

CSM.za – Exploration of the dynamics of the IFRS 17 CSM and its application in a South African context

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Presented at the Actuarial Society of South Africa's 2020 Virtual Convention
6–8 October 2020

ABSTRACT

The contractual services margin (CSM) will be a critical value in determining the profile of profit recognition of a company under IFRS 17. Unlike the compulsory margin approach prescribed by SAP104 there are a number of areas in the practical application of the CSM methodology which are open to interpretation and choice. These can pose a unique challenge to South African insurers who operate in a high interest rate environment where both premium increase rates and the impact of changes in financial assumptions can be material.

Through the authors' work with the IFoA CSM working party, a global perspective of the challenges facing insurers with respect to the application of the IFRS 17 CSM has been gained. Internal retrospective transition work has highlighted the challenges which have the potential to be uniquely impactful in life insurance markets like South Africa.

This paper explores these challenges and discuss potential solutions under a range of relevant scenarios, with a particular focus on the CSM under the general measurement model.

In particular, the implications of measuring the CSM at initial recognition rates and how this can result in first-order earnings volatility through the use of different financial assumptions on the various components of the carrying value of the insurance contract liability is discussed. This in turn can lead to potentially material second-order earnings volatility driven by differences in the capitalised value of changes in fulfilment cash flows relative to the release of CSM. This is an issue

on any life insurance policy but, in particular, policies with escalating premiums, whether inflation linked or not. The paper looks at how disaggregating insurance finance income or expenses using other comprehensive income (OCI) can be used as a tool to not only mitigate the first order impact, as expected, but also these potentially material second order impacts.

The calculation of coverage units with a particular focus on the allowance of time value of money and investigate alternative approaches given the materiality of this decision in high interest rate environments like South Africa is also discussed.

KEYWORDS

IFRS 17, life insurance, contractual service margin (CSM), interest rates, other comprehensive income (OCI), earnings volatility, insurance finance income or expenses (IFIE), coverage units

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1. INTRODUCTION

1.1 There have been numerous discussions regarding the calculation of the contractual services margin (CSM), with various stakeholders raising concerns about the implications and complexities of being required to accrete interest and adjust the CSM for changes in future cash flows measured at initial recognition rates while measuring fulfilment cash flows at current rates when following the general measurement model under IFRS 17. This paper will highlight and expand on the implications of this discrepancy in the measurement approach with a particular focus on risk-only life insurance products in the South African environment.

1.2 The South African market is characterised by high, volatile market rates with benefit options which often escalate annually to either directly or indirectly approximately maintain policy value in real terms over time. Section 3.2 briefly explores the high degree of historic volatility in the South African Government Bond yields. In such an environment, the implications of using initial recognition rates in the calculation of the CSM are potentially heightened. This paper explores the material consequences of which South African companies with such products will need to be aware:

- Section 2 discusses the components of the IFRS 17 insurance liability relative to the IFRS 4 insurance reserve.
- Section 3.3 explores how the reported IFRS earnings under IFRS 17 will emerge for a number of example insurance contracts with different premium escalation patterns under volatile interest rate assumptions. Following such interest rate volatility, it explores how changes in assumptions can drive potentially material second-order earnings volatility due to IFRS 17 requirements to make use of different financial assumptions on the various components of the carrying value of the insurance contract liability.

- Section 3.4 discusses the disaggregation of insurance finance income or expenses through the use of other comprehensive income (OCI) with section 3.5 illustrating how the option to systematically disaggregate and report some of the impact of a change in interest rates using the OCI option can present a result more in line with value created in the period, reducing not only the first-order earnings volatility but also addressing the resulting (potentially material) second-order earnings volatility.
- Section 4 addresses the materiality of allowing for time value of money when considering the equal allocation of CSM to the coverage unit for recognition in profit and loss, particularly in high interest rate environments on policies with some degree of either inflation-linked or fixed-level benefit escalation.
- Section 4.3 details how, working within the ambit of the requirements of the IFRS 17 Standard, a company can achieve a potentially more suitable recognition profile of CSM in each period by reflecting the timing of the expected provision of the coverage units in real terms.

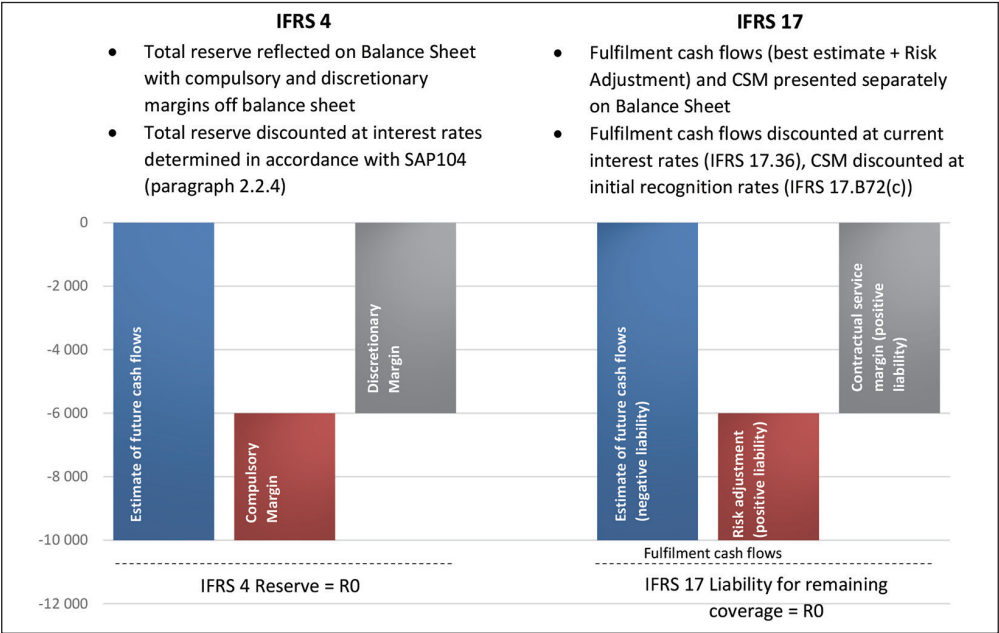
1.3 Throughout the remainder of this paper, references written in the format IFRS 17.XX will be understood to refer directly to paragraphs either in the IFRS Standard “IFRS 17 Insurance Contracts” or the associated Basis for Conclusions document issued by the International Accounting Standards Board (IASB) in May 2017, with paragraph references being updated where appropriate in line with the “Amendments to IFRS 17” document issued by the IASB in June 2020.

2. COMPONENTS OF THE IFRS 17 CARRYING VALUE OF THE INSURANCE CONTRACT LIABILITY RELATIVE TO THE IFRS 4 RESERVE

2.1 Under IFRS 17, an insurance company is required to calculate the carrying amount of a group of insurance contracts at the end of each reporting period as the sum of the liability for remaining coverage (LRC) and the liability for incurred claims (LIC). The LRC comprises fulfilment cash flows measured at current discount rates together with the CSM which is measured at discount rates determined at the initial recognition date of a group of contracts.

2.2 Graph 1 below provides an example of the components of the LRC at initial recognition for a **profitable IFRS 17 group** using the general measurement approach. For comparative purposes, the equivalent IFRS 4 reserve on the group of policies is shown, with it being assumed that the company has elected to establish a discretionary margin in terms of SAP 104 (“Calculation of the value of the assets, liabilities and solvency capital requirement of long-term insurers” issued by the Actuarial Society of South Africa) to defer profits, ensuring a zero profit at initial recognition.

2.3 The LRC is made up of three main components, these being the estimates of future cash flows, the risk adjustment to allow for the non-financial risks arising from the insurance contracts and the CSM. Both the risk adjustment and CSM serve as margins to delay the



GRAPH 1 Example of the different components making up the IFRS 4 and IFRS 17 insurance contract liabilities at initial recognition for a profitable group of contracts (the numbers are merely illustrative)

recognition of profits and can therefore, in purpose, be seen to be analogous to the compulsory and discretionary margins of SAP 104 respectively. Unlike the SAP 104 margins however, the risk adjustment and CSM are both shown on the balance sheet, with the method of determining and releasing the margins over time differing between IFRS 4 and IFRS 17.

2.4 At initial recognition, the estimate of future cash flows is determined using a discounted cash flow approach based on cash flows within the contract boundary, using best-estimate assumptions and current discount rates, and includes estimates of any acquisition cash flows. For a profitable IFRS 17 group the estimates of future cash flows will be a negative liability at initial recognition.

2.5 The risk adjustment adjusts the LRC to allow for the non-financial risks arising from the insurance contracts. Financial risks are typically allowed for implicitly in the estimates of future cash flows as per IFRS 17.32(a)(ii).¹ The principles for determining the risk adjustment are set out in IFRS 17.B86–IFRS 17.B92 and are not considered further in this paper.

1 IFRS 17.32(a)(ii): “On initial recognition, an entity shall measure a group of insurance contracts at the total of...(ii) an adjustment to reflect the time value of money and the financial risks related to the future cash flows, to the extent that the financial risks are not included in the estimates of the future cash flows (paragraph 36) ...”

2.6 The estimates of future cash flows together with the risk adjustment are known collectively as the fulfilment cash flows. At subsequent measurement dates the fulfilment cash flows are determined using the discount rates applicable at that date.

2.7 At initial recognition of a profitable group the CSM is equal to an amount that results in no income or expenses being recognised at initial recognition. It is therefore determined at initial recognition as the balancing item that results in the LRC being equal to zero. At subsequent measurement dates the carrying value of the CSM is determined by building up from the closing value at the previous measurement date and is not calculated prospectively. The CSM is released over time to profit and loss as insurance revenue in-line with the rundown of coverage provided, which is not necessarily in line with how actual cash flows on the group emerge. The intention of the carrying value of the CSM is to represent the value of unearned profits which will be recognised in the future over the duration of the group.

2.8 Importantly (and unlike in the calculation of the fulfilment cash flows), both interest accretion on the CSM and adjustments for changes in fulfilment cash flows relating to future service are determined using the interest rates as at the date of initial recognition.

3. EXPLORING THE IMPLICATIONS OF INTEREST RATES UNDER IFRS 17 IN A SOUTH AFRICAN CONTEXT

3.1 Discrepancy between discount rates used in the fulfilment cash flow and CSM calculations

3.1.1 The discrepancy between measuring fulfilment cash flows at current rates while accreting interest and adjusting the CSM for changes in future cash flows measured at initial recognition rates has been raised as a concern by numerous stakeholders throughout the development of IFRS 17. This point was again raised and discussed at the December 2018 IASB Board meeting, with the IASB staff presenting their views (Staff, IFRS, 2018). In the paper, the IASB staff acknowledge the discrepancy in measurement but argue that such a treatment is imperative to preserve one of the improvements introduced by IFRS 17, namely: the consistency in separating the insurance service result from the financial result. The IASB Board agreed with the staff view and the matter is now considered closed.

3.1.2 Given this renewed clarity, this section explores the potential materiality of the first- and second-order earnings volatility which may arise as a result of this discrepancy in the context of a South African life insurance environment. For the purposes of this paper, first-order earnings volatility is considered to be the change in the carrying amount of the group of insurance contracts arising from changes in the time value of money as well as changes in financial risk as highlighted in IFRS 17.87.² Second-order earnings volatility is considered to

2 IFRS 17.87: "Insurance finance income or expenses comprises the change in the carrying amount of the group of insurance contracts arising from:

(a) the effect of the time value of money and changes in the time value of money; and
(b) the effect of financial risk and changes in financial risk ..."

