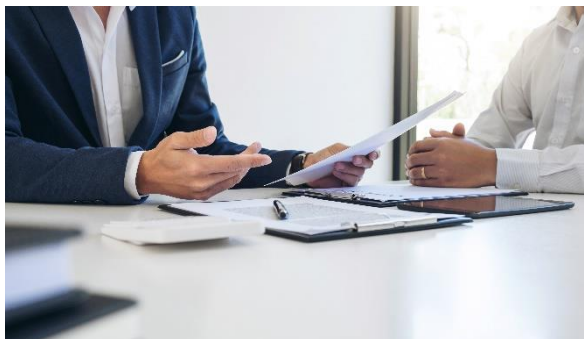
The estimates of future cash flows should be current. IFRS 17 requires entities to use current estimates based on the most up-to-date information available at each reporting date to account for their insurance contracts. This ensures timeliness and transparency of the financial information.

The estimates of future cash flows should use all reasonable and justifiable information available at the reporting date. They are expected to be unbiased and calculated by considering different cash flows like expenses, claims, premiums, etc.

The estimates of future cash flows should be probability weighted so that they are unbiased.

2) Discount rate

The second component required to calculate the best estimate liability in the general model is the adjustment of the discount rate to the estimates of future cash flows to reflect the time value of money and financial risks related to those cash flows.



IFRS 17 requires insurers to use fair value and market-consistent approaches to liability valuations as the basis for reporting their accounts.

The rates used to discount the cash flows arising from the insurance contract's liability should reflect the attributes of cash flows arising from the insurance contract's liability. Using the correct discount rate will ensure that the liability is not understated and profits are not overstated by entities. Hence, careful consideration is required in constructing the discount rates.

Risk Adjustment

RA for non-financial risks is the second building block in the general model.

It is needed under IFRS 17 to reflect the compensation that a company requires for bearing the uncertainty about the amount and timing of cash flows that arises from non-financial risk.

Companies are also required to disclose the method and confidence level used for the calculation of the RA. However, IFRS 17 does not specify a method and a confidence level, nor does it provide a list of specific risks that are considered to be non-financial risks.

Companies need to define them based on their own preferences or existing practices.

The RA may be calculated in one of three ways:

- Value-at-Risk (VaR)
- Conditional Tail Expectation (CTE)
- Cost of Capital (CoC)

Elements of GMM

Contractual Service Margin (CSM)

CSM is the third building block in the general model. This is a new concept introduced by IFRS 17, which will identify the expected profitability of a group of contracts.

The CSM for a group of insurance contracts represents the unearned profit that the entity will recognise as it provides services in the future.

At inception, the CSM is set equal to what would otherwise have been considered the day one profit, i.e., the initial premium less the attributable initial expenses, less the BEL and less the RA.

The initial CSM is set at inception ('day one', i.e., the point at which the policy is written) for each policy (or group of homogeneous policies) so that the total initial liability of BEL + RA + CSM equals the initial net cashflow of initial premium minus initial expenses. This means that zero profit arises at the point at which the policy is sold. Thus:

$$\text{CSM} = \text{Initial premium} - \text{Initial expenses} - \text{BEL} - \text{RA}$$

However, the CSM cannot be negative, either at issue or subsequently. Therefore, if BEL + RA exceeds the initial net cash flow, a loss would be recognised immediately.

For a contract that has been written to generate profit, as would normally be the case, the CSM would be greater than zero – provided the RA is not too onerous.

For example:

Estimates of PV of future cash flows (Initial expenses + BEL) = CU. 50,000

Risk adjustment = CU. 3,000

Premiums received = CU. 60,000

CSM = CU. 60,000 – CU. 50,000 – CU. 3,000 = CU 7,000.

