

UNIVERSITY OF CAPE TOWN



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**AN EVALUATION OF THE PROPOSED  
IFRS 4 PHASE II MEASUREMENT METHODOLOGY:  
THE IMPACT ON SOUTH AFRICAN LIFE INSURERS**

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*Author:*

**Szymon Marszalek  
MRSSZY001**

*Supervisors:*

**Mr Dave Strugnell (University of Cape Town)  
Mr Peter Tripe (Deloitte)**

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## **Abstract**

Nearly 20 years after inception, the Insurance Accounting project of the International Accounting Standard Board (IASB) is nearing completion. The recently published June 2013 International Financial Reporting Standard 4 (IFRS 4) Exposure Draft represents a likely picture of the future of global insurance financial reporting and it is important that insurers begin to understand and prepare for the changes it will bring. This dissertation explores the key principles and likely impacts of the IFRS 4 Phase II standard, in its current proposed form, in the South African life insurance context. In particular, the proposed IFRS 4 Phase II approach to profit reporting is contrasted with the current Financial Soundness Valuation (FSV) approach for simple illustrative term and endowment insurance products. The results of this comparison form the basis for a discussion of the impacts which the new profit reporting standard will have on insurance contract liabilities and hence profit profiles over time, and an assessment of whether the changes embodied in the new standard better meet the objectives of insurance financial reporting and the needs of the users of financial statements. This dissertation focusses on key areas where there is a high degree of certainty in the exposure draft, and touches more lightly on those areas where change is still expected. The findings indicate that IFRS 4 will result in insurer financial reporting being more principles-based, better meeting the requirements of fundamental financial reporting characteristics and being more comparable with insurer financial reporting internationally. These findings support the conclusion that a move to IFRS 4 for insurer financial reporting in South African will be beneficial to users of financial statements in making economic decisions.

## Declaration

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Szymon Marszalek

May 2014

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# 1. Introduction

In general, financial reporting methods do not affect the overall profit arising on a contract, but assist in determining the timing and pattern of recognition of that profit. This fact is highly relevant to financial reporting for insurance contracts given the long-term nature of these contracts. The result of this is that a change in the financial reporting method for insurers can have a significant impact on the timing and amount of profit arising for insurance contracts over a period. Given this potential volatility, it is therefore important for the reporting of the financial position and the financial performance of insurance companies to be consistent with fundamental financial reporting characteristics (for example those outlined in the Conceptual Framework for Financial Reporting (IASB, 2010)) and applied consistently by insurers across the world. This will result in useful financial reporting and allow users of insurer financial statements to make effective economic decisions.

A financial reporting method can be considered to have two main components: recognition and measurement. Recognition is defined as “the process of incorporating in the balance sheet or income statement an item that meets the definition of an element and satisfies [certain] criteria for recognition” (IASB, 2010:A40). This component essentially relates to the scope of the financial reporting method in terms of the economic phenomena to which it applies. On the other hand, measurement is defined as “the process of determining the monetary amounts at which the elements of the financial statements are to be recognised and carried in the balance sheet and income statement” (IASB, 2010:A43). Measurement therefore relates to the input information and calculation methodology required to determine the magnitude of the amount to be used for financial reporting. A third supporting component, disclosure, can also be considered and it relates to the manner and degree of detail to which the measurement information is presented in the body and the notes to financial statements. Globally, financial reporting for insurers has converged significantly with regard to recognition and disclosure since the publication of IFRS 4 Phase I. However, measurement of insurance contracts is not substantially addressed in IFRS 4 Phase I and continues to vary significantly around the world.

Current developments on IFRS 4 Phase II are likely to result in a consistent approach to the measurement of insurance contracts for financial reporting globally. The move to IFRS 4 Phase II will have different impacts for different countries because of the use of dissimilar existing methods for measurement of insurance contracts in those countries. This research examines the likely impact that IFRS 4 Phase II will have on the measurement of insurance contracts for published financial reporting of South African life insurers. The impact of IFRS 4 Phase II measurement is quantified for

illustrative South African life insurance contracts by using a cashflow projection model. This model determines the pattern of insurance liability and profit arising under the existing measurement method (Financial Soundness Valuation) compared to IFRS 4 Phase II. This impact is then examined and discussed in the context of fundamental financial reporting characteristics.

### ***1.1 Fundamental financial reporting characteristics***

The basis for most modern financial reporting standards is The Framework for the Preparation and Presentation of Financial Statements (IASB, 1989). Since its publication, work has been done by the International Accounting Standards Board (IASB) to update and refine the characteristics for modern organisations. These updates can be seen in the Conceptual Framework for Financial Reporting ('Conceptual Framework') (IASB, 2010) which was a joint effort by the predominantly European IASB and the American Financial Accounting Standards Board (FASB).

The Conceptual Framework states that useful financial information is characterised by two fundamental features: relevance, in having an impact on the decisions made by users of financial statements; and the ability to faithfully represent the financial information of economic phenomena. In addition to these fundamental qualitative characteristics, a number of supporting characteristics also need to be considered (IASB, 2010). Financial reporting for insurance entities can be more complex than for other non-financial entities because clients or policyholders may also be considered as being users of the financial statements and this should be considered in the context of the framework.

The accounting standards boards (IASB, FASB and others) are not the only sources of characteristics or principles for appropriate financial reporting standards. European directives on insurance financial reporting and published research on financial reporting standards provide further insights into these principles and are considered in Section 3 of this dissertation.

### ***1.2 Development of insurance financial reporting systems***

Over time, life insurance financial reporting has evolved in a piecemeal fashion around the world. This has led to significantly different insurance financial reporting practices being in place in different countries and jurisdictions. In addition to the internal inconsistencies of insurance financial reporting between jurisdictions, the unique nature of insurance contracts has meant that insurer financial reporting is rarely directly comparable with the financial reporting of other industries.

Historically and up until the late 1980s, financial reporting by insurers was aligned to statutory solvency reporting and included a significant degree of prudence and deferment of profits late into the policy term. This approach was suitable for the mutual companies which dominated the insurance market at the time as a high degree of solvency was viewed as a more important objective than a high level of profitability (Fagan, 1991). Over time, as insurance companies demutualised, there has been an increased focus on obtaining a more realistic measure of insurer profitability to meet stakeholder (most notably shareholder) requirements. In recent decades this focus has been taken a step further with the publication of international insurance financial reporting standards, such as those published by the IASB, and the development of additional disclosure value measures, such as embedded value, to determine the value of future insurer profits.

### ***1.3 Types of insurance financial reporting systems***

Apart from considering the characteristics or principles of financial reporting according to the Conceptual Framework (or otherwise), there are other ways of categorising and assessing financial reporting systems. At a high level one could consider financial reporting systems to either allow a profit to emerge at inception, or to not allow it (Waugh, 1998). The Financial Soundness Valuation (FSV) method (which is the measurement method currently used for life insurance financial reporting in South Africa) requires a portion of profit to be deferred via compulsory margins but allows the remaining profit to emerge at inception. Additional deferment of profit can occur under this method at the discretion of the insurer via discretionary margins, which are utilised to control the magnitude of profit emergence at inception and to prevent losses in future policy years. The IFRS 4 Phase II proposed measurement method for profit reporting does not allow profit to emerge at inception and the discretion allowed in adjusting the extent of profit deferment is limited compared to the FSV approach. Around the world there is broad consensus that financial reporting systems ought to avoid the recognition of excessive profit at inception, especially where the profit recognition relates to future services or risk transfers (Waugh, 1998).

Financial reporting systems need to balance rules and principles in their approach to guidance and regulation. A principles-based approach will aim to capture all material risks, but will allow for discretion and company-specific risks to be catered for on a company level. In contrast, a rules-based approach typically prescribes a formula with set parameters providing little or no room for discretion and company-specific customisation. A change in approach to utilise more principles can be seen as consistent with the global move towards enterprise risk management and typically requires more sophisticated (i.e. customised) tools and actuarial judgement (Parks, 2005).

Globally there is debate whether principles-based financial reporting standards are more appropriate than rules-based ones, and there are well-reasoned arguments in either direction. However, as discussed in Section 3.4, there appears to be a general view that principles-based approaches to regulating financial reporting are better, especially for the purpose of global financial reporting harmonisation (Carmona & Trombetta, 2008), and these approaches are recommended by the Securities and Exchange Commission Advisory Committee on Improvements to Financial Reporting (2008) as the future of financial reporting standards.

Further, it is generally acknowledged that 'older' financial reporting standards, for example US GAAP (United States Generally Accepted Accounting Practices), are more rules-based than the corresponding 'newer' IFRS financial reporting standards (Barth, 2008; Kohlbeck & Warfield, 2010; Jackling, Howieson & Natoli, 2012). This difference in ideology may not have been initially intended when the financial reporting standards were written, but may be a result of updates to these standards causing them to change in nature and become more rules-based over time. These changes have been found to be as a result of industry pressuring standard-setting authorities to include scope exceptions and guidance, which serve to complicate principles and result in a more rules-based standard (Schipper, 2003). Being a globally applicable standard, there is less of a risk that the IASB will be pressured into adopting rules into IFRS 4 over time due to the difficulty of crafting rules which are globally appropriate given the inherent differences between insurers internationally.

The main argument for a rules-based approach is that it is more rigorous and does not allow management to exercise opportunistic discretion, which results in more consistent financial reporting, whilst the main argument against a rules-based approach is the inflexibility and potential to manipulate earnings through transaction structuring (Schipper, 2003; Breeden, 1994; FASB, 2002; Nelson, Elliot & Tarpley, 2002).

This research will compare IFRS 4 Phase II with FSV measurement methods on the grounds of them being rules- or principles-based systems. This comparison, together with other theoretical classifications and framework comparisons mentioned previously, will be considered in the context of the quantitative cashflow comparison performed and provide context to conclusions on the appropriateness of both approaches.

#### **1.4 IFRS 4 background**

The IFRS 4 project began in 1997 when the International Accounting Standards Committee (IASC) tasked a committee to produce an insurance financial reporting standard. At the time, insurance contracts were excluded from existing financial reporting standards and the financial reporting practices for insurance contracts were difficult to understand, diverse and differing from practices in other sectors. The work of the committee resulted in an Issues Paper being published in 1999 (IASC, 1999). The paper highlighted the range of issues which need to be considered when developing an international financial reporting standard and the tentative view of the IASC on these matters.

Industry comments on the paper were evaluated and considered in the development of the Draft Statement of Principles (DSOP) which was presented by the committee to the International Accounting Standards Board (IASB, which had taken over from the IASC) in 2001 (IASB, 2001). The DSOP outlined the principles which the IASB regarded as fundamental to an insurance financial reporting standard. It focussed on the users' need for financial statements that contain reliable and relevant information that they could employ in making economic decisions. In particular, the IASB moved towards specific objectives for the standard: "to improve financial reporting by providing a consistent basis for the accounting for insurance contracts and to make it easier for users of financial statements to understand how insurance contracts affect an entity's financial position, financial performance and cashflows"; and to "enhance comparability across entities, jurisdictions and capital markets" (IASB, 2013b:1).