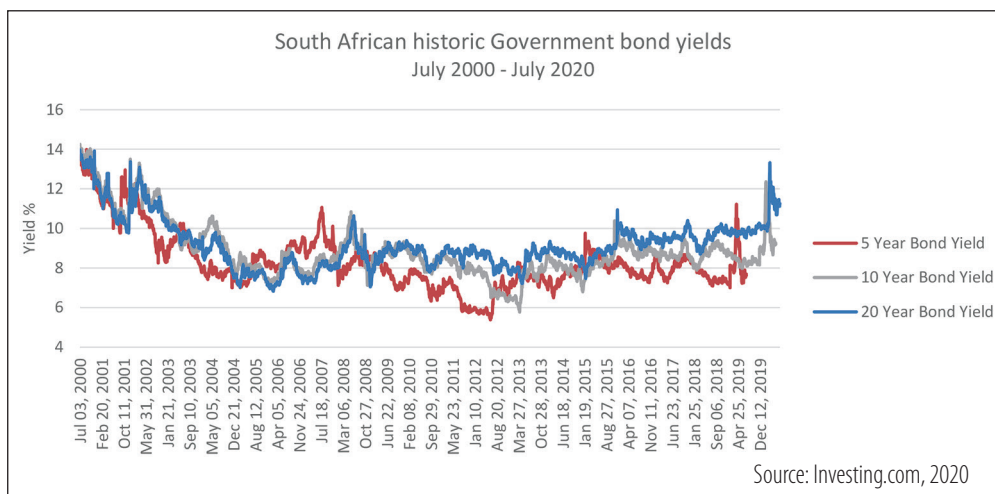
be the extent that changes in the CSM do not offset changes in the fulfilment cash flows for the liability for remaining coverage; these differences are considered in IFRS 17.46.³

3.1.3 Following a discussion of the potential materiality across a range of whole-of-life insurance products with varying premium escalation patterns, the disaggregation of insurance finance income or expenses through OCI is investigated as a means to address the potential first- and second-order earnings volatility.

3.2 Historic volatility in South African government bond yields

3.2.1 South African Government bond yields have historically proved volatile. Graph 2 highlights that whether considering 5-, 10- or 20-year yields, the maximum observed difference between the highest and lowest rates over the past 20 years has been 8.60%, 8.48% and 7.15% for the 5-, 10- or 20-year benchmark Government Bonds. It is important to note that such volatility is not necessarily limited to a long-term observation period; the first six months of 2020 have clearly illustrated the potential short-term volatility with the maximum observed difference between the highest and lowest rates over this six-month period being 4.22%, 4.21% and 3.46% for the 5-, 10- or 20-year benchmark Government Bonds.

3.2.2 Volatility in the bond yields over a comparatively short term relative to a whole-of-life insurance policy can lead to material first- and second-order earnings volatility under IFRS 17. Such volatility may not be apparent under current IFRS 4 reporting given the discretion which companies are afforded to adjust discretionary margins in line with SAP 104 guidance.



GRAPH 2 5-, 10- and 20-year South African Government Bond yields over the past 20 years (July 2000–July 2020)

3 IFRS 17.46: "... To the extent that changes in the contractual service margin do not offset changes in the fulfilment cash flows for the liability for remaining coverage, an entity shall recognise income and expenses for the changes, applying paragraph 41."

3.3 Potential earnings volatility under IFRS 17

3.3.1 EXAMPLE POLICY GROUPS UNDER THE BASE SCENARIO

3.3.1.1 To illustrate the potential earnings volatility that may arise due to measuring fulfilment cash flows at current rates while accreting interest and adjusting the CSM for changes in future cash flows measured at initial recognition rates, a group of simple whole-of-life policies paying out only on death is considered. A number of premium escalation patterns representing a cross-section of the South African life insurance industry are considered, namely: a level premium, a fixed 5% per annum escalation (in both these cases, the sum assured is assumed to be fixed) and a group of policies where benefits are linked to the consumer price index (CPI), with premiums increasing at CPI plus an annual percentage increase which varies based on age.

3.3.1.2 A simple model is used to provide comparative results across the different policy types with the following key assumptions used:

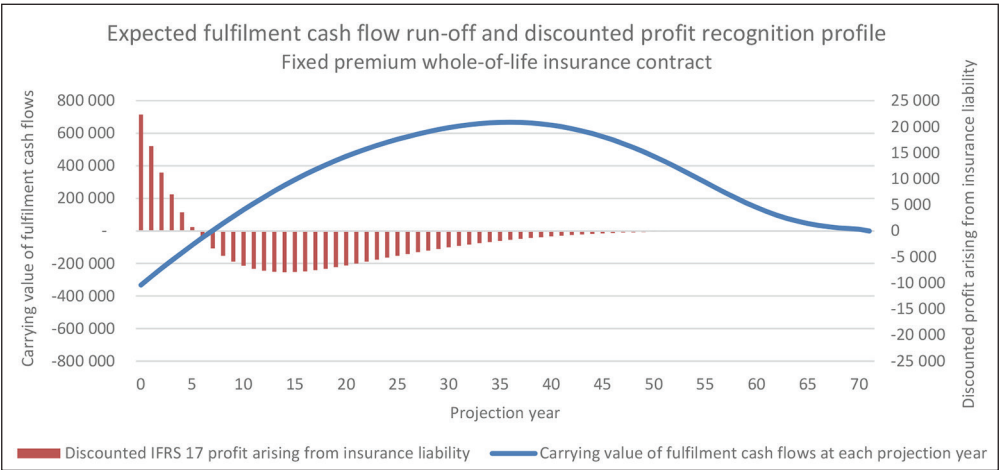
- Premiums have been calculated so as to achieve the same expected profit margin at initial recognition for each policy type.
- The sum assured at initial recognition is set to R1 million.
- Nominal and real interest rates are assumed to be flat over the full duration of the contract with base assumptions of 10% and 4% respectively. CPI is as implied by the nominal and real interest rates assumed.
- A male policyholder of starting age 30 is assumed using a generic, but representative, mortality rate table.
- The annual lapse rate is an assumed 7%, with mortality and lapses are the only decrements allowed for.
- The risk adjustment is assumed to be zero.
- Actual cash flows emerge as expected.

3.3.1.3 Given that the premiums for each group have been set so as to achieve a profit margin which is greater than zero at initial recognition, all groups begin at initial recognition with the estimates of future cash flows being less than zero (i.e. a negative liability). Since the risk adjustment is assumed to be zero this results in all groups being profitable at initial recognition with a positive CSM, representing the profit to be released over the lifetime of the groups. The carrying value of the liability for remaining coverage therefore begins at a net zero for all groups, with the CSM releasing to profit and loss over time and the present value of the fulfilment cash flows changing in line with emerging cash flows and the change in the time value of money, as shown in graphs 3, 5 and 6 below.

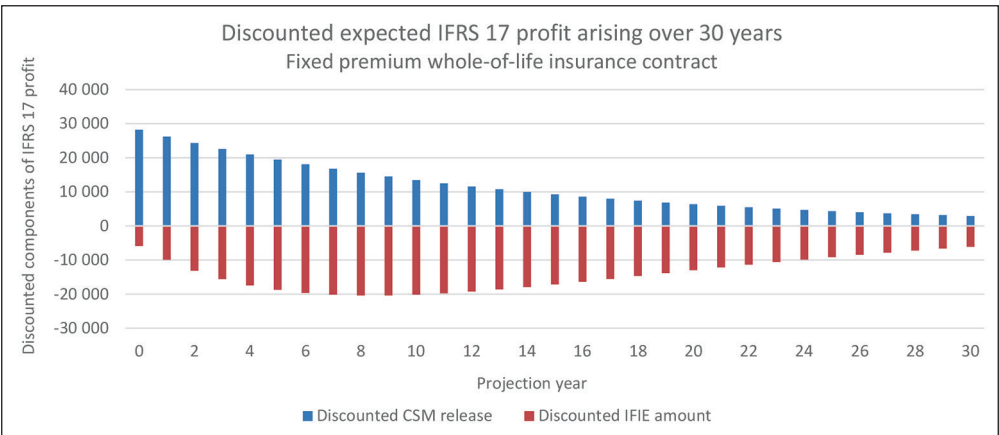
3.3.1.4 The graphs below illustrate the expected future carrying value of the fulfilment cash flows at each year of the projection, as well as the discounted value of the profit expected to arise each year from the insurance liabilities. These are shown under the base scenario before any stresses have been applied. It is important to note that only the insurance liability side of the balance sheet is considered and the profit amounts shown in the remainder of this document assume that no assets are held to back these insurance liabilities.

In practice an insurer may hold assets which would result in a different overall profit recognition profile. For clarity, given the simplifying assumptions made, the reported profit is therefore simply the release of CSM in each reporting period plus the unwind (insurance finance income or expense) on the carrying value of the insurance contract liability.

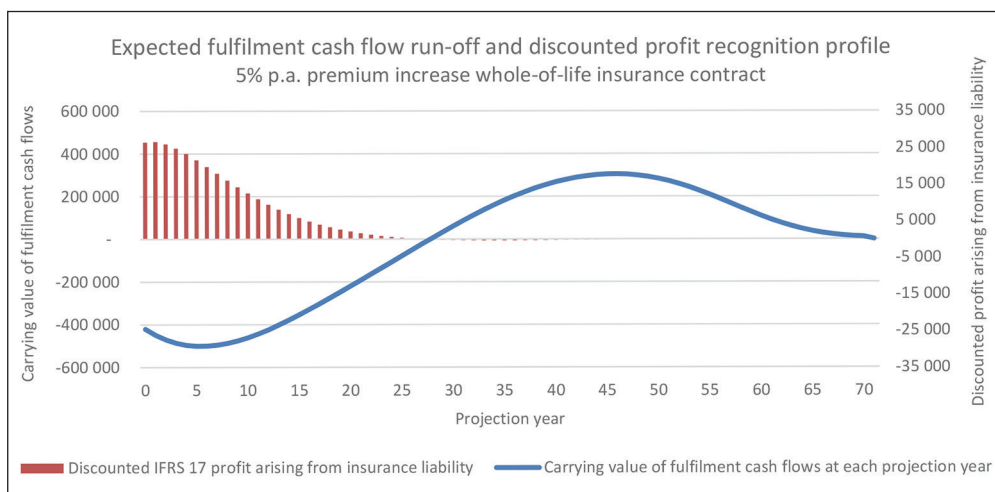
3.3.1.5 For the fixed premium whole-of-life group, the profit emergence profile shown in graph 3 is further broken down into its two main components, these being the CSM release and insurance finance income or expense. Similar graphs for the 5% p.a. increasing premium and CPI plus age-rated premium groups can be seen in Appendix A.



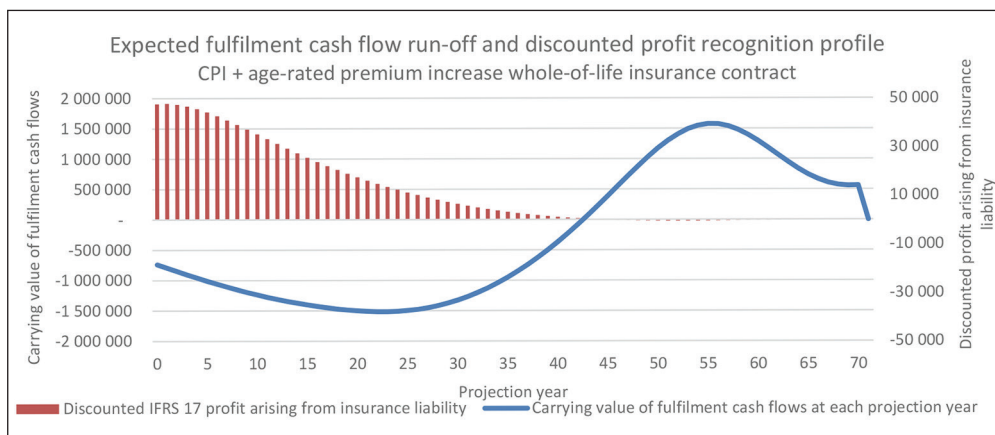
GRAPH 3 Expected carrying value of fulfilment cash flows at each projection year and the discounted IFRS 17 profit from the insurance liability on a fixed premium whole-of-life group of insurance contracts in the base



GRAPH 4 Projected components of the reported IFRS 17 profit over 30 years on a fixed premium whole-of-life group of insurance contracts, in the base scenario



GRAPH 5 Expected carrying value of fulfilment cash flows at each projection year and the discounted IFRS 17 profit from the insurance liability on a whole-of-life group of insurance contracts, with premiums escalating at 5% per annum in the base



GRAPH 6 Expected carrying value of fulfilment cash flows at each projection year and the discounted IFRS 17 profit from the insurance liability a whole-of-life group of insurance contracts, with CPI plus age-rated premium escalation, in the base

3.3.2 EXAMPLE POLICY GROUPS UNDER STRESS SCENARIOS

3.3.2.1 Informed by the historic observed volatility in the South African Government bond yields discussed in section 3.2, a 1.25% absolute increase in the nominal yield curve is applied in each of the first four years from the initial recognition of the group of policies under consideration (for a total 5% absolute increase in nominal rates). For the group of policies with CPI-linked premiums and benefits, a 0.5% absolute increase in the real yield curve is applied in each of the first four years from the initial recognition of the group

of policies under consideration (for a total 2% absolute increase in real rates), and projected CPI is derived in a market consistent manner.