Above formula is taken from [IFRS17 CSMWP Article_calculating_value_at_initial_recognition_20190923.pdf \(actuaries.org.uk\)](#)



CSM calculation under GMM

Consider the below scenario

At inception, immediately after the premium is received

Premium has been paid

Parameter	Assumptions
Coverage period	2 years
Expense, acquisition cost and RA	0
Premium (paid immediately after the start coverage)	CU 1000
Claims (paid immediately after the end of five years)	CU 1000
Discount rate	3%
Investment return	4%

Components of GMM		
Particulars	Nominal value	Present value
Expected inflows	0	0
Expected outflows	(1000)	(863)
Net expected cash flows	0	(863)
Risk adjustment	0	0
Fulfilment cash flows	0	(863)
CSM		(137)

At inception, before the premium is due, the value of the insurance contract is zero. For onerous contracts, there would be no CSM, and a loss is recognised instead.

Fulfilment cash flows

Particulars	Time 1	Time 2	Time 3	Time 4	Time 5
Balance at the start of the period	(863)	(888)	(915)	(943)	(971)
Interest accretion	(25)	(27)	(28)	(28)	(29)
Balance at the end of the period	(888)	(915)	(943)	(971)	(1000)

CU 1000 paid immediately after end of the fifth year

Contractual service margin

Particulars	Time 1	Time 2	Time 3	Time 4	Time 5
Balance at the start of the period (A)	(137)	(71)	0	0	0
Interest accretion (B)	(4)	(2)	0	0	0
Balance at the start of the period	71	73	0	0	0
Balance at the end of the period	(71)	0	0	0	0

For t2 = - (A + B) => remainder is released to P&L

For t1 = - (A + B)/2, since it is halfway through the contract, half is now released to P&L (assuming uniform risk)

Zero CSM after the end of the coverage period.

*Note: Above example is taken from 'Worked example by IFoA.PDF.'

This scenario is assumed for simplification purposes and can vary from entity to entity.

CSM calculation under GMM

Insurance contract liability					
Particulars	Time 1	Time 2	Time 3	Time 4	Time 5
Balance at the start of the period	(1,000)	(959)	(915)	(943)	(971)
Balance at the end of the period	(959)	(915)	(943)	(971)	(1,000)

Total interest accretion (interest expense)					
Particulars	Time 1	Time 2	Time 3	Time 4	Time 5
Interest accretion	(30)	(29)	(27)	(28)	(29)

Assets						
Particulars	Time 1	Time 2	Time 3	Time 4	Time 5	Total
Balance at the start of the period	1,000	1,040	1,082	1,125	1,170	1,000
Interest accretion	40	42	43	45	47	217
Balance at the end of the period	1,040	1,082	1,125	1,170	1,217	1,217

Premium is invested and earns 4% interest per year

Net investment return						
Particulars	Time 1	Time 2	Time 3	Time 4	Time 5	Total
Interest income	40	42	43	45	47	217
Interest expense	(30)	(29)	(27)	(28)	(29)	(144)
Investment result	10	13	16	17	18	73

Total interest accretion from the previous page

Profit and loss						
Particulars	Time 1	Time 2	Time 3	Time 4	Time 5	Total
Underwriting results	71	73	0	0	0	144
Investment result	10	13	16	17	18	73
Profit and loss	81	86	16	17	18	217

This is the release from the CSM during the coverage period

*Note: Above example is taken from 'Worked example by IFoA.PDF.'
This scenario is assumed for simplification purpose and can vary from entity to entity.



Transition and approaches

Transition

Companies putting IFRS 17 into effect are required to disclose the impact on the balance sheet. The impact is calculated at the transition date, which is the beginning of the annual reporting period preceding the date of initial application.

An entity is required to calculate the opening balance sheet for IFRS 17 at the transition date.

For example, a company applying IFRS 17 from 1 January 2023 will calculate results at the transition date of 1 January 2022. Some companies target to finalise the transition results in the middle of the year.

Companies need to decide the methodology for transition calculations.

There are three transition approaches under GMM:

1. Full Retrospective Approach (FRA)
2. Modified Retrospective Approach (MRA)
3. Fair Value Approach (FVA)

1) FRA

Companies should have required data, prophet model and historical assumptions (both financial and demographic) at a granular level.