In 2002 it was decided to divide the IFRS 4 project into two phases and in 2004 an interim standard, Phase I, was finalised. It focussed on the classification and disclosure of insurance contracts, allowing most previous insurance financial reporting measurement approaches to continue. With Phase II still in development, IFRS 4 Phase I is currently adhered to in countries which have adopted IFRS reporting, allowing a diverse range of financial reporting practices for the measurement of insurance contracts.

Since 2004 IFRS 4 Phase II has been under development by the IASB Working Group. In 2007 the first Discussion Paper with Preliminary Views on Insurance Contracts was published by the IASB (IASB, 2007). Based on this discussion paper the FASB thought to align their equivalent insurance contract standard development with IFRS 4 Phase II, and joined the deliberations of the IASB in an attempt to jointly publish a truly global insurance financial reporting standard. However, sufficient

agreement was not reached by 2010 and the first IFRS 4 Phase II exposure draft was published by the IASB without the support of the FASB. The FASB has subsequently released an exposure draft which shares many similarities with the IASB proposal, but also contains material differences (most notably that the FASB does not require a separate risk adjustment component in the building block approach – refer to Section 2.1.2.1 for more information on these concepts) (FASB, 2013).

Based on extensive deliberations, input from the IFRS 4 Working Group, results from field tests, global round-table talks with industry and comment letters to the 2010 Exposure Draft, the IASB published a second exposure draft in June 2013 (IASB, 2013a). This second and most likely final exposure draft re-exposes five of the most contentious issues of the 2010 Exposure Draft and allows further comment on the overall sensibility and cohesion of the standard as a whole. The re-exposed issues are:

- Treatment of contracts where an entity is required to hold, and specify a link to, certain underlying assets.
- Allowing changes in estimates of future cashflows to adjust the contractual service margin.
- Classification of interest expense in other comprehensive income versus profit and loss.
- Presentation of insurance contract revenue and expenses.
- Proposed effective date and simplifications applicable on transition to the draft IFRS 4 Phase II standard.

Based on comments received by the IASB with respect to the June 2013 Exposure Draft the IASB hopes to finalise and publish the IFRS 4 Phase II standard in the first half of 2014. Following publication, the IASB has indicated that it will grant approximately three years before the published standard will be mandatory for IFRS-compliant financial reporting. This means that insurers can expect the standard to be applicable for reporting periods from 2017 onwards at the earliest, but given the significant changes which will be introduced by this standard, insurers have been urged to start planning for its implementation as soon as possible. However, considering the delays in reaching this stage of the development of Phase II, it is possible that further delays in publication of Phase II will push the implementation date into 2018 and beyond.

The challenge for the IASB is to publish an insurance standard which is applicable globally to a diverse range of insurance products (some of which have been developed specifically to benefit from local financial reporting features). The standard should provide relevant and faithfully

represented recognition of insurance profit and insurance liabilities and should not introduce artificial accounting volatility of profits where underlying economic volatility does not exist. These ideals of consistent, relevant, faithfully representative and useful results need to be balanced against complexity in the insurance standard, in terms of practical implementation by insurers and understanding and interpretation by users of financial statements. In many cases, this balance between relevance and complexity will result in a trade-off between principles- and rules-based approaches.

### ***1.5 South African Financial Soundness Valuation (FSV) profit reporting background***

Prior to 1994 there was no single compulsory method for South African insurers to use in determining the value of their insurance liabilities for financial reporting purposes, although a net premium approach (i.e. using a theoretical premium which allowed for mortality and interest considerations only) was the most common. In 1994, the Financial Soundness Valuation basis (from here on referred to as the 'old FSV' to distinguish it from the 'new FSV' employed from 1998 onwards) became the compulsory basis for South African life insurers. The old FSV brought about a significant improvement in measurement and disclosure, but lacked clarity on the rate at which profit should be recognised and the level of prudence to be used over the life of an insurance contract.

To address this, the Actuarial Society of South Africa requested a financial reporting sub-committee to draw up an exposure draft for an improved FSV basis. Following consultation, internal review within the Actuarial Society and external review by the Financial Services Board (FSB) and the South African Institute of Chartered Accountants (SAICA), the new FSV basis came into use in 1998 (Kruger & Franken, 1997). Since then, barring minor refinements, the new FSV basis has remained largely unchanged and is the current published reporting measurement basis for insurers in South Africa.

The new FSV basis was developed to address specific shortcomings of the old FSV basis and to provide a realistic, but prudent view of the financial position of an insurer. To attain these objectives, the Actuarial Society specified the following principles required of the profit reporting framework (Kruger & Franken, 1997:3-4):

- “The published financial statements (including the actuarial report) should fairly present the insurer’s financial position.

- Insurance contracts that are confidently expected to be profitable should not give rise to an initial loss.
- Profits should be recognised prudently over the term of each contract to avoid the premature recognition of profits that may give rise to losses in future years.
- The financial position of the insurer should be described in terms which can be explained readily in the context of a profit and loss account.
- The method should comply with current legislation as well as with existing accounting and actuarial concepts and standards.
- Meaningful disclosure should be encouraged.”

In summary, insurance liabilities under the new FSV basis are calculated using best-estimate assumptions (i.e. the probability of experience being worse than expected is 50%) with explicit and defined compulsory and discretionary margins. Best-estimate assumptions should be made taking into consideration all the factors that can impact the financial position of an insurer, bearing in mind policyholder reasonable expectations (see Section 2.2.4 for more on policyholder reasonable expectations). Compulsory margins serve to add a minimum (and quantifiable and comparable) degree of prudence to best-estimate assumptions which prevents premature profit recognition in the event of adverse future experience over the life of a policy. Discretionary margins then provide flexibility for insurers to add an additional level of prudence (also quantifiable) to allow for excess uncertainty and will result in profit emergence that is consistent with company practice or with policy design.

The main change that the new FSV basis brought about was that the compulsory level of prudence was explicitly stated. This was done by changing the future cashflow assumptions used in the reporting basis from “prudent best-estimate” to “best-estimate plus compulsory margin”. The magnitude of compulsory margins was prescribed and stipulated explicitly as a percentage of liability components, removing mystery around the extent of implicit margins which were in use in the prudent estimates of the old FSV basis. The new FSV basis also explicitly excludes any implicit allowance for severe adverse experience in the future cashflow assumptions, which may have been included in the old FSV basis.

### ***1.6 Purpose and structure of this dissertation***

The purpose of this dissertation is to evaluate, in the context of financial reporting characteristics and principles, the appropriateness of the IFRS 4 Phase II measurement proposals, as published in

the June 2013 Exposure Draft by the IASB (from here on these will be simply referred to as 'IFRS 4'), for South African life insurers currently using the FSV methodology. To do this, the IFRS 4 measurement proposals are applied to simple illustrative South African life insurance products, through the use of a cashflow projection model, and the overall liability and profit profiles under the FSV and IFRS 4 approaches are compared. These comparisons are then considered and discussed in the context of theoretical financial reporting characteristics and principles. The evaluation of IFRS 4 proposals is discussed as outlined in each of the sections below.

Section 2 provides background and context for the research project by exploring both the IFRS 4 Exposure Draft and the FSV approaches to insurance liability measurement. This context provides a foundation for the methodology underlying the cashflow projection model as well as context for the literature review and theoretical financial reporting comparisons.

Section 3 builds on Section 2 and provides a literature review of different financial reporting methods, characteristics and principles. The first part of this section compares IFRS 4 to the existing financial reporting system used in South Africa, the FSV system. The second part of this section discusses fundamental financial reporting characteristics and principles and how these result in appropriate financial reporting to users of financial statements.

Section 4 goes into the detail of the IFRS 4 measurement approach and methodology used in the cashflow projection model. The results of this projection model are then presented in Section 5. The focus of the results in Section 5 is a comparison of the impact of the differences between the FSV and IFRS 4 measurement approaches for a set of illustrative policies under various scenarios. The metrics of greatest interest are the level and shape of the liability and profit vectors over the policy term.

Section 6 presents the conclusions of the dissertation. The conclusions discuss both the actual impact of the change in measurement approach from FSV to IFRS 4 as well as the appropriateness of this change in the context of theoretical financial reporting characteristics and principles.

Throughout, focus is steered away from issues of recognition and disclosure in financial reporting, as these issues were largely addressed as part of the IFRS 4 Phase I standard. Further, focus is steered away from issues which are currently contentious under the latest IFRS 4 Phase II Exposure Draft as the contentious issues are not critical to the measurement approach and are at risk of changing before the publication of the final standard. The contentious issues under IFRS 4 Phase II include:

the treatment of the impact of changes in interest rates through other comprehensive income; practicalities of premium revenue calculation; and the applicability of the mirroring approach. A more detailed list of the issues not considered in this investigation is outlined in Appendix A. Appendix B contains a detailed list of the assumptions underlying the illustrative policies considered in the various illustrative policies and scenarios considered in the cashflow projections.

## **2. Background**

The focus of this dissertation is the comparison and evaluation of IFRS 4 and FSV measurement approaches for insurance contracts in the South African life insurance context. This section provides a brief introduction to both of the approaches and supplements Section 4 in describing the method used in the cashflow projections and comparisons conducted in this dissertation.

### ***2.1 IFRS 4 Exposure Draft - June 2013***

The information outlined in this section, the investigations performed in this dissertation and the conclusions drawn thereon are all on the basis of the IFRS 4 Phase II Exposure draft as published by the IASB in June 2013. Although it is inevitable that changes will occur between this exposure draft version and the final published standard, the changes are most likely limited to the few re-exposed issues and overall are unlikely to significantly impact the results seen in these investigations. This is partially because these investigations aimed to steer clear of the re-exposed issues as they are subject to change (these issues are expanded on in Appendix A), but also because they do not affect the core principles of the IFRS 4 Phase II measurement methodology (see Section 2.1.2.2 for more detail on this).

#### **2.1.1 Objectives and principles**

The objective of IFRS 4 is to “establish the principles that an entity should apply to report useful information to users of its financial statements about the nature, amount, timing and uncertainty of cashflows from insurance contracts” (IASB, 2013a:13). In particular, IFRS 4 is intended to: “make it easier for users of financial statements to understand how insurance contracts affect an entity’s financial position, financial performance and cashflows” (IASB, 2013b:1). In doing so, IFRS 4 intends to create more consistent and comparable financial results not only between different insurers within a jurisdiction, but between insurers operating in different jurisdictions and also between non-insurance entities.