3.3.2.2 Following the period of yield curve stresses, there is an assumed assumption change in the following year; lapse rates are assumed to have been misestimated with a 3% illustrated absolute increase in lapse rates being assumed. The following sections will discuss the materiality of the first- and second-order earnings volatility for each premium increase profile in turn.

3.3.3 FIRST-ORDER EARNINGS VOLATILITY

3.3.3.1 The first-order earnings volatility is observed after the interest rates stresses have been applied, but before the change in the lapse assumption.

3.3.3.2 While policies where premium and benefit cash flows which are not linked to CPI are unaffected by changes in the nominal discount rates, the discounted profit emergence over time is directly impacted by these changes. Thus even for policies where changes in assumptions relating to financial risk do not have a substantial effect on projected cash flows, the present value, and hence carrying value, of the various components of the LRC can be significantly impacted. This is illustrated in graph 7 and graph 10.

3.3.3.3 For policies where premium and/or benefit cash flows are linked to CPI, and where CPI is derived in a market consistent manner with reference to nominal and real rates, premium and benefit cash flows are affected by the modelled changes in both the nominal and real interest rates. For these policies the first-order volatility is driven both by actual changes in projected cash flows and impacts on the present value of the LRC.

3.3.3.4 In practice, an insurer may have an effective asset liability matching strategy with either cash flow matching or immunisation techniques used to materially mitigate the impact of this observed first-order volatility. Applying IFRS 9 to the valuation of the asset portfolio which is being held to collect contractual cash flows, an insurer may elect to account for the movement in assets using fair value through other comprehensive income (FVOCI). If following this approach, capitalised movements in the value of the assets due to changes in the interest rate would not affect profit and loss directly and would rather be reflected in other comprehensive income and recognised through profit and loss over time in a systematic manner. In such an instance, accounting for the movement in the liability in a consistent manner (i.e. allowing for the use of other comprehensive income as discussed in section 3.4) may be considered a natural extension. Further details of how such an asset-liability matching strategy would be developed and applied is considered outside the scope of this paper.

3.3.3.5 It should be noted that depending on how an individual company determines their coverage units and, in particular, how the time value of money is allowed for in determining the equal allocation of CSM to each coverage unit (IFRS 17.BC282⁴),

4 IFRS 17.BC282: “IFRS 17 requires the contractual service margin remaining at the end of the reporting period to be allocated equally to the coverage units provided in the period and the expected remaining

a change in discount rates may also lead to additional volatility in the release of CSM in that year. For simplicity, however, no discounting has been allowed for in determining the equal allocation of the CSM and the results presented here focus on the potential volatility in insurance finance income or expense.

3.3.4 SECOND-ORDER EARNINGS VOLATILITY

3.3.4.1 Following the period of increases in nominal and real discount rates, there is an assumed absolute increase of 3% in the lapse rate assumption. While this represents a large increase relative to the base assumed lapse rate of 7%, it is merely indicative of any potential basis change or observed experience variances which may arise following a period where market-consistent interest rate assumptions have changed and are materially different from those at the date of initial recognition.

3.3.4.2 The lapse basis change leads to an expected change in the fulfilment cash flows, be it either beneficial or not, and the CSM needs to be adjusted to reflect this change in expectation of future profitability, in accordance with IFRS 17.44(c).⁵ The adjustment recorded through the CSM will however be different to the change recorded in fulfilment cash flows as a result of the current discount rates being different to those at the date of initial recognition. The impact on the balance sheet is therefore not a net zero as may have been the case under IFRS 4 where discretionary margins may have been either strengthened or released to exactly offset the change in reserve. This recorded difference is required, in terms of IFRS 17.46, to be recognised and reported as insurance finance income or expenses, applying IFRS 17.41.⁶

3.3.4.3 If an entity chooses not to disaggregate insurance finance income or expenses in terms of IFRS 17.88(b), it is required to reflect this difference directly in profit and loss as set out in IFRS 17.88(a).⁷ As illustrated in graphs 7, 10 and 11, this difference can be material and lead to significant volatility in reported profit and loss under IFRS 17. It is important to

coverage units. IFRS 17 does not specify whether an entity should consider the time value of money in determining that equal allocation and consequently does not specify whether that equal allocation should reflect the timing of the expected provision of the coverage units. The Board concluded that should be a matter of judgement by an entity.”

5 IFRS 17.44(c): “the changes in fulfilment cash flows relating to future service as specified in paragraphs B96–B100”

6 IFRS 17.41: “An entity shall recognise income and expenses for the following changes in the carrying amount of the liability for remaining coverage:

- (a) insurance revenue—for the reduction in the liability for remaining coverage because of services provided in the period, measured applying paragraphs B120–B124;
- (b) insurance service expenses—for losses on groups of onerous contracts, and reversals of such losses (see paragraphs 47–52);
- (c) and insurance finance income or expenses—for the effect of the time value of money and the effect of financial risk as specified in paragraph 87.”

7 IFRS 17.88: “Unless paragraph 89 applies, an entity shall make an accounting policy choice between:

- (a) including insurance finance income or expenses for the period in profit or loss;
- (b) or disaggregating insurance finance income or expenses for the period to include in profit or loss an amount determined by a systematic allocation of the expected total insurance finance income or expenses over the duration of the group of contracts, applying paragraphs B130–B133.”

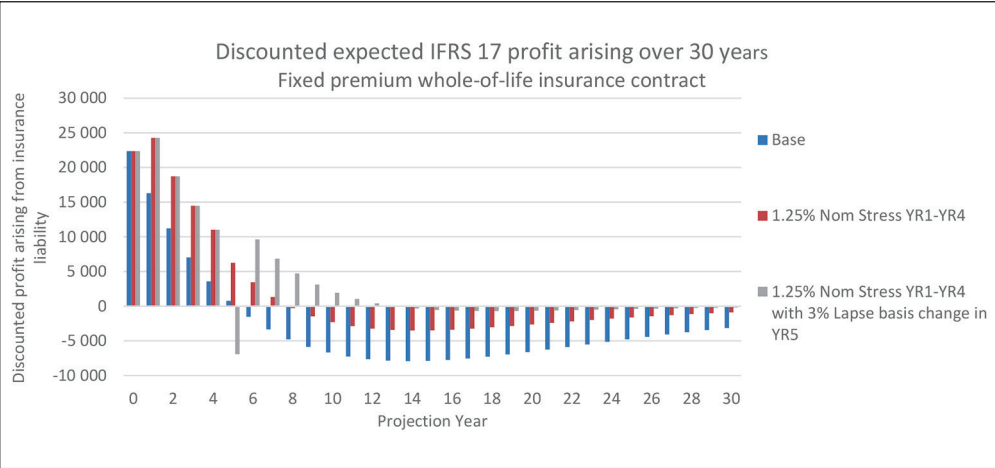
consider this potential second-order volatility as unlike the first-order volatility discussed in section 3.3.3, it cannot be easily mitigated through an effective asset-liability matching strategy.

3.3.4.4 Each policy type is individually considered and discussed under each of the stresses in the sections that follow. It is important to bear in mind that the policy groups shown here make up only a subset of the variety of policy types and escalation patterns available in the South African market; similarly, the stress scenarios shown are not exhaustive of all possible material basis changes and experience variances. Thus the results presented in the sections below are not enough to conclude that one policy type is more exposed to potential earnings volatility than another, but rather to demonstrate that there is a likely scenario for every policy type under which this first- and second-order volatility can be material, and is therefore worth due consideration from any life insurer reporting under IFRS 17.

3.3.5 LEVEL PREMIUM AND BENEFITS

3.3.5.1 For this group of policies, the lapse basis change is beneficial, leading to an expected increase in the fulfilment cash flows. The CSM is adjusted to reflect this increase in future profitability, however the increase recorded through the CSM is significantly larger than the increase in fulfilment cash flows recorded at the current nominal rates due to the observed difference in initial recognition and current rates. If an entity chooses not to disaggregate insurance finance income or expenses, the full impact of the difference is required to be reflected in profit and loss.

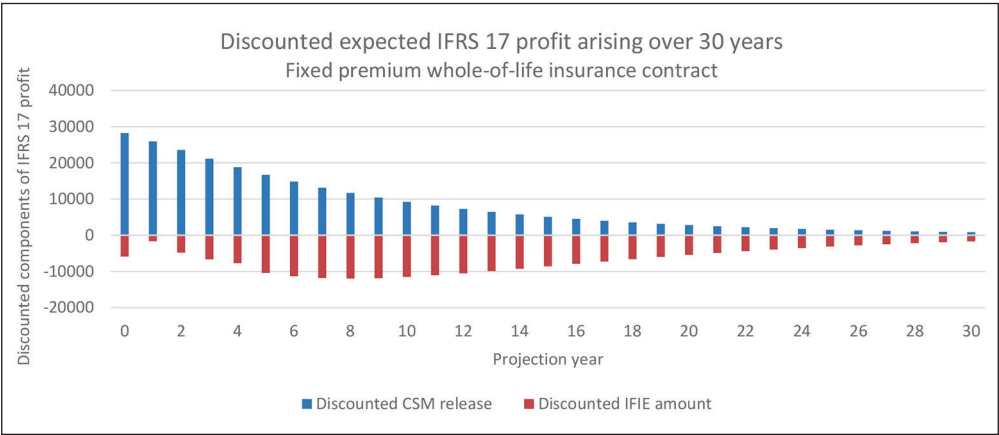
3.3.5.2 Thus even though the lapse change is beneficial, a large loss is recorded in this year (relative to the profit expected before considering the impact of the basis change). Although the loss makes technical sense and the IASB would argue that the loss reflects the cumulative amount of insurance finance income or expenses that should have been



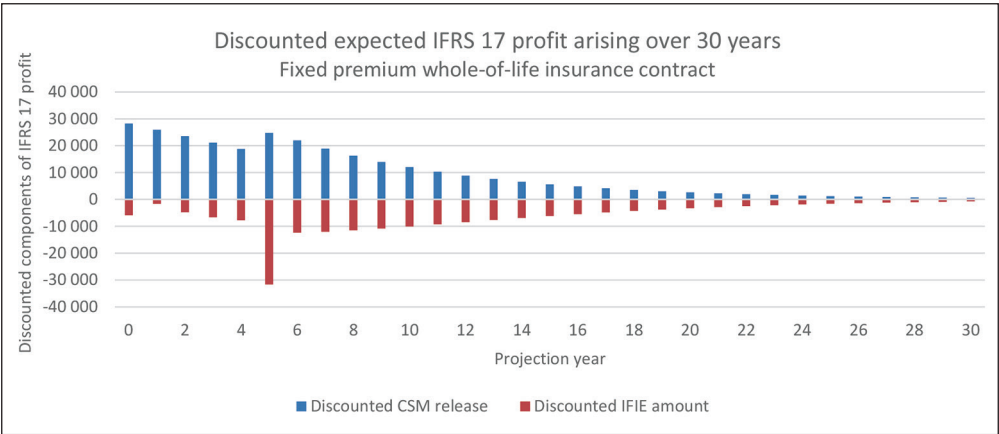
GRAPH 7 Projected reported IFRS 17 profit over 30 years on a fixed premium whole-of-life group of insurance contracts in the base, under a 1.25% annual nominal yield curve stress for 4 years both before and after a 3% lapse basis change in the following year

previously recorded and has not yet been caught up (this opinion is expressed in paragraph 21(c) in Agenda Paper 2B discussed at the December 2018 IFRS Board meeting), it may be difficult to communicate with both internal and external stakeholders that a change which is value-generative has a material negative impact on profitability.