The FRA is used to approach transitional results for conventional products such as annuities and protection businesses.

One way to calculate the CSM results at the transition date is defined below. Companies can use other methodologies too.

Insurance companies divide the contracts into annual cohorts. These cohorts can be run into a prophet or any other model to project future cash flows such as death benefit, maturity benefit, rider benefits such as critical illness, annuity outgo, permanent health insurance benefit outgo, renewal expenses, renewal commission, etc. Companies then calculate BEL at the inception date by discounting cash flows.

The CSM at the inception date is calculated using the formula defined on page 6.

CSM at subsequent measurement is calculated as follows:

CSM at the start of the reporting period	
Add (+)	CSM in respect of new business
Add (+)	Interest accretion on locked-in discount rate
add/less (+/-)	Changes relating to future service arising from, for example: <ul style="list-style-type: none"> • Non-economic assumption • Impact of experience variances on fulfilment cash flows • Modelling changes • Premium variances include premium-related cash flows such as premium-based taxes • Acquisition expense variances • Non-distinct investment component variances
add/less (+/-)	Effect of any currency exchange differences
Less (-)	Release of the CSM in profit/loss (amortisation of the CSM)
CSM at the end of the reporting period	

The insurance company could have found it impracticable to use the FRA. Finding data, assumptions and models at such a granular level could sometimes be costly or not possible.

Transition

2) MRA

Companies can switch from the FRA to the MRA if they find it impracticable. Simplifications in the MRA can help in reducing issues with the FRA.

Contracts issued more than one year apart can be grouped together, but it can lead to a challenge with discount rates. For example, if a business sold between 2009 and 2022 was grouped together, companies should conclude which inception discount rates are to be used – 2009, 2022 or midpoint.

Sometimes companies struggle with an issue to obtain coverage units for both FRA and MRA. Even historical cash flows are available, but some data does not include policy counts and sum assured. This can have a bigger impact on the CSM.

3) FVA

Under the FVA, the CSM at the transition date is computed as the difference between the fair value of the insurance business (which is computed in accordance with IFRS 13) and IFRS 17 fulfilment cash flows (FCFs). These FCFs are the sum of (i) the present value of cash flows determined at the best estimate and (ii) the RA.

Fair value is defined in IFRS 13 as ‘the price that could be received to sell an asset, or paid to transfer a liability, in an orderly transaction between market participants at the measurement date’.

The practical challenge is to decide on the method to use. The method can be a direct or indirect method, though most companies prefer the indirect method.

- A direct method involves available market transaction data and taking the price and/or value implied by these market transactions to determine the fair value of the liabilities directly. For example, an active market for annuity businesses could be used.
- An indirect method involves using a standard valuation technique to determine a proxy fair value or an estimate of the price at which an orderly transaction might take place.

Judgement will be needed to select the technique for an indirect method. Some options contain Solvency II Technical Provisions with an adjustment and IFRS 17 fulfilment cash flows with an adjustment.

An important decision with any method is the approach to allow for risk. Possible options include a cost of capital and a confidence-level approach.

Fair value calculation also requires judgement on the level of expenses to include the contract boundaries to apply and discount rates to use.

Conclusion

Practical challenges are involved in any of the transition approaches. The FRA must be used unless it is found to be impracticable. If an entity finds it impracticable, it must have proper evidence to prove it.