In achieving the above objective, the IASB has produced an exposure draft which adheres to the following set of principles, as outlined by CFO Forum (2006) and the IFRS 4 exposure draft itself (IASB, 2013a):

- An insurance contract should be measured using a “current value approach that incorporates all of the available information in a way that is consistent with observable market information” (IASB, 2013a:5).
- Insurance contract revenue should disclose the “transfer of promised services arising from the insurance contract in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those services” (IASB, 2013a:8).
- Expenses should be presented as they are incurred.
- Accounting profit should be realised in line with release from risk. The consequence of this is that on initial measurement no accounting gains or losses should arise.
- Insurance liability measurement should use a current best-estimate of the present value of all future cashflows. An allowance should also be made for inherent risk and uncertainty in future cashflows. The consequence of this is the building block approach (outlined below), where assumptions underlying the liability calculation are periodically reviewed and updated.
- Assets and liabilities should be measured using methods which are consistent with each other and the way in which the reporting company manages risk. The consequence of this is that accounting mismatches should be avoided where no economic mismatch exists, however where an economic mismatch exists this should be reflected in the financial reporting used to prepare the financial statements.

Overarching the objectives and principles is the consideration of balance between the benefit of more relevant, timely and faithfully represented information about insurance contracts and the costs of greater operational complexity in preparing the information as well as to users in understanding the information.

### **2.1.2 Outline and summary**

IFRS 4 aims to provide a single recognition standard for all insurance liabilities (including long- and short-term insurance contracts, reinsurance contracts and investment contracts with discretionary participation feature; but excluding employee benefit plans, product warranties, residual value

guarantee contracts, fixed-fee service contracts and some others) (IASB, 2013a). Within the standard there is allowance for a simplified measurement approach for certain contracts with a duration of less than approximately one year, in which case the premium allocation approach applies; and for reinsurance contracts, in which case specific recognition and measurement criteria apply. This dissertation however focuses on the approach applicable to the majority of long-term insurance contracts, the building-block approach, together with some of the presentation and transition arrangements that are applicable.

#### 2.1.2.1 Recognition

Under IFRS 4, an insurer should recognise an insurance contract at “the earliest of:

- The beginning of the coverage period.
- The date on which the first payment from the policyholder is due.
- The date on which the portfolio of insurance contracts to which the contract will belong becomes onerous.” (IASB, 2013a:16)

In general, unbundling of insurance from investment components and components to provide goods and services is not required for measurement under IFRS 4. However, in the specific case where the insurance component of a contract is distinct (i.e. the components of the contract are not highly inter-related and a separate contract “is sold or could be sold with the same terms in the same jurisdiction” (IASB, 2013a:47)) then unbundling may apply. Unbundling is also required for the disclosure of premium revenue: an insurer should disclose investment premiums or deposits (i.e. premiums that are received which will be paid back to the policyholder whether a claim occurs or not) separately from insurance premium revenue, even if that investment component is not distinct. This unbundled premium disclosure is part of one of the re-exposed issues in the June 2013 Exposure Draft.

#### 2.1.2.2 Measurement

The main focus of the investigations performed in this dissertation is the measurement approach used under IFRS 4 and how this compares to the FSV approach. The IFRS 4 approach follows a building-block approach, and as with the FSV approach, has best-estimate cashflow estimates at its core. The key components, or building-blocks, are the present value of fulfilment cashflows (which can be further broken down into expected future cashflows, risk adjustment and discounting) and the contractual service margin, as illustrated in Figure 1.

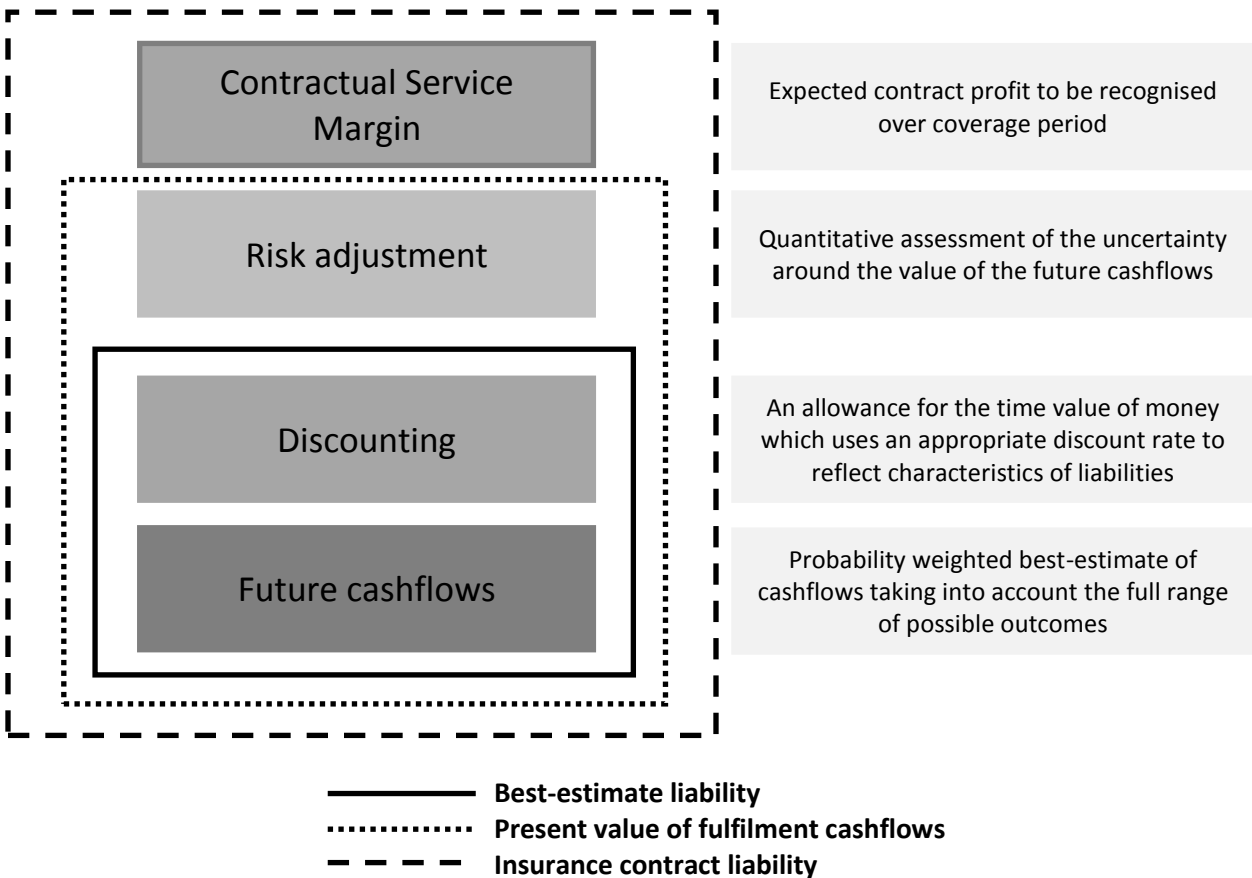


Figure 1. IFRS 4 Phase II components of insurance liability (IASB, 2013a)

The future cashflows component typically forms the bulk of the insurance contract liability (either positive or negative). Discounting is applied to the future cashflows to obtain a present value of future cashflows referred to as the best-estimate liability. The best-estimate liability and the risk adjustment are together referred to as the fulfilment cashflows. The fulfilment cashflows together with the contractual service margin then constitute the overall insurance liability at any point in time.

The fulfilment cashflows (i.e. the future cashflows, discounting and risk adjustment) are determined at inception of the contract in the same way as they are in subsequent periods. They are prospective measures which look at the expected future experience of the policies over their lifetime. The contractual service margin however has a different approach to measurement at inception and in subsequent periods.

Except where otherwise cited, the discussion below of components is based on the Insurance contracts exposure draft ED/2013/7 (IASB, 2013a).

### Future cashflows

The future cashflows considered “should relate directly to the fulfilment of the portfolio of contracts” (IASB, 2013a:18) under consideration. The estimates should be explicit, current and reflect the circumstances of the entity (whilst simultaneously being consistent with the market). The estimates should include all cashflows within the boundary of a contract and should “incorporate, in an unbiased way all of the available information about the amount, timing and uncertainty of all cash inflows and outflows that are expected to arise” (IASB, 2013a:18). Only directly attributable expenses (both initial and renewal) should be included in the estimate of expenses.

IFRS 4 requires that the expected future cashflows are estimated by considering a portfolio of insurance contracts. A portfolio of contracts under IFRS 4 is a group of contracts that are “managed together as a single pool” and that “provide coverage for similar risks and that are priced similarly relative to the risk taken on” (IASB, 2013a:38). The benefit of portfolio estimates is that practically it is often simpler to make estimates for a portfolio (e.g. estimates of portfolio expenses) instead of making estimates for individual contracts. In principle the value of estimates made for a portfolio should be the same as the value of estimates made for individual contracts, and therefore should not produce a different result (IASB, 2013a).

### Discounting

To discount the value of the future cashflows on a portfolio, an insurer should use a discount rate which is “consistent with observable current market prices for instruments with cashflows whose characteristics [e.g. timing, currency and liquidity] are consistent with those of the insurance contract” (IASB, 2013a:19). Insurers have the choice as to whether they use a bottom-up approach (i.e. using a risk-free rate and adjusting it for relevant features of the insurance contract - e.g. increasing the risk-free rate to allow for the illiquidity of the insurance contract liability) or a top-down approach (i.e. using a return on an actual portfolio of assets, or reference portfolio, and adjusting for features of the return that are irrelevant to the contract – e.g. market credit risk premiums).

## Risk adjustment

The final component of the fulfilment cashflows is the risk adjustment, which “measures the compensation that the entity would require to make the entity indifferent between:

- fulfilling an insurance contract liability that has a range of possible outcomes; and
- fulfilling a liability that will generate fixed cashflows” (IASB, 2013a:60).

The current exposure draft does not specify a technique to determine the risk adjustment; however the previous draft specified approaches of cost of capital, confidence interval and value at risk. Despite the approach not being specified in the current draft, the risk adjustment should meet the requirements of a coherent risk measure (a coherent risk measure is a risk measure which satisfies the properties of monotonicity, sub-additivity, positive homogeneity and translation invariance (Artzner, Delbaen, Eber & Heath, 1999). The risk adjustment should also be translated into a confidence interval value for disclosure purposes. This allows insurers freedom in determining their own risk adjustment, bearing in mind the inherent risk and complexities of their business, but still allowing some degree of comparability between results published by different insurers.

The risk adjustment should be measured allowing for diversification benefits (i.e. the benefit of reduced volatility of estimates as a result of considering a larger sample of policyholders) “to the extent that the entity considers those benefits in setting the amount of compensation it requires” (IASB, 2013a:48) for bearing that uncertainty. Effectively this means the entities have the discretion to include diversification benefits to the extent they expect to receive them.