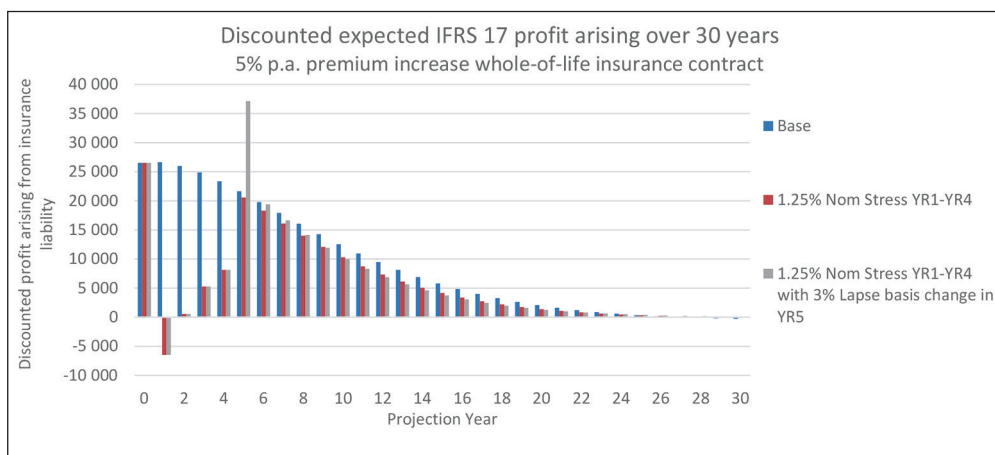
3.3.5.3 For the fixed premium whole-of-life group the profit emergence profile shown in graph 7 is further broken down into the CSM release and insurance finance income or expense. Graph 8 shows the profit release profile after the 1.25% annual nominal interest stresses over years 1 to 4, and graph 9 shows the profit release profile after the interest rate stress and the 3% increase in the lapse assumption at the end of year 5.



GRAPH 8 Projected components of the reported IFRS 17 profit over 30 years on a fixed premium whole-of-life group of insurance contracts, under a 1.25% annual nominal yield curve stress for four years



GRAPH 9 Projected components of the reported IFRS 17 profit over 30 years on a fixed premium whole-of-life group of insurance contracts, under a 1.25% annual nominal yield curve stress for four years and after a 3% lapse basis change in the following year



GRAPH 10 Projected reported IFRS 17 profit over 30 years on a whole-of-life group of insurance contracts, with premiums escalating at 5% per annum, in the base, under a 1.25% annual nominal yield curve stress for four years both before and after a 3% lapse basis change in the following year

3.3.5.4 The results demonstrate that the first- and second-order earnings volatility is driven predominantly by changes in the insurance finance income or expense amounts and not by the CSM release. While the level of CSM release does change from year 6 onwards, this is as a result of a fundamental change in the level of profitability of the group after the lapse basis change; the release profile however remains fairly smooth from this point and is not considered to materially contribute to the observed volatility.

3.3.6 LEVEL BENEFIT WITH PREMIUMS INCREASING AT A FIXED 5% PER ANNUM

3.3.6.1 For this group of policies, the lapse basis change is not beneficial with a portion of the CSM being released to reflect the impact of this change. Volatility is again observed in the reported IFRS 17 profit, this time a one-off increase in profitability, as the impact of the lapse basis change measured on initial recognition results in a release of CSM which is larger than that justified when measuring the fulfilment cash flows at current rates.

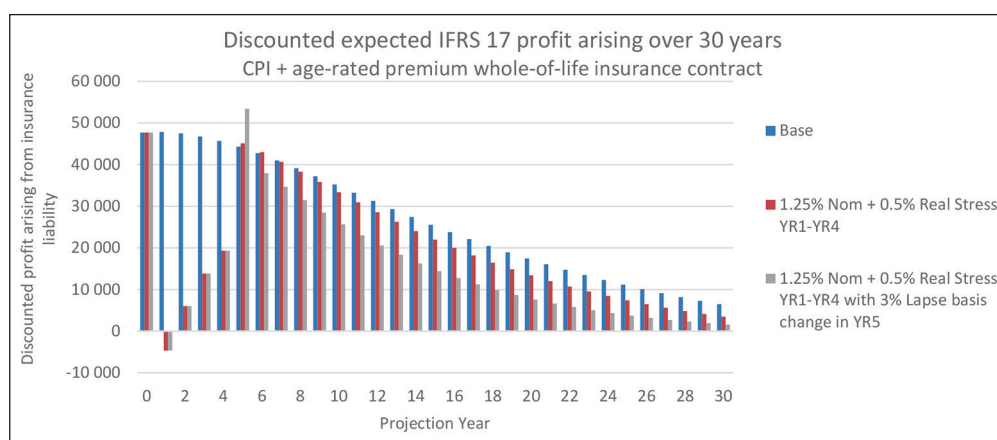
3.3.6.2 See Appendix B for a breakdown of the release of profit amount between the CSM release and insurance finance income or expense for this group after each of the stresses. The results shown there further demonstrate that the first- and second-order earnings volatility is driven by changes in the insurance finance income or expense amounts, and not by the CSM release.

3.3.7 BENEFIT INCREASING ANNUALLY WITH CPI WITH PREMIUMS INCREASING AT CPI PLUS AGE-RATED INCREASE FACTORS

3.3.7.1 Although graph 11 illustrates a similar second-order point of volatility in the earnings following the lapse basis change, this particular assumed basis change is observed to result in a lower level of volatility than observed in the preceding two premium

increase profiles considered. As discussed at the end of paragraph 3.3.4.4, the impact of the 3% lapse assumption change illustrated in the paper is merely one of any number of potential basis changes or experience variances which may arise in practice, with the materiality of the volatility impact depending on the nature of the policies and size and direction of the experience variance or basis change.

3.3.7.2 See Appendix B for a breakdown of the release of profit amount between the CSM release and insurance finance income or expense for this group after each of the stresses.



GRAPH 11 Projected reported IFRS 17 profit over 30 years on a whole-of-life group of insurance contracts, with CPI plus age-rated premium escalation, in the base, under a combined 1.25% annual nominal and 0.5% annual real yield curve stress for four years both before and after a 3% lapse basis change in the following year

3.4 Other comprehensive income

3.4.1 IFRS 17.88 (and IFRS 17.89 where insurance contracts have direct participation features) entitles an entity to make an accounting policy choice to include insurance finance income or expenses in profit and loss or to disaggregate insurance finance income or expenses, including a portion in profit and loss with the remainder being reflected in OCI. If an entity elects to disaggregate, there are two distinct approaches to practically implement OCI (here it is assumed that the insurance contracts do not have direct participation features):

- The first is outlined in IFRS 17.B131⁸ and presents insurance finance income or expense in the statement of profit and loss at initial recognition rates and is used if amounts paid to policyholders in the portfolio do not materially depend on assumptions relating to financial risk. This is referred to as “OCI Method 1” throughout the remainder of this document.

⁸ IFRS 17.B131: “For groups of insurance contracts for which changes in assumptions that relate to financial risk do not have a substantial effect on the amounts paid to the policyholder, the systematic allocation is determined using the discount rates specified in paragraph B72(e)(i).”

- The second is introduced in IFRS 17.B132⁹ with an interpretation of the practical application of the methodology described below. It should be noted that this method can only be used if amounts paid to policyholders in the portfolio materially depend on assumptions relating to financial risk (of which benefit escalation linked to CPI is an example as clarified in IFRS 17.B128(a)¹⁰). This will be referred to as “OCI Method 2” throughout the remainder of this document.
- Following a stress to either the nominal or real yield curve (or both), the company will observe a capitalised impact on the fulfilment cash flows. An interpretation of the practical application of OCI Method 2 is provided below for the estimates of future cash flows component of the fulfilment cash flows in accordance with IFRS 17.B132(a). It should be noted that a similar approach would need to be followed for the risk adjustment component of the fulfilment cash flows as required in IFRS 17.B132(b).
- The approach is as follows:
 - The estimates of future cash flows calculated at the current (stressed) rate is shown on the balance sheet (i.e. the balance sheet remains at the most current rate).
 - The company will then derive and track a new estimate of future cash flows reserve over time, setting this new reserve equal to the estimate of future cash flows immediately before the stress, a new flat rate (a rate to achieve systematic allocation of expected total finance income or expense explained in IFRS 17.B132(a)(i)) is derived such that the present value of the new stream of prospective stressed cash flows equals the present value of the estimate of future cash flows immediately before the stress.
 - The difference between the stressed reserve and the value of the reserve immediately before the stress is reflected in the OCI. **Changes in OCI are disclosed in the statement of other comprehensive income, which is excluded from profit and loss for the period and will rather be included in that period’s statement of comprehensive income.** The OCI balance would then be reflected in the shareholder’s equity section of the balance sheet. See Diagram 1 below.
 - Over time, the OCI balance will release to profit and loss, as the reserve (present value of the estimates of future cash flows) reflected in the income statement

9 IFRS 17.B132: “For groups of insurance contracts for which changes in assumptions that relate to financial risk have a substantial effect on the amounts paid to the policyholders:

- (a) a systematic allocation for the finance income or expenses arising from the estimates of future cash flows can be determined in one of the following ways:
 - (i) using a rate that allocates the remaining revised expected finance income or expenses over the remaining duration of the group of contracts at a constant rate; ...
 - (b) a systematic allocation for the finance income or expenses arising from the risk adjustment for non-financial risk, if separately disaggregated from other changes in the risk adjustment for non-financial risk applying paragraph 81, is determined using an allocation consistent with that used for the allocation for the finance income or expenses arising from the future cash flows ...”

10 IFRS 17.B128: “Paragraph 87 requires an entity to include in insurance finance income or expenses the effect of changes in assumptions that relate to financial risk. For the purposes of IFRS 17:

- (a) assumptions about inflation based on an index of prices or rates or on prices of assets with inflation-linked returns are assumptions that relate to financial risk ...”