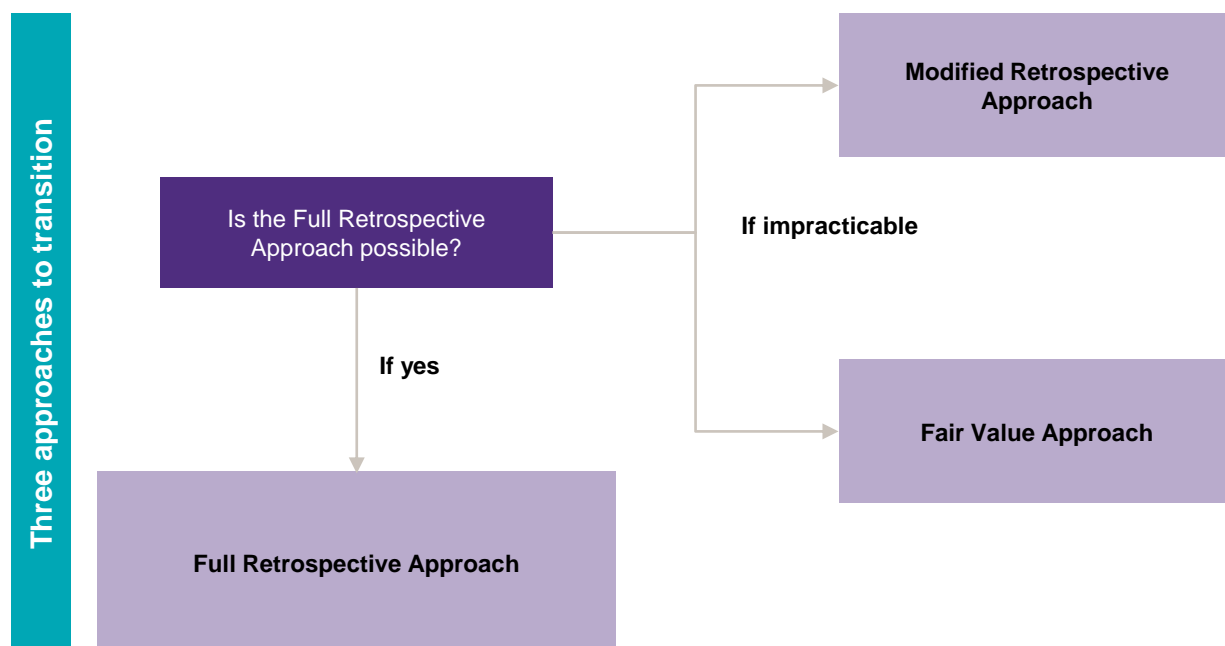
The FVA can be simpler to apply in CSM calculations than the MRA, but both approaches can lead to different results.

In some cases, the FVA can lead to a lower CSM, or in a few cases where the FRA or the MRA would provide negative CSM, i.e., a loss component, the FVA can lead to positive CSM. An entity needs to decide which approach to use.



Differences between transition approaches

Full Retrospective Approach	Modified Retrospective Approach/ Fair Value Approach
It has to be applied unless it is found to be impracticable. For each group and each cohort of contracts, an insurer must go right back to the contract at inception and project forward the contractual service margin from that date to the transition date.	Insurers able to demonstrate that the Full Retrospective Approach is impracticable will be permitted to choose between the Modified Retrospective Approach and the Fair Value Approach.
This will involve a significant amount of historical data, assumptions at the point of sale (PoS) and modelling complexity.	The Modified Retrospective Approach aims to achieve an outcome that is the closest to the Full Retrospective Approach, with some approximations and simplifications, using reasonable and supportable information available without undue cost or effort.
Gathering information for contracts issued many years before the transition could be either very costly or sometimes not possible.	A key feature of the Modified Retrospective Approach is that there is no requirement to divide the groups of contracts into annual cohorts unless the insurer has reasonable and supportable information to justify the divisions, which should help make the data requirements less complex. However, the disclosures will still be quite onerous, and any approximations that are taken will need to be justified, not just at transition but every year thereafter.