## Contractual service margin

The contractual service margin or CSM on an insurance contract is determined at initial recognition of the contract and is reduced over time according the pattern of transfer of services under the contract. Assuming no pre-coverage cashflows, the CSM at inception is equal to the opposite of the fulfilment cashflows (unless the fulfilment cashflows are positive in which case the CSM is set to zero). The CSM at inception is determined at the same portfolio level as the portfolio level used when deriving estimates of best-estimate liability cashflows. The result of the CSM is the absorption of any profits which could arise otherwise at policy inception.

After initial recognition, the CSM reduces or runs off over the lifetime of a portfolio of contracts in a “systematic way that best reflects the [remaining] transfer of services provided under the contracts” (IASB, 2013a:63). The CSM run-off over time should be “recognised in profit or loss at a level of aggregation such that once the coverage period of the insurance contract has ended, the related CSM has been fully recognised in profit and loss” (IASB, 2013a:48).

The CSM may be ‘unlocked’ at subsequent reporting dates: when changes to the estimates of future cashflows are made, a corresponding and offsetting change is made to the CSM to prevent a net change in the insurance liability. In this way the CSM acts as a buffer against adverse cashflow assumption changes.

However, should estimates of future cashflows change so significantly as to eliminate any residual CSM, the CSM will not take on a negative value. Rather, the insurance liability will increase to allow for the expected future adverse experience and this increase will be realised as a loss in the current period.

Overall, the CSM can be built up over a reporting period as follows:

- Opening CSM
- Plus an accretion for interest on the carrying amount of the CSM
- Minus amount recognised for services provided during the period (i.e. run-off)
- Plus a favourable change in the present value of future cashflows relating to future services
- Minus an unfavourable change in future cashflows relating to future services (provided that the CSM is large enough to absorb such a change).

There are a variety of ways to determine the CSM run-off over the lifetime of a policy. Despite this, the exposure draft does not provide specific guidance on the method used to run down the CSM, only that the method is a “systematic way that best reflects the remaining transfer of services that are provided under the contract” (IASB, 2013a:63).

Likely methods to achieve this would be to use one or more of the cashflow components as carriers of deferred profits: e.g. running CSM off by using a fixed percentage of the present value of future claims on a policy. Other possible vectors include premiums and expenses (or a combination of

these), whilst a simplification may be to use a straight line run-down of the CSM over the life of a policy.

### 2.1.2.3 Presentation

Complying with the IFRS 4 Phase II presentation requirements will require a significant degree of investment by insurers. The added complexities around maintaining portfolio level data and assumptions for measurement, together with the other presentation requirements outlined below, are likely to be practically onerous for insurers as they differ from current practice.

IFRS 4 is likely to result in an increased use of other comprehensive income (OCI) for the presentation of changes in asset and liability values as a result of changes in market variables. Most notably, OCI will be used to recognise and present the change in insurance liability as a result of changing discount rates from the rate used to determine the liability at inception and current discount rates as at measurement date. OCI will also be used in certain circumstances for contracts with a direct link to underlying assets in terms of the mirroring approach. Both of these suggestions are contentious under the current exposure draft and are not explored in detail in this dissertation.

In order to provide greater clarity around the extent of negative insurance liabilities allowed for, IFRS 4 requires insurers to disclose portfolios of insurance contracts which have a negative liability (i.e. are in an asset position) separately from those with have a positive liability (i.e. are in a liability position). This means that portfolios of contracts with a net positive liability will not be netted off by portfolios of contracts with a net negative liability in published financial statements. The same is applicable to reinsurance contracts and both of these requirements represent a change from the presentation required in the FSV approach.

The presentation of premium revenue will also be different under IFRS 4. Premium revenue related to insurance contracts under IFRS 4 should “depict the transfer of promised services arising from an insurance contract in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those services” (IASB, 2013a:63). Effectively, this means that premium revenue expressed in the income statement does not reflect the amount of premium actually received by the insurer over the period. Instead, it comprises:

- “the expected claims and expenses relating to coverage for the current period [excluding any repayments of investment components];
- the change in the risk adjustment; and

- the amount of the contractual service margin recognised in profit and loss for the period
- an allocation of the portion of the premium that relates to recovering directly attributable acquisition expenses” (IASB, 2013a:63).

On the other hand, actual claims and expenses for an insurance contract are presented in the profit and loss statement in the period when they are incurred.

In presenting premium revenue and claims in the IFRS 4 profit and loss statement, insurers will have to separate out investment components which are non-distinct (i.e. are not separated from insurance contracts for measurement) from insurance components. This effectively requires unbundling of the premium and claim cashflows for presentation purposes, which was not previously required under the FSV approach.

Other than premium revenue, expenses and claims, the IFRS 4 profit and loss statement will also contain most of the other insurer earnings components for the year, including losses at inception, changes in the risk adjustment, changes in CSM that reflect transfer of services, changes in estimates of future cashflows which exceed the CSM absorption, changes in carrying amount for onerous contracts, changes in reinsurer credit standing and interest expense on insurance liabilities as per the locked-in rate at inception. Income and expenses relating to reinsurance should not be offset against one another and should be disclosed separately.

Other considerations around modification and derecognition of insurance contracts will be required under IFRS 4 but are not considered further in this dissertation.

#### 2.1.2.4 Disclosure

Comprehensive and meaningful disclosures for insurance financial results are pivotal in the achievement of the goals of IFRS 4: to allow users to better “understand the nature, amount, timing and uncertainty of future cashflows that arise from [insurance] contracts” (IASB, 2013a:30). The disclosure requirements as required by IFRS 4 Phase II are not significant changes from the disclosures required under IFRS 4 Phase I and, although the disclosures are a significant part of the financial reporting standard, they are unlikely to result in a significant change to the current approach under IFRS 4 Phase I.

Disclosures under IFRS 4 should be reported at such a level of disaggregation (in terms of contract type, geographical area and reportable segment) that useful information is not masked by

aggregation of items with different characteristics or by provision of excess and insignificant information. Where irrelevant, certain disclosures may be omitted, but where insufficient, additional disclosures should also be considered.

IFRS 4 will require a number of reconciliations of amounts presented in the statements of financial position and financial performance. The first is the reconciliation of the line items in the profit and loss and OCI with the statement of financial position (i.e. reconcile the income statement with the movement in assets and liabilities). The movement in insurance liability will be reconciled considering two different categorisations: split into expected present value of future cashflows, CSM and risk adjustment; and split by incurred claims, liabilities for amounts immediately recognisable in profit and loss and liabilities for amounts not immediately recognisable in profit and loss. The above reconciliations should be done for both insurance and reinsurance contracts. A further reconciliation will also be required to show how the actual premium received in the period by the insurer relates to the premium revenue as recognised in the income statement.

Other than disclosures on amounts specified in the financial statements, IFRS 4 Phase II will require insurers to disclose the judgement used to prepare their financial statements. In particular, the methods used to measure insurance contract liabilities (i.e. best-estimate liability, risk adjustment and CSM), as well as any inputs used to obtain these estimates (both quantitative and qualitative), will have to be disclosed. Further notable areas of judgement under IFRS 4 which require disclosure are the calculation of risk adjustment, the recognition pattern of the CSM, the derivation of discount rates and the separation of non-distinct investment components for presentation purposes. Where any changes are made to the above methods over a period, these changes should be disclosed, along with the effect of that change. Where a technique other than a confidence interval was used for the calculation of risk adjustment, the entity should disclose the equivalent confidence interval value of the result.

IFRS 4 Phase II will not introduce significant changes to the existing IFRS 4 requirements for disclosures in respect of risk and assumptions. This means that IFRS 4 Phase II will continue to require disclosures related to the “nature and extent of risks that arise from insurance contracts” (IASB, 2013a:33). These disclosures should “enable users of financial statements to understand the nature, amount, timing and uncertainty of future cashflows that arise from insurance contracts” (IASB, 2013a:33). At a minimum, there are a number of disclosures an entity should make (IASB, 2013a):

- Exposure to insurance risks shown gross and net of risk-mitigating techniques together with meaningful sensitivities and disclosure of risk concentrations.
- Policies, process and objectives of entity risk management.
- The effect of the regulatory frameworks which are operated in by the entity (e.g. reserves for investment or maturity guarantees and minimum capital requirements).
- The actual claims compared to undiscounted expected claims over a period of time as information is available.
- Other specific disclosures with regard to liquidity risk, credit risk and interest rate risk.

#### 2.1.2.5 Transition

The application of the IFRS 4 standard (when it is applied for the first time) will constitute a change in accounting policy. On transition, insurers will therefore be required to make a number of one-off changes to facilitate the move from their current published reporting basis to IFRS 4. These changes include (IASB, 2013a):

- Derecognition of certain intangible assets which were assumed in previously recognised business combinations. At the same time recognition of certain assets and liabilities acquired in a business combination, as per the new IFRS 4 standard, on the basis that would have applied on the date the businesses combined.
- Derecognition of any existing insurance contract deferred acquisition costs.
- Measurement of insurance contract portfolios as the sum of fulfilment cashflows (i.e. present value of best-estimate cashflows plus risk adjustment) and CSM.
- Recognition, in a segregated component of company equity, of the accumulated impact of the difference between expected present values of cashflows using the current discount rates and the discount rates applicable when the portfolio of insurance contracts was initially recognised.

Where insurers find it impractical or impossible to perform a fully retrospective calculation in order to measure a portfolio of insurance contract on transition, IFRS 4 allows some simplifications. The goal of the simplifications is to enable insurers to determine the magnitude of the CSM on transition by maximising the use of objective data but without the insurer undergoing exhaustive efforts to do so. The possible simplifications allow insurers to avoid problems of lack of data when determining the best-estimate liability and risk adjustment at inception:

- For the determination of best-estimate liability at inception, actual historical cashflows can be used in place of expected cashflows for the period between inception and transition.
- The risk adjustment at inception can be approximated by using the risk adjustment as calculated on transition.
- Approximate methods can be used to determine the discount rates to apply at policy inception.

## ***2.2 Financial Soundness Valuation Method (FSV)***

The published insurance liability valuation method currently in use in South Africa is as outlined in the Standard of Actuarial Practice 104 (SAP104) issued by the Actuarial Society of South Africa (ASSA, 2012). The most recent version of this was released in 2012 and is applicable to valuations performed from 31 December 2012 (this version did not constitute a significant change in method from the previous version). Essentially SAP104 recommends the use of the Financial Soundness Valuation (FSV) method, subject to some specific IFRS 4 requirements. The IFRS 4 requirements pertain to classification and disclosure as per the published IFRS 4 Phase I insurance financial reporting standard and do not materially affect the measurement methodology for insurance liabilities according to the FSV method.

Except where otherwise cited, the discussion of the FSV method in Section 2.2 is based on the most recent version of SAP104 (Actuarial Society of South Africa, 2012).