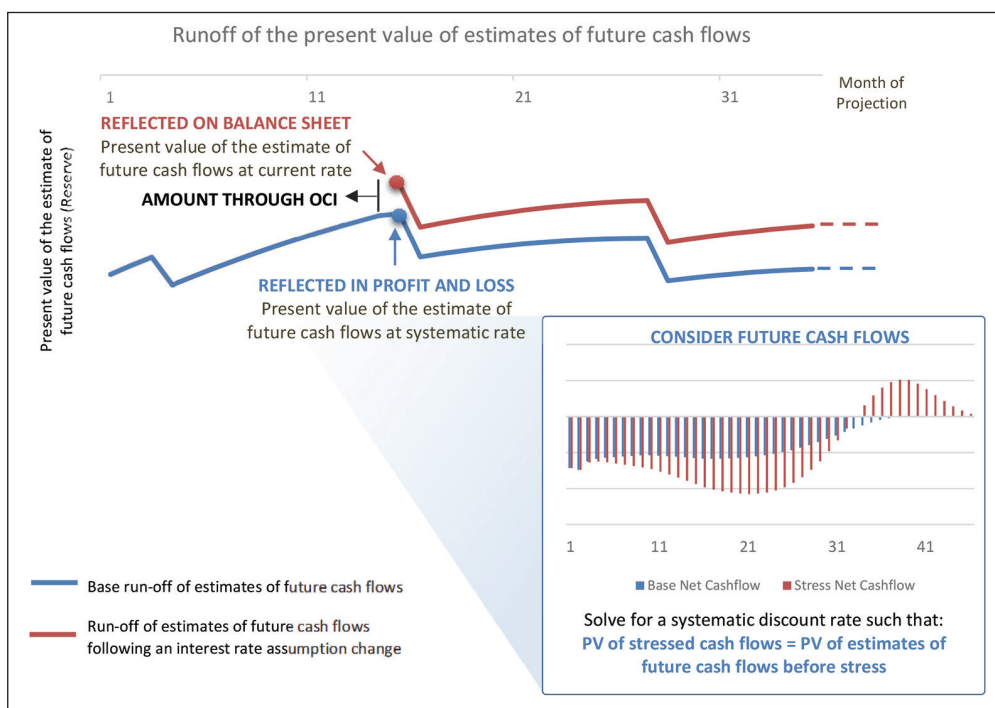


DIAGRAM 1 Run off of estimates of future cash flows reserve discounted on current rates and on the systematic rate, illustrating the disaggregation of insurance finance income or expenses under IFRS 17

unwinds at the systematic allocation rate while the reserve on the balance sheet unwinds at the updated (stressed) rate.

3.4.2 The OCI methodology is required (in terms of IFRS 17.B130¹¹) to meet two criteria, namely:

- The amounts recognised in OCI over the duration of the life of the group of insurance contracts should sum to zero; and

¹¹ IFRS 17.B130: “If paragraph 88(b) applies, an entity shall include in profit or loss an amount determined by a systematic allocation of the expected total finance income or expenses over the duration of the group of insurance contracts. In this context, a systematic allocation is an allocation of the total expected finance income or expenses of a group of insurance contracts over the duration of the group that:

- (a) is based on characteristics of the contracts, without reference to factors that do not affect the cash flows expected to arise under the contracts. For example, the allocation of the finance income or expenses shall not be based on expected recognised returns on assets if those expected recognised returns do not affect the cash flows of the contracts in the group.
- (b) results in the amounts recognised in other comprehensive income over the duration of the group of contracts totalling zero. The cumulative amount recognised in other comprehensive income at any date is the difference between the carrying amount of the group of contracts and the amount that the group would be measured at when applying the systematic allocation.”

- The cumulative amount recognised in OCI at any date is the difference between the carrying amount of the group of contracts reflected on the balance sheet and the carrying amount of the group of contracts measured at the systematic allocation rate

3.4.3 It has been assessed that interpreting and applying OCI Method 2 as described above meets these two requirements.

3.5 Mitigating volatility under IFRS 17 through disaggregation of insurance finance income or expenses

3.5.1 INTRODUCTION

3.5.1.1 In section 3.3, the potential first- and second-order earnings volatility under IFRS 17 was illustrated for a number of groups of simple whole-of-life policies with differing premium escalation patterns. Under the assumed yield curve stresses followed by a lapse basis change, the potential materiality of this volatility was illustrated, regardless of the premium escalation pattern considered and whether the policy was CPI-linked. In this section, the impact of electing to disaggregate insurance finance income or expenses, as allowed in IFRS 17.88(b), will be investigated. The disaggregation is applied using OCI Method 1 (in accordance with IFRS 17.B131) for the level premium and fixed 5% per annum escalation premium groups, and using OCI Method 2 (in accordance with IFRS 17.B132) for the group of policies where benefits are linked to CPI.

3.5.1.2 As noted in section 3.3, while the first-order volatility can potentially be mitigated through an effective asset-liability matching strategy, the second-order volatility cannot. It should be noted that an insurer concerned with any potential mismatch in treatment of the asset and liability introduced through the use of OCI to disaggregate the insurance finance income or expenses on the insurance contract liability under IFRS 17, should consider that an equivalent approach can be selected for the backing assets under IFRS 9; namely the use of fair value through OCI (FVOCI). OCI can therefore be used for reporting purposes on both the liability and matching asset, removing any potential mismatch in treatment. Should such an approach be followed, the insurer will still benefit through the reduced second-order volatility as discussed in this paper.

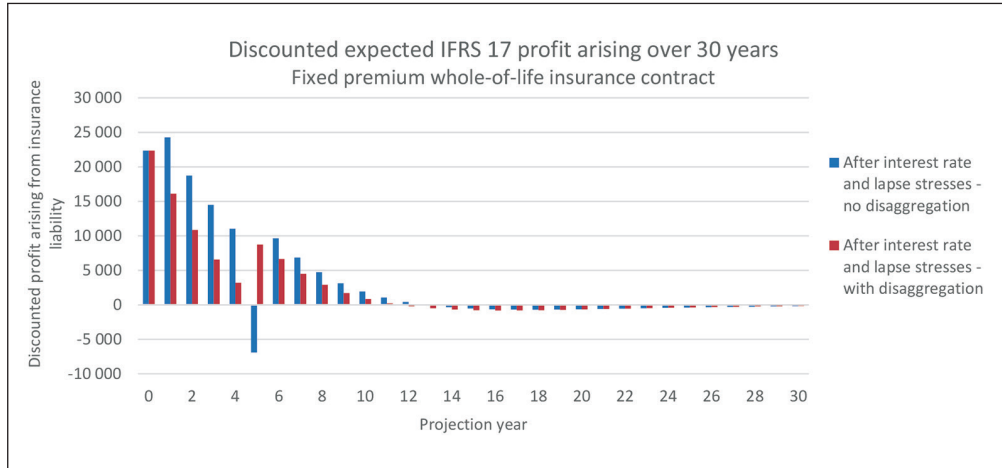
3.5.1.3 The use of OCI can therefore be seen as an effective tool to manage the discrepancy between measuring fulfilment cash flows at current rates while accreting interest and adjusting the CSM for changes in future cash flows measured at initial recognition rates. The individual policy group sections below illustrate how effective this can prove to be.

3.5.2 LEVEL PREMIUM AND BENEFITS

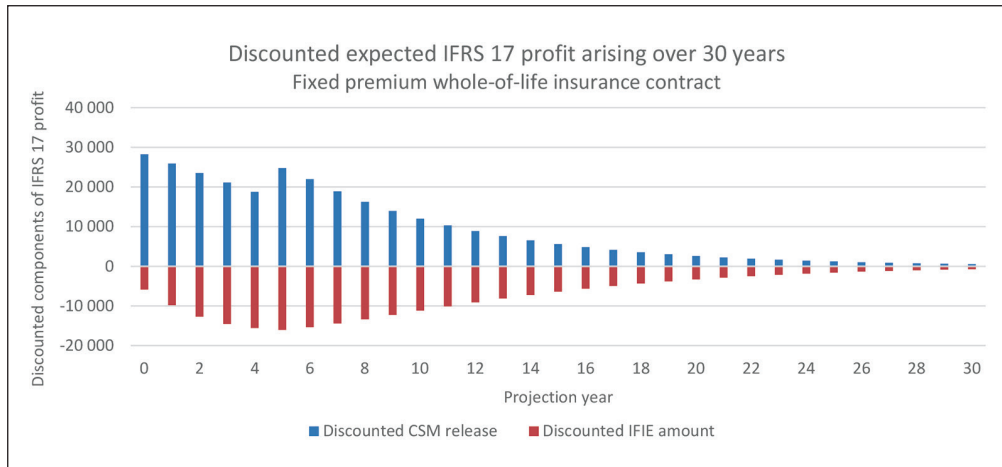
3.5.2.1 Electing to disaggregate the insurance finance income or expenses significantly reduces the observed first- and second-order volatility as shown in graph 12 – in particular the large reported loss in the fifth year is no longer expected. From year 6 onwards there is an increase in expected reported profit both with and without OCI. This is driven by larger CSM releases on the now increased CSM, as well as a change in coverage unit release

profile due to the lapse change – therefore now releasing a relatively larger percentage of a larger CSM.

3.5.2.2 The profit emergence profile shown in graph 12 is further broken down into the CSM release and insurance finance income or expense, after allowing for disaggregation of insurance finance income or expense using OCI Method 1. Graph 13 demonstrates how



GRAPH 12 Projected discounted reported IFRS 17 profit over 30 years on a fixed premium whole-of-life group of insurance contracts under a 1.25% annual nominal yield curve stress for four years with a 3% lapse basis change in the following year, both before and after disaggregation of insurance finance income or expenses

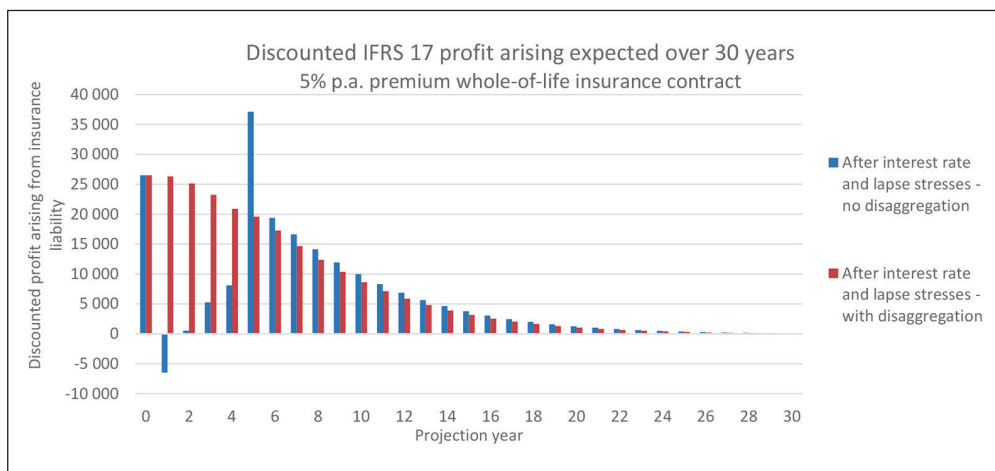


GRAPH 13 Projected components of the reported IFRS 17 profit over 30 years on a fixed premium whole-of-life group of insurance contracts, under a 1.25% annual nominal yield curve stress for four years and after a 3% lapse basis change in the following year, when disaggregating insurance finance income or expense using OCI Method 1

OCI can be used to reduce volatility in the amounts of insurance finance income or expense recognised in profit and loss.

3.5.3 LEVEL BENEFIT WITH PREMIUMS INCREASING AT A FIXED 5% PER ANNUM

3.5.3.1 Graph 14 illustrates a significant removal of reported volatility following the adoption of disaggregation of insurance finance income or expenses. The profit profile is stable, reflecting the projected profile of profit releases in the base albeit at a lower level given the impact of higher assumed lapses following the basis change in the fifth year.

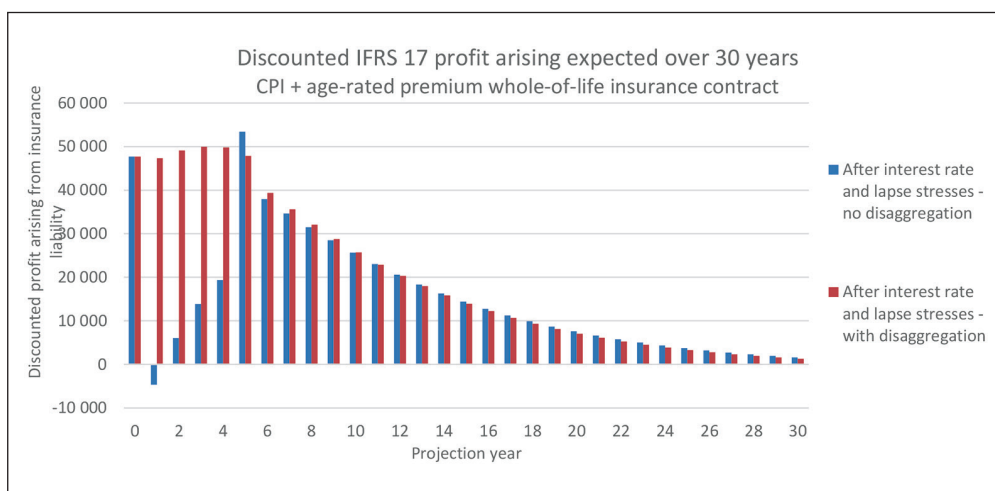


GRAPH 14 Projected discounted IFRS 17 profit over 30 years on a whole-of-life group of insurance contracts, with premiums escalating at 5% per annum, under a 1.25% annual nominal yield curve stress for four years with a 3% lapse basis change in the following year, both before and after disaggregation of insurance finance income or expenses

3.5.3.2 A breakdown of the release of profit amount between the CSM release and insurance finance income or expense for this group after disaggregation of insurance finance income or expense can be seen in Appendix B.