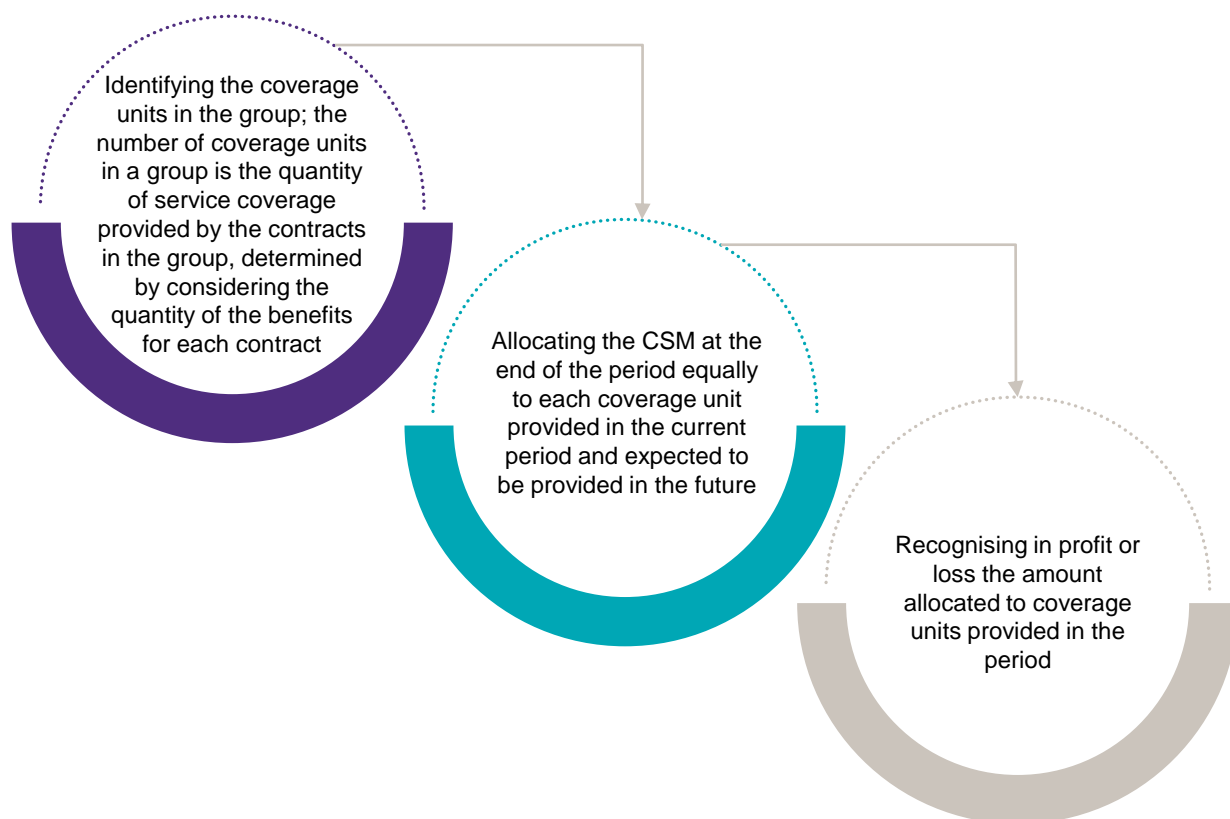


Coverage units

Coverage units

As per paragraph B119 of the IFRS 17 standards, an amount of the contractual service margin for a group of insurance contracts is recognised in profit or loss in each period to reflect the insurance contract services provided under the group of insurance contracts in that period.

The amount is determined by:



Following are some possible examples of coverage units for different types of products, although companies can form their own views on which coverage units best suit the business run by them

Product type	Coverage units
Term assurance	Sum assured payable on death
Endowment product	Sum assured payable on death + maturity benefit
Income protection	Amount payable on the detection of an illness
Annuities	Annuity outgo + amount payable on death (if any, such as if death occurs in a deferred period or return of premium)
With-profits product	Amount payable on death (sum assured + bonuses + guaranteed benefits)
Unit-linked savings product	Amount payable on death (higher of the fund value or the sum assured)



Accounting perspective

Accounting outlook

As the GMM is the default module for liability calculation on the insurance contracts and further to the detailed overview of the insurance contract liability, the accounting impacts are mentioned below. As the CSM and RA are part of the liabilities in the balance sheet at the inception of the group of contracts, the CSM is not realised at the inception of the contracts, as it will be spread across the policy period. Hence the contract will have a negative CSM at its inception.