Different financial reporting standards govern the methodology for calculation of insurer-published policyholder liabilities for contracts which do not contain significant insurance risk (i.e. investment contracts) and contracts which contain significant insurance risk (i.e. insurance contracts). IFRS 4 governs financial reporting of insurance contracts and investment contracts with discretionary participation features, and International Accounting Standard 39 (soon to be replaced with IFRS 9) covers investment contracts. This research focusses on insurance contracts or IFRS 4, and it is only because IFRS 4 in its current published form (i.e. IFRS 4 Phase I) does not provide specific measurement guidelines to the determination of insurer liabilities, but rather defers to local recognised practice (provided the resulting calculation is a “prudent” estimate), that SAP104 and the FSV method come into practice for South African life insurers. Once the IFRS4 Phase II standard is complete the FSV method will no longer be required for published reporting as all insurance contracts will be governed by IFRS 4, with no reference to local best practice. A change to IFRS 4 Phase II financial reporting for insurers in South Africa will therefore result in a change in

measurement approach from FSV to IFRS 4 Phase II, and a change in recognition and disclosure from IFRS 4 Phase I to IFRS 4 Phase II.

In the calculation of insurance liabilities, the FSV method is intended to be prudently realistic. This concept of 'prudent reality' is effected through the use of best-estimate assumptions with explicit allowance for prudence in compulsory and discretionary margins. Best-estimate assumptions allow explicitly for "actual premiums that are expected to be received in terms of the contract and future experience that may be expected in respect of interest rates, expenses, mortality, morbidity and other relevant factors" (ASSA, 2012:5). The best-estimate expectations are current, unbiased estimates of each of these components.

Prudence, or a "minimum level of financial resilience is introduced by [prescribed] compulsory margins added to best-estimate assumptions of all parameters" (ASSA, 2012:5). Further financial resilience and increased prudence in the release of profits over the lifetime of an insurance contract can be achieved by the inclusion of optional discretionary margins. Although there is no requirement in SAP104 to use discretionary margins to avoid up-front profits on the sale of an insurance contract, it is emphasised that "profits should be recognised prudently over the term of each contract to avoid premature recognition of profits that may give rise to losses in future years" (ASSA, 2012:5).

### **2.2.1 Best-estimate assumptions**

"Best-estimate" for the FSV basis means "realistic, generally guided by immediate past experience, and modified by any knowledge of or expectations regarding the future", and should "depend on the nature of the business" (ASSA, 2012:5).

SAP104 recommends that "assumptions should be considered separately for relatively independent groups of homogeneous policies" (ASSA, 2012:5). Although not specified fully, "appropriate groupings that could be considered include splitting business by product type, by cohort, by distribution channel or by geographic region" (ASSA, 2012:5).

Parameters that need to be considered and allowed for in the cashflow projection under SAP104 include:

- Expenses (at a realistic level, allowing for future escalation at an inflation rate consistent with interest),

- Lapses and surrenders (consistent with past experience and expected future trends),
- Mortality and morbidity (consistent with past experience and expected future trends, with an allowance for AIDS),
- Interest rate used to discount liabilities (these should be mutually consistent between products, consistent with current fixed interest yields to maturity and should make allowance for tax and characteristics of the underlying liabilities such as term, nature and duration).

Although SAP104 only requires results to be reported on one best-estimate basis, it requires that the Statutory Actuary takes “cognisance of the sensitivity of valuation results to changes in the various parameters” (ASSA, 2012:5) and, where appropriate, undertakes the valuation on more than one basis of assumptions.

## **2.2.2 Compulsory and discretionary margins**

### Compulsory margins

Compulsory margins should be applied to all best-estimate assumption parameters, as stipulated in SAP104 and outlined in Table 1 below. The margins are applied multiplicatively except for the charge against investment return margin, which is applied additively. The intention of compulsory margins is to “introduce a degree of prudence to allow for possible adverse deviations in experience during the expected future lifetime of the business” (ASSA, 2012:6). As a consequence, these margins will serve to reduce the risk of premature profit recognition and result in profit deferment. However, these margins are neither sufficient to ensure that insurance liability remains adequate in the case of severe adverse experience, nor are they sufficient to ensure that profit does not emerge at the inception of the contract.

Table 1. FSV Compulsory Margins (ASSA, 2012:6)

<b>Assumption</b>	<b>Compulsory Margin</b>
Mortality	7.5% (increase for assurance, decrease for annuities)
Morbidity	10%
Medical	15%
Lapse	25% (e.g. if the best estimate is 10%, the margin is 2.5%)
Disability Income Terminations	10% (for benefits in payment)
Surrenders	10% (increase or decrease, depending which is onerous)
Expenses	10%
Expense inflation	10% (of the estimated escalation rate)
Charge against investment return	25 basis points in the management fee or equivalent asset-based or investment performance margins

The direction of the charge against investment return, lapse and surrender and compulsory margins needs to be applied carefully for different policy groupings and durations to ensure that the margins applied always have an onerous impact on liabilities. Particular attention needs to be given to policies with complex surrender and lapse structures, and policies which result in negative liabilities as these in particular can require margins which change direction over the policy term.

Compulsory margins should be “added throughout the lifetime of policies” and “future management actions may not be assumed to reduce compulsory margins” (ASSA, 2012:7) in a situation where the solvency of the insurer is compromised. To the extent that the compulsory margins result in a policy becoming unprofitable (i.e. in a positive liability being recognised at inception), this new business loss needs to be reported in the financial statements. Similarly, if a negative liability is recognised at inception then a new business profit is reported. Note that this contrasts with the proposed IFRS 4 methodology: under IFRS 4 new business profits cannot be recognised as the contractual service margin is created to ensure that a negative liability is not present at inception.

#### Discretionary margins

In addition to compulsory margins which result in a minimum level of prudence, discretionary margins can be added to FSV liability estimates when it is the view of the Statutory Actuary that compulsory margins are inadequate or that profit emergence is inconsistent with the policy design or company practice. Discretionary margin reserves can be calculated retrospectively or

prospectively and there is a broad acceptance of the types of discretionary margins which may be used.

An example of a discretionary margin is an increase in expense assumption to allow for uncertainty in the expense estimate, or for a potential increase in the future expense base. Another common example of a discretionary margin is the elimination of negative liabilities. Discretionary margins may be applied either as a percentage addition to specific assumptions, as an absolute increase in specific assumptions or as an increase or in the value of the liability itself. The only requirement is that they should result in the insurance liability becoming more onerous and producing a profit emergence which is more consistent with policy design and company practice.

### **2.2.3 Practical application points**

Liabilities (and margins) should be reduced to take account of reinsurance arrangements in place. This means the net policyholder liability of an insurer allows the insurer to take full credit for any reinsurance arrangements in place.

Under FSV, there is a one-way allowance for the recognition of policy alterations which are at the discretion of the policyholder. Profits arising from the voluntary take up of policy options in future (e.g. future premium increases which are profitable to the insurance company) should not be recognised in the calculation of the policyholder liability, but future losses from such options should be recognised.

When valuing participating business where there is “a specified relationship between profits attributable to shareholders and the bonus rates declared for policyholders” (ASSA, 2012:8) (for example in a 90:10 participating fund where policyholders and shareholders benefit from any surplus distributions in the ratio 90% to 10%), the expected allocations to shareholders should be included in the policyholder liability. However, in circumstances where these shareholder allocations “could act as a buffer in adverse circumstances, it is not necessary to reserve for both the compulsory margins and such expected shareholder entitlements. It would be adequate to reserve for the higher of the two” (ASSA, 2012:8).

Still for participating contracts, where a policy of bonus smoothing is applied, liabilities should “be increased by any positive bonus stabilisation reserve” (ASSA, 2012:8) (i.e. the difference between the asset share and the policyholder liability including margins), or decreased by any negative

stabilisation reserve provided that it can be reasonably expected to recover this negative reserve through “under-distribution of bonuses during the ensuing three years” (ASSA, 2012:8).

Benefits guaranteed in nominal terms should be discounted using a nominal yield curve (or an equivalent flat interest rate for the duration of the liability) and benefits linked to inflation should be valued in real terms. Under both circumstances allowance should be made to the interest rate for the investment risk compulsory margin and for credit risk.

There is a requirement to perform unbundling for “contracts where a designated portion of the premium is allocated or deemed to be allocated to investment in an asset accumulation fund” (ASSA, 2012:8) (e.g. deposit administration, universal life or smoothed bonus). In such circumstances, the total reserve will consist of a fund reserve and a rand reserve. The fund reserve should be at least equal to the value of the accumulated fund (including bonuses which have not yet vested). The rand reserve should be derived using a discounted cashflow calculation allowing for mortality, morbidity, commissions, expenses, contractual charges for guarantees, management fees, expense charges, risk benefit premiums and all applicable compulsory margins.

Under reversionary bonus policies, the discount rate used should be consistent with bonuses that would be expected or supported under such an interest rate environment (i.e. high discount rate means high bonus projection). This applies both for vesting and non-vesting bonuses.

#### **2.2.4 Policyholder reasonable expectations**

Policyholder reasonable expectations under a contract depend on a plethora of factors, but can typically be ascribed to “type of product, the insurer’s historically established practices, the manner in which benefits are quoted and presented to policyholders and expectations created by marketing material” (ASSA, 2012:9).

The calculation of liabilities needs to take into account policyholder expectations “that in the Statutory Actuary’s opinion should influence the long-term insurer when deciding on future distributions of surplus” (ASSA, 2012:9).

SAP104 provides a guideline minimum level of policyholder expectations which all insurers should uphold, including:

- All contractual benefits under a policy should be paid, and all obligations met.
- All market-related policyholders (i.e. linked policyholders) should receive a benefit directly related to the investment performance of the asset portfolio chosen by the policyholder or described in marketing literature.
- Smoothed bonus policyholders should receive a benefit of smoothed investment performance of the asset portfolio chosen by the policyholder or described in marketing literature.
- With-profit and smoothed bonus policyholders should receive a fair share of the investment performance earned by their underlying asset portfolio over the medium term, as well as a fair share of other profits or losses as described in marketing literature.

An insurer can act to create or change policyholder expectations by making specific and clear announcements (e.g. history of bonus declaration under specific economic circumstances, future value illustrations given past and expected future economic circumstances). The Statutory Actuary needs to consider any change in expectations as a result of these and other announcements and therefore which expectations need to be considered for the purpose of valuating liabilities.

This section has outlined the definitions of the IFRS 4 and FSV approaches to insurer financial reporting and it is clear that the approaches are different in a number of respects (see Table 2 and Table 3 for summaries of these differences). These differences are sometimes cosmetic (i.e. different names for the same concept), but other times they are fundamental (i.e. based on different principles) and will therefore result in fundamentally different financial reporting results between the two approaches. The following sections identify and discuss these fundamental differences (and similarities) in the context of financial reporting principles before the impact of these differences is examined in Section 5.