3.5.4 BENEFIT INCREASING ANNUALLY WITH CPI WITH PREMIUMS INCREASING AT CPI PLUS AGE-RATED INCREASE FACTORS

3.5.4.1 Disaggregation of insurance finance income or expenses results in significantly reduced first-order volatility – the slight increase in reported profit in years 1–4 are as a result of the increase in the nominal and real yield curves and the resultant impact on profitability due to the policies' link to CPI. The second-order volatility as a result of the lapse basis change is almost completely removed with the difference in the impact of the lapse basis change on the fulfilment cash flows measured at initial recognition rates and at current rates being taken through OCI and released to profit and loss over time in a systematic manner.



GRAPH 15 Projected discounted reported IFRS 17 profit over 30 years on a whole-of-life group of insurance contracts, with CPI plus age-rated premium escalation, under both a 1.25% annual nominal and 0.5% annual real yield curve stress for four years with a 3% lapse basis change in the following year, both before and after disaggregation of insurance finance income or expenses

3.5.4.2 A breakdown of the release of profit amount between the CSM release and insurance finance income or expense for this group after disaggregation of insurance finance income or expense can be seen in Appendix B.

3.6 Considerations when electing to disaggregate insurance finance income or expenses through the use of OCI

3.6.1 In section 3.5, it has been shown that electing to disaggregate insurance finance income or expenses through the use of OCI can be an effective tool to mitigate not only the first-order but also the second-order volatility in earnings driven by a change in the discount rates. An entity considering making use of the disaggregation should however also consider the following points:

- The cumulative amount recognised through OCI over the lifetime of a group of contracts is zero i.e. the use of OCI does not change the fundamental profitability of a group of contracts, it merely affects the timing of the recognition of profit.
- Choosing to disaggregate the total insurance finance income or expense amount between profit and loss and OCI does not impact the total amount of insurance finance income or expense disclosed over a period, but rather changes how and where this is disclosed. Other comprehensive income is not included in the total profit for a period as per the statement of profit and loss, but is included in the consolidated statement of comprehensive income as an item that may be reclassified to profit or loss. Choosing to disaggregate total insurance finance income or expense is therefore a useful tool for managing profit recognition without loss of transparency.

In particular, IFRS 17.110¹² states that an entity shall disclose and explain the total amount of insurance finance income or expenses in a reporting period to enable users of the financial statements to evaluate the sources of insurance finance income or expenses recognised in profit and loss and OCI.

- The balance of amounts recognised in OCI to date is included on the balance sheet but shown in the equity section rather than with the carrying value of the insurance contract liability; the carrying value of the LRC is therefore unaffected by the choice to disaggregate. When analysing the expected future profits for a group of contracts it is therefore important to no longer only consider the CSM but also the run-down of accumulated OCI and how this amount is expected to be reclassified to profit and loss over the duration of the group.
- IFRS 17.B129¹³ explains that the election to disaggregate insurance finance income or expenses is an accounting policy choice applied at the level of a portfolio of insurance contracts. An entity is therefore not compelled to apply this election to all of its insurance contracts.
- As discussed in paragraph 3.5.1.2, an insurer concerned with any potential mismatch in treatment of the asset and liability introduced through the use of OCI can elect to align the treatment by accounting for the asset through the use of FVOCI under IFRS 9. An insurer already accounting for the movement in assets using FVOCI may consider allowing for the use of OCI on the insurance contract liability to be a natural extension.
- By extension, if an insurer does not elect to account for any assets backing the insurance contract liability through the use of FVOCI under IFRS 9, the use of OCI for the accounting of the insurance contract liability itself may introduce a mismatch in reporting.
- While OCI Method 1 is relatively straightforward, the use of OCI Method 2 requires a separate constant systematic rate to be derived and tracked for each group of contracts to which disaggregation applies. While the process to derive and store this rate in each reporting period can be automated, it does introduce significant complexity to the results.
- While the majority of results presented in this paper assume that the interest rate assumptions are at a constant rate, this is a simplification as in general it is expected that interest rate assumptions will be in the form of a yield curve. The systematic allocation used to determine the amount of insurance finance income or expense included in profit and loss each period under OCI Method 2 is derived at each

¹² IFRS 17.110: “An entity shall disclose and explain the total amount of insurance finance income or expenses in the reporting period. In particular, an entity shall explain the relationship between insurance finance income or expenses and the investment return on its assets, to enable users of its financial statements to evaluate the sources of finance income or expenses recognised in profit or loss and other comprehensive income.”

¹³ IFRS 17.B129: “An entity shall apply its choice of accounting policy to portfolios of insurance contracts”

reporting period to be a constant rate. Thus unlike OCI Method 1, even if actual yield curve assumptions remain unchanged from those at the date of initial recognition, the systematic allocation rate (being a constant rate compared to the assumed actual yield curve) will result in amounts of insurance finance income or expense being allocated to OCI throughout the existence of the group. For example, consider the scenario where the assumed yield curve is upward sloping and there are no financial risk assumption changes from those at initial recognition. At initial recognition the systematic allocation rate will be a constant rate which “averages” this curve, and will remain unchanged throughout the group’s existence. This will result in a negative OCI balance building up until the point that the flat rate crosses the yield curve, at which point the OCI balance will begin to run-down to zero.

4. RECOGNITION OF CONTRACTUAL SERVICE MARGIN IN PROFIT OR LOSS

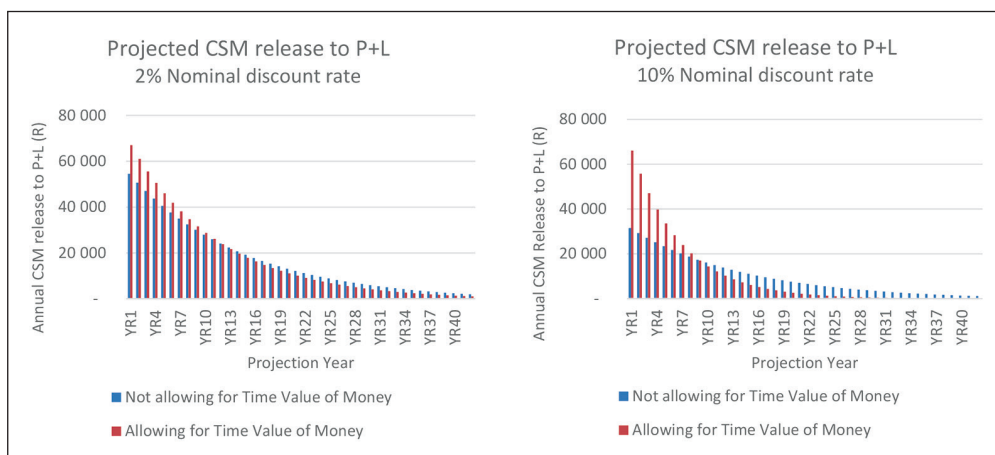
4.1 Introduction

4.1.1 IFRS 17.B119¹⁴ requires an amount of CSM to be recognised in profit and loss reflecting the services provided on a group of insurance contracts by allocating the end-of-period CSM equally to each coverage unit, with the amount recognised in profit and loss reflecting the CSM allocated to the coverage units deemed to be provided in the period. While the determination of the coverage units themselves has been a source of industry discussion, this paper instead focusses on the requirement of equal allocation of the CSM to each coverage unit. In particular, the paper emphasises the materiality of allowing for the time value of money in this equal allocation in high interest rate environments while highlighting the heightened materiality of the time value of money allowance on policies with some degree of either inflation-linked or fixed-level benefit escalation.

4.2 Impact of a high interest rate environment

4.2.1 As discussed above, IFRS 17 requires the end of period CSM to be allocated equally to each coverage unit. Specifically, the IFRS 17 Standard does not specify whether the entity should consider the time value of money in determining the equal allocation with the IASB considering this to be a matter of judgement by the entity (as discussed in IFRS 17.BC282). This element of judgement has been raised in a number of forums (IFoA CSM Working Party, 2019; Kritzinger et al., 2018) and has an impact on the profile of CSM releases to profit and loss over time, with the materiality of the decision increasing as the prevailing interest rate increases. In high interest rate environments such as South Africa, the decision of whether to allow for the time value of money in the equal allocation of CSM to coverage units will have a crucial impact on the release of CSM and consequently, the reported profits under IFRS 17.

¹⁴ IFRS 17.B119: “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 services provided under the group of insurance contracts in that period”



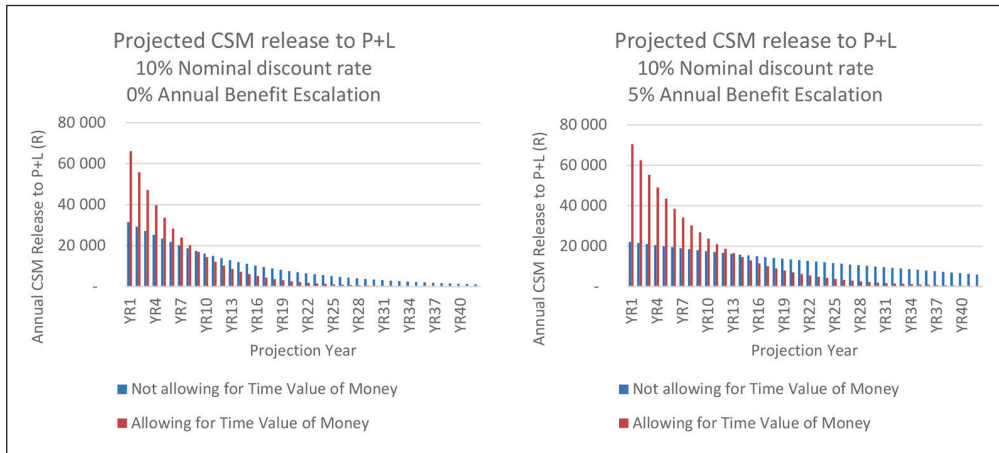
GRAPH 16 Projected annual releases of CSM to profit and loss (P+L) on a group of whole-of-life risk-only policies both allowing and not allowing for the time value of money in the equal allocation of CSM to coverage units in a low interest rate environment (characterised by a 2% nominal discount rate) and a high interest rate environment (characterised by a 10% nominal discount rate)

4.2.2 Graph 16 illustrates the relative materiality of this decision in both a low- and high-interest rate environment on a whole-of-life insurance contract with level benefits and premiums escalating at a fixed percentage. In all calculated numbers, the same measure of quantity of benefits has been assumed (which is simply the sum assured payable on death in each period). It can be seen in the graph that the materiality of the allowance for the time value of money in the equal allocation of CSM to coverage units is significantly more pronounced in the high interest rate environment.

4.3 Impact of benefit escalation

4.3.1 Given the relatively high level of inflation in South Africa, life insurers often offer benefit options which escalate annually to either directly or indirectly approximately maintain policy value in real terms over time. Although not explicitly stated in the IFRS 17 Standard, the IFRS 17 Transition Resource Group (TRG) has expressed an opinion that different levels of cover across periods should be included in the determination of the quantity of benefits (paragraph 22(a) of staff paper AP05 discussed at the May 2018 TRG meeting (IFRS Staff, 2018)).