The profit and loss statement: The movement of CSM is captured in the profit and loss statement at any reporting period as an insurance service result, which is arrived at by considering the insurance revenue (IR) minus insurance claims and expenses (ICE).

The revenue earned during the coverage period and revenue for the release of risk adjustment during the period is considered insurance revenue (IR). Similarly, the expected claims with insurance services expenses and changes in the cash flow with risk adjustment of coverage provided are considered ICE.



CSM calculation that is considered in P&L				
Estimate of the present value of future cash flow		RA	CSM	
Add premium	Less claims			
		Add time value or discounting	Less RA	
				CSM

The P&L statement also consists of the insurance finance expense, which is the amount adjusted due to changes in the discount rates and investment income, where the investment component of the insurance contract is calculated separately based on IFRS 9.

In the transition methods of the Full Retrospective Approach, IFRS 17 requires both current and past information about the contract, which is in force at the transition date. The current information includes fulfilment cash flow (CSM + RA), and the past information includes (i) initial assessments at the inception of the contract, (ii) contractual service margin or the loss component at the time of inception of the contract and (iii) other comprehensive income (OCI), with an option chosen by the company to disaggregate insurance finance income/expenses between profit and loss account and in the other comprehensive income.

Accounting outlook

In IFRS 17, the assessment is done at the inception of the contract on the initial recognition, like determining a group of contracts, identifying the insurance contract with/without direct participation feature and discretionary cash flows. These assessments are not reassessed after initial recognition.

The other transition method is the Modified Retrospective Approach, wherein the entity does not have any reasonable and supporting information about the past period to apply the Full Retrospective Approach. This method needs modifications only in the following areas:

1. Initial assessment
2. Identifying the insurance contract with/without direct participation feature
3. OCI options

If the entity does not have reasonable and supporting information for applying the Modified Retrospective Approach, then IFRS 17 allows applying the Fair Value Approach. The fair value measurement can be applied from IFRS 13, *Fair Value Measurement*, without applying the requirement of the deposit floor.

The fair value price is the exit price and not a liquidation price or force sale price. It is between the market view of the current price.

Profit and loss statement	
Insurance revenue	+ Revenue earned during the coverage period
	+ Revenue for the release of risk adjustment for the period
Insurance service expenses	– Expected claims and other insurance services' expenses
	– Changes in the cash flow in risk adjustment
Insurance service result	Net off insurance revenue and insurance service expenses

Similarly, the balance sheet comparison between IFRS 4 and IFRS 17 is as follows:

Balance sheet		Major changes
IFRS 4	IFRS 17	
Asset		<p>The factors of DAC, new business premium and premium receivable, which were reported as assets in IFRS 4, are now considered insurance contract assets in IFRS 17. Similarly, unearned premiums and claims payable of IFRS 4 are now considered insurance contract liability as part of the CSM in IFRS 17.</p> <p>The insurance contract asset and liability consist of the following:</p> <ol style="list-style-type: none"> 1. Fulfilment cash flow 2. Contractual service margin 3. Liability of incurred claims
Reinsurance contract assets	Reinsurance contract assets	
Deferred acquisition cost	Insurance contract assets	
Value of business acquired		
Premiums receivable		
Policy loans		
Liability		
Insurance contract liability	Insurance contract liabilities	
Unearned premium	Reinsurance contract liabilities	
Claims payable		



Appendix

Previous release, upcoming releases, glossary and references

Summary

IFRS 17 introduces the General Measurement Model that provides pertinent information about the future cash flows and profitability of insurance contracts. The General Measurement Model provides a wide-ranging and intelligent structure with various features of insurance contracts and the opportunities to make them profitable. Non-participating contracts with longer terms, such as whole life assurance, term assurance, income protection and annuities, can be accounted for using the General Measurement Model. This is a robust method to evaluate insurance contracts.