### **3. Insurance Financial Reporting in Context**

The purpose of this dissertation is to identify and discuss the impact that the IFRS 4 measurement requirements will have on the published financial results of South African life insurers currently using the FSV basis. To understand why differences would arise in changing to the IFRS 4 measurement method, and what differences are expected to arise, it is important to contrast the FSV and IFRS 4 methods both theoretically and practically. Comparison of the methods from a theoretical standpoint will assist in identifying which method is more appropriate from a financial reporting principles perspective, and also draw attention to which scenarios should be modelled in the practical comparison to highlight and quantify the impact of these theoretical differences on a typical South African life insurance policy.

This section discusses various approaches to insurer financial reporting and lays the foundation for conclusions drawn on the appropriateness of the IFRS 4 measurement approach for insurer financial reporting. This is done by first identifying and discussing the types, purposes and features of financial reporting and then considering the users for which this financial reporting is most relevant. These analyses are then used in conjunction with the results of the quantitative comparisons performed in Section 4 and 5 to argue the appropriateness of the IFRS 4 measurement approach in Section 6.

#### ***3.1 Comparison of IFRS 4 with existing financial reporting methods***

The FSV basis was developed for a specific purpose: for use as a published profit-reporting basis for South African life insurers. Similarly, IFRS 4 was developed as a profit-reporting basis for insurers, but it takes this purpose further and aims to be a profit-reporting basis applicable to insurers around the world, making insurer financial results comparable between countries, jurisdictions and also entities which are not insurers.

In their paper examining the FSV basis, Kruger and Franken conclude that “there is no superior profit reporting method and each method has its strengths and weaknesses” (Kruger & Franken, 1997:1). Further, they stressed that discretion in profit reporting should always be matched with meaningful disclosure. Both of these statements continue to ring true to this day in the context of IFRS 4 where the IASB and more recently, the FASB, have spent almost twenty years attempting to converge on a “superior” profit reporting approach. Certainly, disclosures now form a much larger portion of

insurance company financials than they did when the FSV was developed. The focus of this dissertation is however measurement, and disclosure or recognition will not be discussed in detail.

### **3.1.1 Principles of the FSV approach**

Kruger and Franken (1997:3-4) outline a set of principles underlying the FSV profit reporting framework which can be used to contrast against IFRS 4 principles. Some of these principles do not apply to measurement and are therefore less relevant, but for completeness the entire set of principles is reproduced and then contrasted in Table 2.

The IFRS 4 framework therefore adheres to most of Kruger and Franken's principles. In particular, of the three principles which relate to measurement (principles 1, 2 and 3) the only principle not adhered to is that of profit realisation (or avoidance of loss on profitable contracts) at initial recognition of a contract. However, although the FSV basis allows the recognition of profit at inception, it does stress (in principle 3) that profit should be realised over the life of the policy in a manner which is appropriate given the risks and transfer of services under the policy. To this end discretionary margins under FSV can and should be used to defer excessive profits at inception and may result in a loss at inception.

The IFRS 4 basis however takes this optional deferment of profits at inception one step further and makes it consistent for all insurers by requiring the elimination of any profits at inception through the use of a CSM. In the context of the FSV approach, this could be considered as converting an existing discretionary margin into an additional compulsory margin. Removal of this element of discretion from the liability measurement methodology has the advantage that it eliminates the possibility of arbitrary basis or methodology changes and improves consistency of liability measurement between insurers. The IFRS 4 method still however has some discretion in the determination of the fulfilment cashflows and risk adjustment, to the extent that there is subjective judgment applied in determining best-estimate or other assumptions.

Table 2. Comparison of IFRS 4 Phase II approach with FSV approach

South Africa FSV Basis	IFRS 4 Phase II
1 Published financial statements should <b>fairly</b> represent the insurer's financial position.	<b>Agreement.</b> The objective of the measurement is to represent the notion of the insurer's "fulfilment of obligations under the contract" and is always current (i.e. marked to market or current best-estimate assumptions).
2 Insurance contracts that are confidently expected to be profitable should not give rise to an <b>initial loss</b> .	<b>Disagreement.</b> Contracts that are expected to be profitable should not give rise to a profit at inception, and can even result in a loss at initial recognition as only the direct costs incurred in selling an insurance contract should be included in the best-estimate liability. Indirect costs allocated to the acquisition of a portfolio of contract will thus give rise to new business strain.
3 Profits should be recognised <b>prudently over the term</b> of each contract to avoid premature recognition of profits that may give rise to losses in future years.	<b>Agreement.</b> Profits are recognised with the release of the risk and contractual service margins. The risk adjustment is released over the contract period as the insurer is released from risk under the contract. The CSM should be released fairly over the coverage period in which services are provided.
4 The financial position of the insurer should be described in terms which can be <b>explained</b> readily in the context of a <b>profit and loss</b> account.	<b>Agreement.</b> The financial position of the insurer is described in terms of components of the profit and loss statements, with a requirement to reconcile the movement in financial position over a period to the profit and loss over a period.
5 The method should comply with current legislation as well as with existing financial reporting and actuarial concepts and standards.	<b>Agreement.</b> IFRS 4 Phase II uses existing concepts for calculating best-estimate liabilities and introduces an internationally accepted principle of eliminating profit at inception.
6 Meaningful <b>disclosure</b> should be encouraged.	<b>Agreement.</b> A minimum level of disclosure and reconciliation is specified and required under IFRS 4. Additional bespoke disclosures, where necessary, are also required.

### 3.1.2 Comparisons of insurance financial reporting methods

In addition to the above identification of principles, Kruger and Franken (1997) compare different profit reporting methods from around the world. They do this by looking at certain features of a profit reporting framework and classifying each method in terms of these features. It is useful to use this framework to contextualise IFRS 4 in South Africa, by comparing it to the existing FSV basis, the Solvency Assessment and Management (SAM) basis (i.e. the proposed statutory valuation basis for insurers in South Africa likely to come into effect 1 January 2016) and the European Embedded Value approach as suggested by the CFO Forum and in use in South Africa for supplementary financial disclosures. The comparison of these different profit reporting methods is performed in Table 3.

*Table 3. Comparison of insurance financial reporting methods used in South Africa*

<b>Method</b>	<b>IFRS 4 Phase II</b>	<b>SA FSV</b>	<b>SAM</b>	<b>European Embedded value</b>
Profit recognised at sale	No	Dependent on discretionary margins	Yes	Yes
Allowance for acquisition expenses	Split between explicit and implicit	Implicit	Implicit	Implicit
Lock in of assumptions	No	No	No	No
Capitalisation of assumption changes	Once CSM has been reduced to zero	Yes	Yes	Yes
Profit carriers	Risk adjustment and CSM	Compulsory and discretionary margins	Risk margin	Nil
Timing of profit	Regulated zero at point of sale	Dependent on discretionary margins	Dependent on risk margin.	Upfront
Assumptions	Current best-estimate	Current best-estimate with planned margins	Current best - estimate	Current best - estimate
Discount rate	Net earned rate on matching assets	Net earned rate	Risk free rate	Risk discount rate
Disclosure of assumptions	Compulsory in detail	Largely voluntary	Compulsory in detail (to regulator)	Voluntary

The features which exhibit a notable difference between IFRS 4 and the other financial reporting methods, as identified in Table 3, are discussed in the following paragraphs.

#### Profit recognised at sale

Under IFRS 4, profit will no longer be recognised at inception of a contract. Instead all profit will be deferred over the life of the policy in a systematic manner through the use of the CSM. The other three methodologies commonly used in South Africa all allow profits to emerge at inception (by allowing a negative liability to be set up at inception) and adoption of the IFRS 4 approach will constitute a significant change in philosophy.

It is interesting to note that at the time that the FSV basis was being finalised and discussed, it was identified that one of the shortcomings of the basis was that it was unlikely to be accepted internationally as it does allow for profits at contract inception (Waugh, 1998). It was also identified that not allowing profits at inception would cause a strain on company funds (Waugh, 1998), which might be a concern for insurance companies currently as they look to adopt IFRS 4 in the near future. IFRS 4 will therefore increase the international acceptance and comparison of published

financial statements for South African insurers, but may result in a strain or hampering of company solvency and profits, at least when the standard is applied initially.

#### Allowance for acquisition expenses

Under IFRS 4, acquisition expenses are split into two types and considered separately. Direct acquisition expenses (i.e. expenses directly attributable on a rational and consistent basis to individual portfolios of insurance contracts, e.g. commission) are allowed for explicitly in the fulfilment cashflows, which is consistent with the treatment of acquisition expenses under existing methodologies. Indirect acquisition costs (i.e. expenses which are not directly attributable to individual portfolios of insurance costs, e.g. head office rental expense) are not allowed for in the fulfilment cashflows calculation, which means that not all acquisition expenses incurred in selling a policy are allowed for explicitly in the fulfilment cashflows. These indirect acquisition expenses under IFRS 4 will directly result in a loss in the profit and loss statement. The FSV, SAM and EV bases all allow for the full amount of acquisition expenses explicitly by including the full acquisition expenses amount in the projection of cashflows to determine the value of the insurance liability at inception. This means that under FSV, SAM and EV bases, any indirect acquisition expenses which are incurred are allowed for by a release of the insurance liability at the time the expense is incurred and therefore do not result in a loss (as for IFRS 4).

#### Capitalisation of assumption changes

Under IFRS 4, the CSM is set up in order to eliminate any profits at inception and it can subsequently be used to absorb the impact of adverse assumption changes. Even though IFRS 4 uses current best-estimate assumptions to determine the insurance contract liability at each point, any adverse changes in the future cashflows assumptions are first absorbed by the CSM. Only once the CSM has been reduced to zero will such adverse changes impact the statement of profit and loss (positive changes will however increase the CSM without limit). Therefore, under IFRS 4 changes in assumptions are only capitalised once the CSM has been depleted. Under FSV, SAM and EV approaches all changes in assumptions are fully capitalised immediately, and in the case of FSV, an additional margin is also set up immediately which increases the impact of that capitalisation. This absorption of assumption changes by the CSM is likely to result in a dampening of profit volatility due to once-off changes and result in a more predictable pattern of profits over time.

### Profit carriers

The FSV basis uses a range of compulsory and optional discretionary margins to defer profits over the life of a policy. The margins can be applied to any of the assumption or cashflow vectors (e.g. payments on death, payments on surrender, or interest income). In comparison, IFRS 4 uses the risk adjustment and the CSM for the purpose of profit deferral. Should a contract be onerous at inception, then only the risk adjustment will serve to defer and carry profits over the life of the policy (since the value of the CSM in this situation is zero). This difference in profit carriers between FSV and IFRS 4 is likely to result in a difference between profit profiles of the two methods over time.