4.3.2 Allowing for benefit increases in the calculation of the quantity of benefits in the coverage unit determination further exaggerates the impact of the materiality of the allowance for the time value of money in the equal allocation of CSM to coverage units – this is a particular concern to South African life insurers who may have significant exposure to policies with a degree of benefit escalation.



GRAPH 17 Projected annual releases of CSM to profit and loss (P+L) on a group of whole-of-life risk-only policies both allowing and not allowing for the time value of money in the equal allocation of CSM to coverage units, with the first policy having a 0% annual benefit escalation rate and the second a 5% annual benefit escalation rate

4.3.3 Graph 17 illustrates the relative materiality of the decision to allow for the time value on a whole-of-life insurance contract with level benefits and premiums escalating at a fixed percentage as well as a similar contract where benefits escalate at 5%. In all calculated numbers, the same measure of quantity of benefits has been assumed (which is simply the sum assured payable on death in each period, escalated at the appropriate rate on each policy). It can be seen in the graph that the materiality of the allowance for the time value of money in the equal allocation of CSM to coverage units is significantly more pronounced where the policy's benefits have a degree of contractual escalation over time.

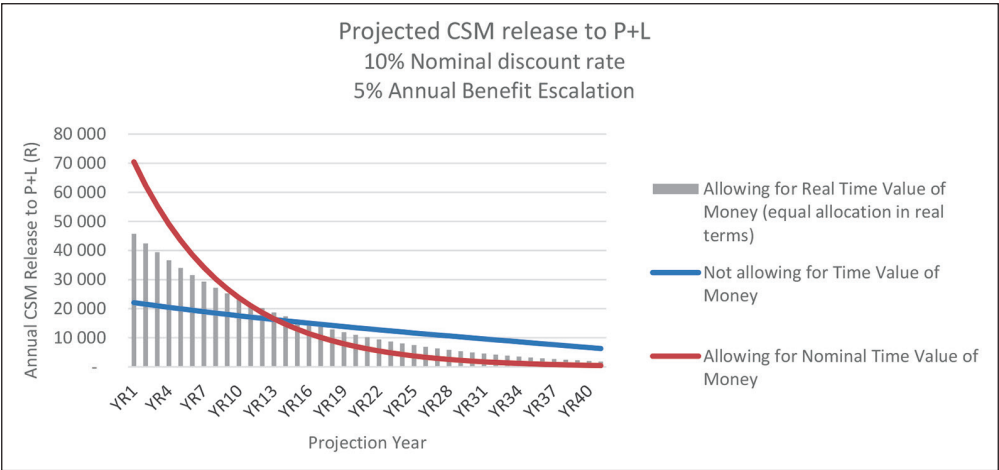
4.3.4 Overall, both graph 16 and graph 17 illustrate that in a high interest rate environment such as South Africa on whole-of-life insurance policies with annual benefit escalation and using the same measure of quantity of benefits in the coverage unit calculation, a company could project materially different releases of CSM to profit and loss in each reporting period by either selecting or not selecting to allow for the nominal time value of money in the equal allocation of CSM to coverage units.

4.3.5 As noted in IFRS 17.BC282 the IASB consider this to be a matter of judgement by the entity, explicitly putting the onus on the entity to select an approach which, in their opinion, results in the most appropriate release of CSM (one of the main drivers of reported profit under IFRS 17) over time. When considering which approach is most appropriate, an entity should keep in mind that according to IFRS 17.BC279, "IFRS 17 requires the contractual service margin to be recognised over the coverage period in a pattern that reflects the provision of coverage as required by the contract." An entity will need to consider what their decision implicitly implies about the provision of coverage over time, in particular:

- Not allowing for the time value of money implicitly implies an increasing provision of coverage over time.
- Allowing for the nominal time value of money in the equal allocation of CSM to coverage units implicitly assumes that the insurer is providing the same coverage in nominal terms over time.
- Allowing for the real time value of money in the equal allocation of CSM to coverage units implicitly assumes that the insurer is providing the same coverage in real terms over time.

4.3.6 For policies with annual benefit escalation for example, an entity may conclude that equally allocating CSM to coverage units in real terms may best reflect the value of the coverage (service) provided over time and hence would best reflect the release of CSM over the lifetime of the contract. In such an example the acceleration in releases of CSM resulting from allowing for the nominal time value of money or the deferral of releases of CSM observed as a result of no allowance for the time value of money may not be deemed by the entity to be appropriate.

4.3.7 Whichever approach is ultimately followed, the entity will need to ensure that not only is it robust, auditable and applied consistently over time but it also, in the entity’s judgement, is the best reflection of the coverage provided in the period. Graph 18 illustrates that equally allocating CSM to coverage units in real terms over time can result in a more appropriate profile of CSM releases to profit and loss over time if the entity is of the opinion that either allowing or not allowing for the time value of money results in undue acceleration or deferral of CSM releases over time.



GRAPH 18 Projected annual releases of CSM to profit and loss (P+L) on a group of whole-of-life risk-only policies with a 5% annual benefit escalation rate, both allowing and not allowing for the time value of money in the equal allocation of CSM to coverage units compared to the approach where CSM is allocated equally to coverage units in real terms

5. CONCLUSION

5.1 The IFRS 17 insurance balance sheet introduces a number of differences to that under the current IFRS 4 and SAP 104. This paper focuses on one of the notable differences, being that the various components of the IFRS 17 insurance liability are determined using different interest rate assumptions, while the total insurance liability under SAP104 is valued using consistent interest rate assumptions. IFRS 17 requires that the fulfilment cash flows are measured using current interest rate assumptions, while both interest accretion and adjustments to the CSM for changes in fulfilment cash flows relating to future service are determined using the interest rates as at the date of initial recognition.

5.2 This discrepancy has been raised as a concern by numerous stakeholders throughout the development of IFRS 17. The IASB staff acknowledge the discrepancy in measurement but argue that such a treatment is imperative to preserve one of the improvements introduced by IFRS 17, namely: the consistency in separating the insurance service result from the financial result. This new way of looking at insurance finance income or expense amounts introduces novel areas for consideration where insurance companies may need to start exploring additional ways of understanding and managing their insurance finance income or expense result. One such area is the potential materiality of the first- and second-order earnings volatility which may arise as a result of this discrepancy, and is of particular interest in the South African life insurance environment which is characterised by high, volatile market rates.

5.3 First-order earnings volatility, being the change in the carrying amount of the group of insurance contracts arising from changes in the time value of money as well as changes in financial risk as referenced in IFRS 17.87, is pertinent to all types of insurance policies. For policies where changes in assumptions relating to financial risk do not have a substantial effect on projected cash flows, the present value, and hence carrying value, of the various components of the LRC can still be significantly impacted. Policies where premium and/or benefit cash flows are linked to CPI are exposed to this first-order volatility through both changes in the actual projected cash flows and impacts on the present value of the LRC.

5.4 In practice however, an insurer with an effective asset-liability matching strategy may be able to materially mitigate the impact of this observed first-order volatility.

5.5 Second-order earnings volatility is considered to be the extent that changes in the CSM do not offset changes in the fulfilment cash flows when current interest rates are different to those at the date of initial recognition, as referenced in IFRS 17.46. The results presented in this paper demonstrate just how material this second-order volatility can be for a range of different policy types. Furthermore, without any means of managing this volatility, earnings results in a given year could prove difficult to explain to the market as even experience or variance items which are value-generative could result in a material loss being recorded as a result of the mismatch between the impact on fulfilment cash flows and the CSM.

5.6 This interaction cannot be mitigated with asset-liability matching and insurers may need to consider new methods of managing earnings volatility, such as disaggregating their insurance finance income or expense result between profit and loss and other comprehensive income, as per IFRS 17.88. The use of OCI for disaggregating insurance finance income or expense does not impact the total amount of insurance finance income or expenses disclosed over a reporting period but rather changes how and where this is disclosed. Amounts accumulated in OCI are released to profit and loss systematically over the duration of the group such that the cumulative amount recognised through OCI over the lifetime of a group of contracts is zero i.e. the use of OCI does not change the fundamental profitability of a group of contracts, it merely affects the timing of the recognition of profit.

5.7 The results presented in this paper demonstrate that the use of disaggregation can lead to a material reduction in both the first- and second-order earnings volatility to create a more stable profit profile. Furthermore, it has been demonstrated that the use of OCI as a volatility management tool is not only applicable to groups of policies which are substantially impacted by changes in financial risk (such as policies with CPI linked cash flows), but can also be materially beneficial to a range of other policy types. The results presented in this paper are not enough to conclude that one policy type is more exposed to potential earnings volatility than another, but rather demonstrate that there is a likely scenario for every policy type under which this first- and second-order volatility can be material, and is therefore worth due consideration from any life insurer reporting under IFRS 17.

5.8 Another consideration for life insurance companies in South Africa is how a high interest rate market with high levels of inflation can impact the decision of whether to allow for the time value of money in the equal allocation of CSM to coverage units, which will have a crucial impact on the release of CSM and, consequently, the reported profits under IFRS 17.

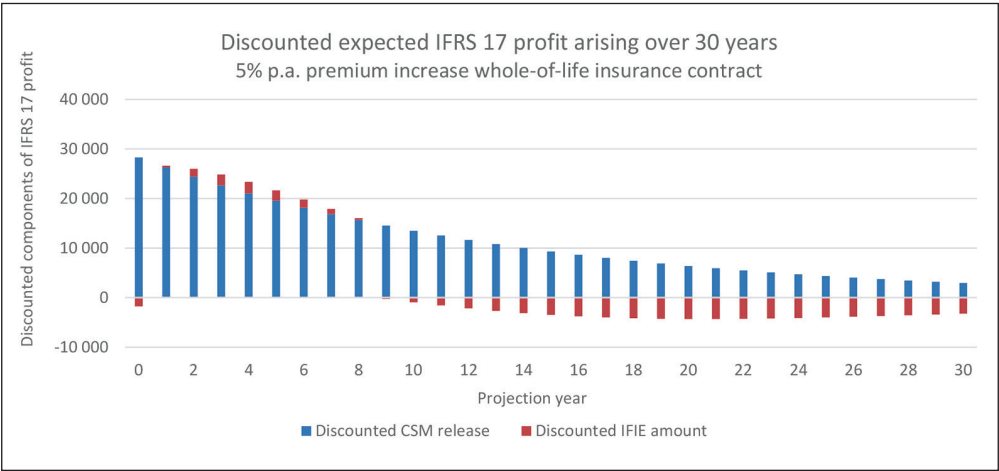
5.9 This paper illustrates the relative materiality of the decision to allow for the time value of money on a whole-of-life insurance contract with level benefits and premiums escalating at a fixed percentage as well as a similar contract where benefits escalate at 5%. It is shown that the materiality of the allowance for the time value of money in the equal allocation of CSM to coverage units is significantly more pronounced where the policy's benefits have a degree of contractual escalation over time, and considering a methodology for these policies which equally allocates the CSM in real terms can result in a potentially more appropriate profile of CSM releases to profit and loss.

ACKNOWLEDGEMENTS

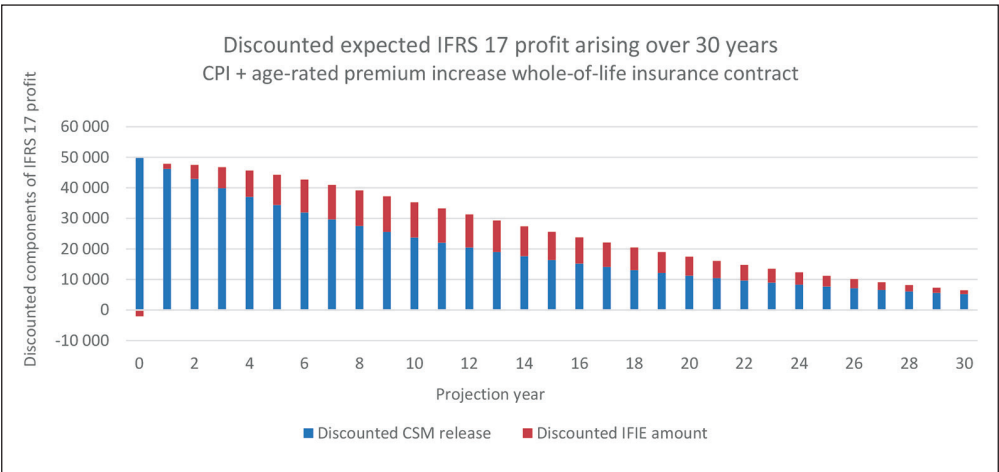
We would like to thank Warren Henning, Andrew Warren and Renaldo de Gouveia for their comments and input while drafting the paper.