Previous release

Financial Services Knowledge Series on IFRS 17: The new horizon (Volume I) - This publication is the first in the IFRS 17 knowledge series, and it aims at exploring the need for insurance contract accounting and its standardisation into IFRS. This introduction of IFRS 17 will bring high-quality and consistent accounting standards for insurance contracts around the world, reducing much of the existing diversity in reporting.

Upcoming releases

In our next release, we will provide more information on the Premium Allocation Approach (PAA). This method under IFRS 17 is used for calculating liabilities for insurance contracts with a coverage period less than or equal to one year. Moreover, we will be releasing a list of documents in our knowledge series based on our thoughts.

IFRS 17 Volume III: Premium Allocation Approach (PAA) – Let's make it simple!

The Premium Allocation Approach is a simpler approach to calculate liabilities for an insurance contract under IFRS 17. It is used for short-term contracts (duration less than a year) in pre-claim liability. In this document, we will be exploring the principles and concepts of the Premium Allocation Approach in detail.

IFRS 17 Volume IV: Exploring Variable Fee Approach (VFA)

The Variable Fee Approach is another variant of GMM to calculate liabilities for an insurance contract under IFRS 17. It is used for investment-related service contracts. This document will focus on the Variable Fee on IFRS 17, with the following titles:

Approach for a better understanding of the user.

IFRS 17 Volume V: Reinsurance and Transition

This document will focus on the modifications in requirements of the standard for reinsurance contracts held and also cover information on the effective date of IFRS 17 as well as the general requirements and challenges for transition.

Glossary

- **Fulfilment cash flows:** IFRS 17 has introduced the concept of fulfilment cash flows. Fulfilment cash flows are the building blocks of the general model. Fulfilment cash flows consist of inflows and outflows, discounting and an explicit risk adjustment for non-financial risk.
- **Contractual service margin:** Contractual service margin is one of the elements in the general model, which represents the unearned profit that the entity will recognise as it provides services in the future.
- **Risk adjustment:** Risk adjustment for non-financial risks is the second building block in the general model. It is needed under IFRS 17 to reflect the compensation that a company requires for bearing the uncertainty about the amount and timing of cash flows that arise from non-financial risks.
- **Best estimate liability:** The best estimate liability, in general, is an estimate of the future cash flows over the life of each contract, i.e., the expected cash flows the insurance company expects to receive and pay in future. This calculation is based on the best estimate assumption for the future.

References

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contributors
from the
Financial
Services
Group



Vivek Ramji Iyer
Partner and National Leader
Financial Services – Risk
E: vivek.iyer@in.gt.com



Vernon Dcosta
Partner
Financial Services – Risk
E: vernon.dcosta@in.gt.com



Siddharth Talwar
Partner
CFO Services
E: siddharth.talwar@in.gt.com



Ajith Thambi
Partner
CFO Services
E: ajith.thambi@in.gt.com



Ramkumar Subramanian
Director
Financial Services – Risk
E: ramkumar.s@in.gt.com



Ankit Murarka
Manager
Financial Services – Risk
E: ankit.murarka@in.gt.com



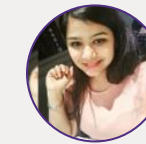
Mothilal M
Manager
CFO Services
E: mothilal.m@in.gt.com



Debosmita Majumdar
Manager
Financial Services – Risk
E: debosmita.majumdar@in.gt.com



Rishabh Sonkhiya
Manager
Financial Services – Risk
E: rishabh.sonkhiya@in.gt.com



Sakshi Goel
Manager
Financial Services – Risk
E: sakshi.goel@in.gt.com



Yash Singhania
Assistant Manager
Financial Services – Risk
E: yash.singhania@in.gt.com



Shivani Chauhan
Assistant Manager
Financial Services – Risk
E: shivani.chauhan1@in.gt.com



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