### Assumptions and discount rate

The assumptions used for all the methods are broadly in line. Cashflows are generally current, best-estimate (even for the FSV approach, where explicit margins are added, the base cashflows are best-estimate). The different approaches make use of different discount rates; however they are all market-related and required to be kept in line with current market rates. For the FSV and IFRS 4 approaches, the rates should be similar or even equal where the assets held to back the insurance liability are matched, since the rates should be consistent both with market rates and with the characteristics of the liabilities in terms of currency, timing and liquidity.

## ***3.2 Purpose of financial reporting and financial statements***

The IASB identifies the provision of “information that is useful in making economic decisions” (IASB, 2010:A18) as the primary purpose for which financial statements are prepared. In order to understand this purpose more clearly it is however important to understand the context and the audience for whom this purpose is intended. The rest of this section explores this purpose in more detail by examining the users for whom the financial reporting should be useful, the types of economic decisions that are made on the basis of financial reporting and what constitutes useful information to these users in making economic decisions.

### **3.2.1 Users of financial statements**

The IASB identifies parties to whom financial reporting should be useful. These parties include creditors, lenders and existing and potential investors who need to decide whether or not to provide

resources to the entity (IASB, 2010). Particularly important are those creditors, lenders and investors who are too small to request additional information directly from an entity and therefore rely on published financial statements for any additional information they require.

In the context of an insurance company this list of users includes not only investors, lenders and creditors as would apply to any company (including non-financial institutions), but also includes clients or policyholders who are investing money with the insurance company. Although it is unlikely that all individual policyholders will examine insurance company financial reporting in detail when considering their decision to enter into a contract with the insurer, a number of policyholders will (especially in the case of groups of policyholders, e.g. employers or pension funds). When compared to using financial information of non-financial companies, the task of interpreting insurer financial statements for these various users is more challenging due to the complex nature of long-term insurance.

In addition to the primary users of financial statements identified above (investors, lenders and creditors), De Mey (2009) and Stein (1987) identify more comprehensive lists of stakeholders to whom insurance financial reporting and valuations are relevant. These stakeholders include:

- Insurance supervisors or regulators
- Tax authorities
- Company management
- Employees
- Distributors and sales channel operators
- Clients and potential clients (policyholders)
- Reinsurers
- Potential acquirers
- General public
- Media

The above stakeholders can be interested in the financial performance of insurers and hence will in some way be users of insurer financial statements. However, these stakeholders may also have access to or rely on other sources of information which means that published financial statements may be of less relevance to them (when compared to investors or creditors who may not have access to this additional information).

For example, insurance supervisors and tax authorities have solvency and tax submission requirements which insurers are expected to submit on a regular basis. This means that insurance supervisors and tax authorities can rely on these submissions (which are usually specifically designed by the relevant authorities to cater for their exact needs) to fulfil their information requirements, reducing the importance of published financial statements to these parties.

Company management, employees, distributors and reinsurers will have access to a range of internal company management accounts, memos and information. Particularly for management, this information can be significantly more comprehensive than published financial statements and will allow therefore allow management to make better and more informed decisions in the running of the insurance company.

Potential acquirers (in the context of merger or acquisition) will typically be granted access to detailed reports of company financial and other confidential information. The acquirers would use this information to supplement the information from the published financial statements to determine their buy or sell decision for the insurer. Potential acquirers here are considered separately from regular investors as regular investors would typically purchase a very small portion of the insurer on a listed exchange and not be afforded an opportunity to examine additional information in making their decision. These regular investors, without access to additional information, would be more important users of published financial statements than potential acquirers.

The general public and the media are examples of a separate type of stakeholder. They do not necessarily use published financial statements of insurers for economic decisions, but they may use them to ensure that insurers are behaving as efficient and responsible corporate citizens (De Mey, 2009). The media in particular acts as a disseminator of information to other users (i.e. investors and creditors). There is a risk of media sources amplifying exceptional results by focussing on specific aspects of financial reporting without providing a complete explanation of these exceptional results, leading to less efficient decisions made by the ultimate users of the financial information who place too much emphasis on these amplified results (De Mey, 2009).

### **3.2.2 Economic decisions**

In the Conceptual Framework the IASB states that the primary economic decision that the majority of financial statement users (i.e. investors, lenders and creditors) are concerned with is “buying,

selling or holding equity or debt instruments” (IASB, 2010:A21). This simple economic decision of buying, selling or holding an investment can be analysed in more detail by considering the factors which would influence the decision to buy or to sell.

The main factor which impacts the buying or selling decision is the return which the users expect to receive from their investment (IASB, 2010). Users estimate an expected return on investment by forming an expectation of the “amount, timing and uncertainty of future net cash inflows of the entity” (IASB, 2010:A21). In turn, the expectation of these future net cashflows is dependent on the expectation of the “resources of the entity, claims against the entity, and how efficiently and effectively the entity’s management and governing board have discharged their responsibilities to use the entity’s resources” (IASB, 2010:A21).

For the users of insurer financial statements that are investors or potential investors, the most relevant expectation will be that of future dividends paid and future company share price performance. The dividends and share price performance will in part determined by the changes in the insurer policyholder liability, as measured according to the prescribed published valuation methodology. This is why the impact of the change in insurance liability measurement from FSV to IFRS 4 is very relevant to users of insurer financial statements.

The economic decision of buying, selling or holding an investment, as identified by the IASB, is sufficiently broad to include most economic decisions which are relevant to users of financial statements. Gold (1962) expands the scope of these economic decisions identified by the IASB by considering additional users of the financial statements of insurers, particularly by considering policyholders and reinsurers.

Policyholders are more interested in the return on their particular policy or investment than on the return on the insurance company as a whole. However, to the extent that the performance and solvency of the insurance company impacts the performance of the investments belonging to the policyholders, policyholders will make use of insurer financial statements in making their investment decisions (particularly large volume or group representative policyholders).

Reinsurance plays an important role in the functioning of the insurance industry; however reinsurers do not typically make extensive use of published financial statements of insurers. Instead, reinsurers (like substantial investors, management and possibly substantial debtholders) make use of additional internal company information to which they have access. Reinsurers are also not

necessarily interested in returns on the insurance company itself, but rather on the specific tranches of policies to which they are exposed.

### **3.2.3 Usefulness of financial statements**

Practically, published financial statements cannot be designed to provide all possible useful information to all possible users of the financial statements. Doing so would make financial statements exceptionally onerous to prepare and cumbersome to use as different users have potentially conflicting information needs. To avoid this, the focus of the IASB in creating financial reporting standards is not to meet the needs of all users, but rather to meet the needs of the most users possible whilst remaining practically possible to do so. This means that a significant amount of information which is common to the needs of all users should be included, and only some information which is particular to a subset of users should be included (IASB, 2010).

Financial statements cannot and, according to IASB principles, will not provide financial statement users with all possible information which is needed to make economic decisions (IASB, 2010). In addition to financial statements, users should also consult external sources for external environment information relating to the reporting entity. For example, financial statements do not include information regarding the economic environment, the political climate or the industry outlook and this information should be obtained by users from external sources.

The IASB defines the use of financial statements as helping existing and potential future users of financial statements to “estimate the value of the reporting entity” (IASB, 2010:A22). The focus of financial statements is therefore to provide information which allows users to obtain an estimate of value, but not to provide a definitive, singular estimate of value (IASB, 2010). This concept means that information in financial statements is not stand-alone and absolute. Rather, information from financial statements should add to information users currently possess, and should serve to improve the users’ estimate of value based on the users’ specific circumstances and requirements (e.g. taking into account specific views regarding economic variable projection and attitudes to risk).

### ***3.3 Features of useful financial information***

As discussed previously, the purpose of financial information and financial statements is to be useful to users of the financial statements in making economic decisions. Information is useful to users if it

is both *relevant* and *faithfully representative* of the economic phenomena it is meant to represent (IASB, 2010). Further to these two fundamental qualitative characteristics, the financial information can become more useful to users if it is also *comparable*, *verifiable*, *timely* and *understandable* (IASB, 2010). This section explores the fundamental qualitative characteristics of useful financial information and briefly discusses them in the context of insurer financial reporting and the overarching cost constraint of financial reporting. Unless otherwise stated, the information in Section 3.3 is based on the content of the Conceptual Framework (IASB, 2010).

### **3.3.1 Relevance**

Relevance is the first fundamental qualitative characteristic and it requires financial information to be “capable of making a difference in the decisions made by users” (IASB, 2010:A27). Information can still be relevant if “users choose not to take advantage of it or are already aware of it from other sources” (IASB, 2010:A27). Financial information is considered as having relevance if it has “predictive value, confirmatory value or both” (IASB, 2010:A27).

Predictive value is the ability of information to be “used as an input to processes employed by users to predict future outcomes” (IASB, 2010:A28). Confirmatory value is the ability of information to provide “feedback about previous evaluations (IASB, 2010:A28), whether that feedback confirms or shows the flaws of the previous prediction (IASB, 2010). Financial information often has both predictive value (for making forecasts into future periods) and confirmatory value (to check forecasts that were made in prior periods).

Related to relevance is the concept of materiality, and the need for all materially relevant financial information to be considered when making decisions. Information is *material* if “omitting it or misstating it could influence decisions that users make on the basis of financial information about a specific reporting entity” (IASB, 2010:A28).

### **3.3.2 Faithful representation**

Faithful representation is the second fundamental qualitative characteristic and it requires financial information to “faithfully represent the phenomena that it purports to represent” (IASB, 2010:A28). For financial information to form a faithful representation, it further needs to be “complete, neutral and free from error” (IASB, 2010:A28). Although it is unlikely that any financial information will ever

attain each of these characteristics perfectly, the goal of financial reporting should be to meet these objectives as far as possible.

Financial information is considered to be *complete* if it includes all descriptions, explanation and information necessary to understand a phenomenon being depicted. De Mey (2009) also refers to this requirement as a requirement for information to be comprehensive. Complete or comprehensive information includes relevant facts about the nature and quality of the item as well as the process used to determine the quantified figure. For the representation of information regarding insurance liabilities, sufficient disclosures need to be made to explain the method and assumptions used to quantify the insurance liabilities.

A *neutral* statement of financial information contains information which is selected and presented without bias. Neutrality therefore requires that financial information is not “slanted, weighted, emphasised, de-emphasised or otherwise manipulated to increase the probability that financial information will be received favourably or unfavourably by users” (IASB, 2010:A28).

The *free from error* requirement of financial information means that there should be “no errors or omissions in the description of the phenomenon” (IASB, 2010:29) to which the financial information relates. This does not mean that financial information needs to be accurate in all respects. In some cases it is not possible to determine an incontestably accurate value (for example, if a market price is unobservable), however it is still possible to faithfully represent the estimate by describing the nature and limitations of the estimate as well as ensuring that an appropriate method was used to develop the estimate. In the case of measurement of insurance liabilities (which are unobservable) it is important that the method and process applied to determine estimates of insurance liabilities are appropriate for their purpose.