APPENDIX A

The graphs below illustrate the expected discounted IFRS 17 profit arising from the insurance liability for the 5% p.a. increasing premium and CPI plus age-rated increasing premium groups, under the base scenario. The profit amount in each year has been broken down into its two main components, these being the CSM release and insurance finance income or expense.



GRAPH 19 Projected components of the reported IFRS 17 profit over 30 years on a 5% p.a. increasing premium whole-of-life group of insurance contracts, in the base scenario

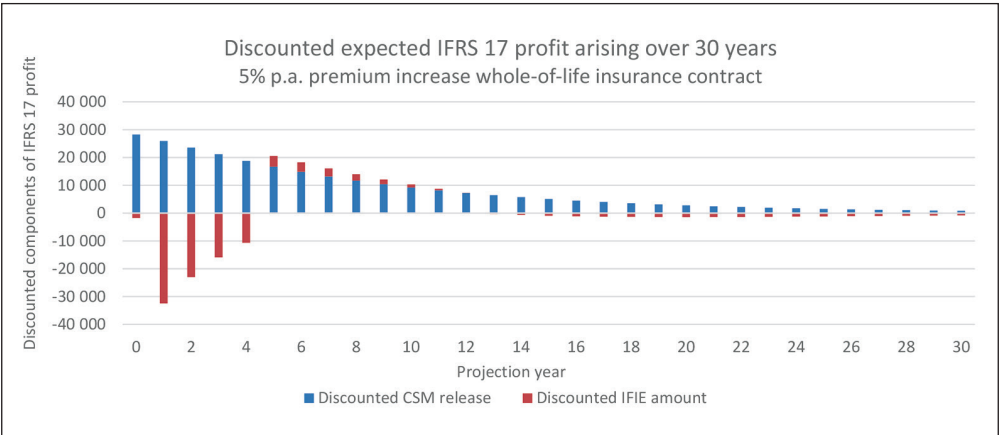


GRAPH 20 Projected components of the reported IFRS 17 profit over 30 years on a CPI plus age-rated increasing premium whole-of-life group of insurance contracts, in the base scenario

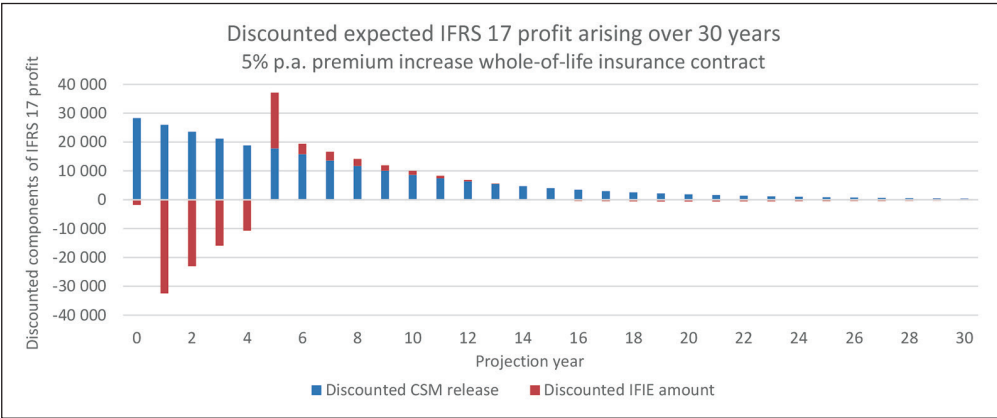
APPENDIX B

The graphs below illustrate the expected discounted IFRS 17 profit arising from the insurance liability for the 5% p.a. increasing premium and CPI plus age-rated increasing premium groups. The profit amount in each year has been broken down into its two main components, these being the CSM release and insurance finance income or expense. This is shown separately after the 1.25% annual nominal interest stresses over years 1 to 4, and after the interest rate stress and the 3% increase in the lapse assumption at the end of year 5, and after allowing for disaggregation of insurance finance income or expense into profit and loss and OCI.

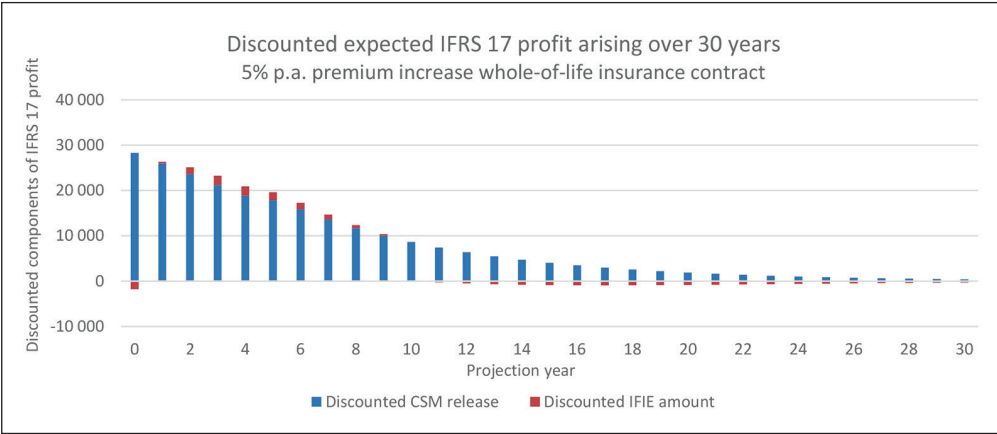
The first- and second-order earnings volatility is driven by changes in the insurance finance income or expense amounts, and not by the CSM release. While the level of CSM release does change from year 6 onwards this is as a result of a fundamental change in the level of profitability of the group after the lapse basis change, the release profile however remains fairly smooth and is not considered to contribute to the volatility.



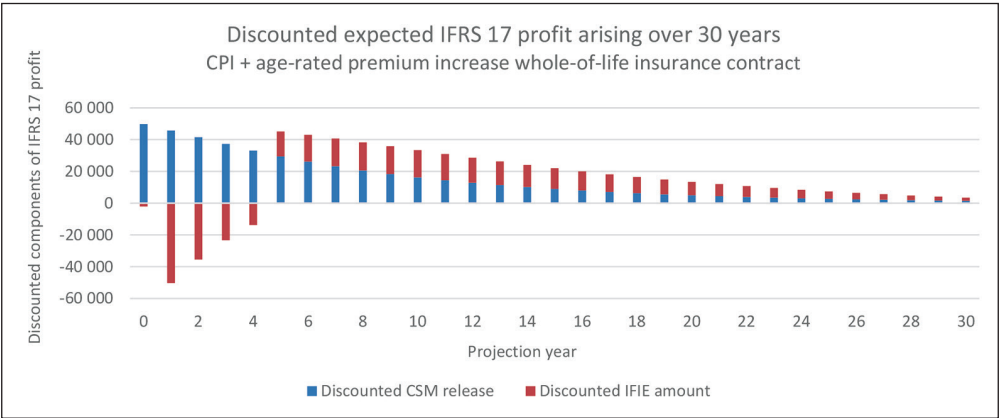
GRAPH 21 Projected components of the reported IFRS 17 profit over 30 years on a 5% p.a. increasing premium whole-of-life group of insurance contracts, under a 1.25% annual nominal yield curve stress for four years



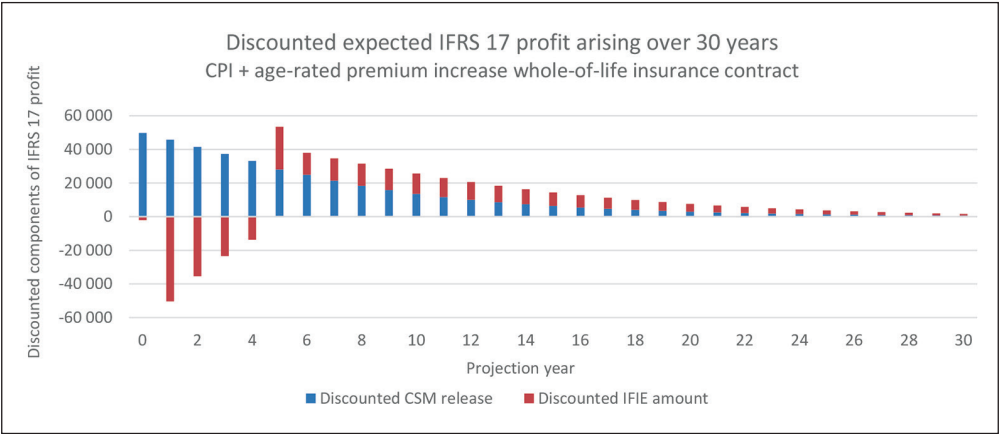
GRAPH 22 Projected components of the reported IFRS 17 profit over 30 on a 5% p.a. increasing premium whole-of-life group of insurance contracts, under a 1.25% annual nominal yield curve stress for four years and after a 3% lapse basis change in the following year



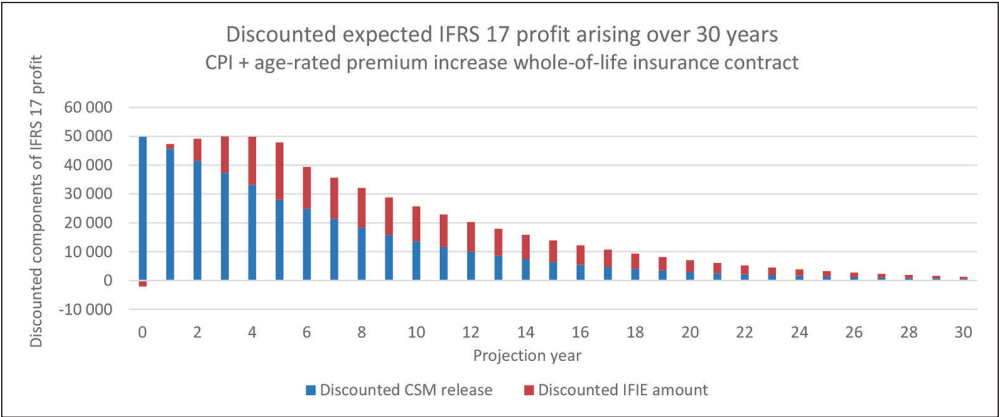
GRAPH 23 Projected components of the reported IFRS 17 profit over 30 years on a 5% p.a. increasing premium whole-of-life group of insurance contracts, under a 1.25% annual nominal yield curve stress for four years and after a 3% lapse basis change in the following year, when disaggregating insurance finance income or expense using OCI Method 1



GRAPH 24 Projected components of the reported IFRS 17 profit over 30 years on a CPI plus age-rated increasing premium whole-of-life group of insurance contracts, under a 1.25% annual nominal yield curve stress for four years



GRAPH 25 Projected components of the reported IFRS 17 profit over 30 on a CPI plus age-rated increasing premium whole-of-life group of insurance contracts, under a 1.25% annual nominal yield curve stress for four years and after a 3% lapse basis change in the following year



GRAPH 26 Projected components of the reported IFRS 17 profit over 30 years on a CPI plus age-rated increasing premium whole-of-life group of insurance contracts, under a 1.25% annual nominal yield curve stress for four years and after a 3% lapse basis change in the following year, when disaggregating insurance finance income or expense using OCI Method 2

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