### **3.3.3 Supporting characteristics**

The fundamental qualitative characteristics of relevance and faithful representation are needed for financial information to be useful to users. If one or both of the characteristics are not present then the information is not regarded as useful and an alternative estimate should be sought. The two fundamental characteristics are not however the only relevant characteristics. Financial information can be considered to be more useful to users if it also meets the four supporting criteria of being *comparable, verifiable, timely* and *understandable*. Where financial information does not meet the supporting criteria it should be investigated whether alternative sources or estimates could not

better meet the fundamental and supporting characteristics in order to provide more useful information to users. This search for more appropriate information is an iterative process and any changes to financial information provided should be accompanied by appropriate disclosures to compensate for reduced comparability.

### Comparable

The decision to buy, hold or sell an investment is typically made taking into account choices for alternative investments. Financial information is therefore “more useful if it can be compared with similar information about other entities and with similar information about the same entity for another period” (IASB, 2010:A30). The comparability characteristic does not relate to a single item, but requires at least two items to be compared. The comparability characteristic allows users to identify similarities in comparable items as well as differences amongst them.

It is important to distinguish comparability from consistency and uniformity. Consistency is the use of the same methods for the same estimates across periods for an entity or within periods across entities. Consistency helps to achieve comparability, but it does not mean that comparability is achieved. Uniformity is the same presentation of results, and when applied blindly can force dissimilar phenomena to appear similar. This forced uniformity does not enhance the comparability or usefulness of information and should be avoided.

The comparability supporting characteristic is such that in a situation where an “economic phenomenon can be faithfully represented in multiple ways, permitting alternative accounting methods for the same economic phenomenon diminishes comparability” (IASB, 2010:A30).

### Verifiable

Verifiability of financial information assists in assuring users that information is faithfully representative of an economic phenomenon. For information to be verifiable, “different knowledgeable and independent observers [should be able to] reach consensus although not necessarily complete agreement, that a particular depiction is a faithful representation” (IASB, 2010:A30).

Verifiability of information applies both to point estimates and ranges of estimates. Verification of information can and should take place both directly (e.g. by directly observing an amount of cash) or

indirectly (e.g. verifying inputs for a model or formula). In valuing insurance liabilities, indirect verification is an important part of enhancing the usefulness of the information as the value of insurance liabilities is heavily dependent on the model inputs and assumptions.

### Timely

For information to be useful, it needs to be made available to users “in time to be capable of influencing their decisions” (IASB, 2010:A31). In general, this means that the older information is, the less useful it is (except perhaps in the context of analysing trends). De Mey (2009) notes that timeliness of information relates not only to the delay between the occurrence of the phenomenon and the information date, but also to the frequency with which an entity provides new information, especially in times of market volatility.

### Understandable

Understandable financial information is information which has been characterised, classified and presented in a clear and concise manner. Some economic phenomena are inherently complex and difficult to understand (e.g. insurance liabilities); however financial statements should not exclude such complex and difficult information on the basis of becoming more understandable (excluding such information would result in incomplete financial information which would compromise the fundamental characteristic of faithful representation). The intended users of financial statements are expected to have a “reasonable knowledge of business and economic activities” (IASB, 2010:A31) and to be able to seek advice in understanding information on complex topics.

#### **3.3.4 Cost constraint**

Financial reporting incurs costs and it is important that these “costs are justified by the benefits of reporting that information” (IASB, 2010:A31). Costs are incurred both by providers of financial information (in order to collect, process, verify and disseminate financial information) and users of financial information (in order to analyse and interpret information). The costs to providers of financial information are however ultimately borne by users of financial information in the form of reduced returns on their investment.

The benefit of financial information that is relevant and faithfully represented is that users of the information can make more effective and confident economic decisions, resulting in capital markets

which are more efficient and which have a lower cost of capital. When comparing the costs of financial reporting against the benefits, both quantitative and qualitative factors should be considered from all providers, users and other stakeholders in financial reporting

### ***3.4 Rules versus principles in financial reporting***

There is ongoing debate as to whether rules-based or principles-based approaches are more appropriate for a financial reporting standard, but broad consensus recommends principles-based approaches as being more appropriate. Nelson (2003) identifies rules-based approaches as those which include “specific criteria, ‘bright line’ thresholds, examples, scope restrictions, exceptions, subsequent precedents and implementation guidance” (Nelson, 2003:1). On the other hand, principles-based approaches focus on “fundamental understandings that inform transactions and economic events” (Carmona & Trombetta, 2008:456). This section explores arguments for and against rules- and principles-based approaches and discusses important financial reporting principles that appear in published academic literature and regulatory regimes.

#### **3.4.1 Principles- and rules- based approaches**

The distinction between principles-based and rules-based approaches to financial reporting is not absolute and a single financial reporting framework is likely to have elements of both approaches. Therefore, a rules-based approach will contain elements of both rules- and principles-based approaches, but will have relatively more rules-based elements. Schipper (2003) takes this even further in saying that detailed implementation guidance can make a principles-based standard appear rules-based (whilst remaining principles-based at its core).

There are arguments in favour of each of rules- and principles- based approaches, however overall there appears to be a view that principles-based approaches to regulating financial reporting are better, providing more relevant financial information with a decreased risk of earnings management (Carmona & Trombetta, 2008; Barth, Landsman & Lang, 2008). This position was also adopted by the Securities and Exchange Commission Advisory Committee on Improvements to Financial Reporting (2008) in outlining their vision of the future of financial reporting standards.

There are several arguments which favour rules-based approaches: firstly, rules-based approaches with detailed implementation guidance can result in increased comparability (Schipper, 2003). However, this comparability needs to be carefully considered as unnecessarily strict rules can mean

that dissimilar phenomena are treated the same way, resulting in unintended uniformity and inappropriate treatment of inherently different phenomena (Trombetta, 2001; Barth, 2008; IASB, 2010). Secondly, rules can result in increased verifiability or consensus for measurements. This is a result of detailed guidance reducing the number of potential inputs and measurement methodologies possible. Thirdly, detailed rules reduce the risk of litigation over the use of inappropriate financial reporting techniques, reducing the costs and efforts involved in such contentious disputes (Schipper, 2003). Fourthly, rules-based approaches have the advantage that they can be made specific enough to provide treatment exceptions (i.e. rules) which would serve to achieve a specific financial reporting goal or reduce the volatility of income (Schipper, 2003). Lastly, detailed guidance reduces the ability of management to exercise opportunistic discretion in financial reporting. However, this reduction in opportunistic discretion is heavily offset by the increase in transaction structuring, which may be used by management to circumvent detailed guidance in order to manage earnings and other figures in financial reports (Nelson, Elliot & Tarpley, 2002; Breeden, 1994; FASB, 2002). This suggests that regardless of whether a rules- or principles- based approach is taken, management will attempt to influence the figures reported in financial statements if sufficiently motivated.

On the other hand, there are also several arguments which favour principles-based approaches: Barth (2009) argues that sound principles are more difficult to circumvent than rules and therefore principles-based approaches are no less rigorous. Schipper (2003) also makes a number of arguments for principles-based approaches. Principles-based financial reporting standards are less complex to create, maintain and communicate, making them more efficient methods of regulation. To this effect, principles-based approaches require financial reporting to be a specialised function, not a compliance check-box, which results in a higher quality of financial reporting. Carmona & Trombetta (2008) go so far as saying that principles-based financial reporting acts as a more effective fraud deterrent. An increased level of professional judgement is required for principles-based financial reporting, which increases the responsibility placed on preparers and auditors of financial statements to ensure that financial reporting accurately reflects underlying economic phenomena. Some arguments against principles-based approaches cite lowered comparability with past financial reporting figures as a weakness. This reduced comparability is however only temporary and in the long run cannot be counted as an argument against the use of principles-based approaches in an objective comparison. Kohlbeck & Wafield (2010) argue that financial reporting standards founded on clearly stated objectives and principles are also more responsive to investor and user needs, increasing the usefulness of financial reporting.

It is generally acknowledged that financial reporting standards tend to become more rules-based over time (Schipper, 2003). This trend occurs as industry, regulators and other stakeholders pressure standard-setting authorities to include scope exceptions and guidance in financial reporting standards. This can mean that a standard which started out as principles-based became more rules-based over time. Financial standards published by the IASB are generally found to be principles-based (when compared to existing global GAAP requirements – such as the FSV method) (Barth, 2008; Kohlbeck & Warfield, 2010; Jackling, Howeison & Natoli, 2012). It is unclear whether this is purely the result of the philosophy taken by the IASB, or whether it is that the standards issued by the IASB tend to be newer than existing GAAP, and hence have had less time to ‘tend’ to rule-based approaches. The global audience of the IASB is however a reason to keep standards principles-based since any scope exceptions or guidance can impact different jurisdictions differently and can result in unintended consequences if not analysed thoroughly.

In summary, current market consensus favours the principles-based approach due to the more wide-spread comparability and applicability; and the increased responsibility required by the preparers and the simpler creation, maintenance and communication of financial statements. These benefits of a principles-based approach are seen to outweigh the benefits of a rules-based approach which can sometimes result in unintended uniformity of dissimilar economic phenomena and allow management to perform transaction structuring to reduce relevance of financial information. In concluding on the usefulness or appropriateness of financial reporting measurement approaches in this dissertation, principles will therefore be viewed as more appropriate than rules. Further, based on this examination of rules- and principles-based approaches, it is expected that IFRS 4 is a more principles-based approach compared to FSV approach. This is because IFRS 4 is intended to suit a global audience (which requires less specific detailed implementation guidance), it is new (and hence has had no time to ‘accumulate’ rules, such as an explicitly prescribed minimum level of prudence, e.g. compulsory margins).

### **3.4.2 Common principles of financial reporting**

In addition to examining the purpose and principles of financial reporting from the perspective of standard setting bodies (IASB and FASB), it is useful to consider other sources of such information. This section briefly examines proposed principles for financial reporting as identified by Wilkie (1991) based on a directive of the European community and as identified by Barth (2008) based on the trends of global financial reporting.

## Principles in European Union Life Assurance Directive

The European Union has developed a set of directives which apply to life insurance. These directives outline how life insurance liabilities should be determined in the European Union and also several principles which should be applied in the determination of these liabilities. Although these principles were published over twenty years ago, it is useful to consider them in order to contextualise and contrast the IFRS 4 and FSV approaches. Some of the principles from the Third Life Assurance Directive issued by the European Communities are discussed in Wilkie (1991) and explored briefly here.

The principles relevant to measurement are outlined in section (1) of Article 17 of the Third Life Assurance Directive of the European Communities (LAD). The relevant principles are labelled (a) to (f) with principle (a) sub-divided into six components.

Principle (a) and its six components outline principles on how to measure the insurance liability:

- Firstly, this principle requires the liability to be determined using an appropriately prudent estimate of all future cashflows, explicitly including options available to the policyholder. Note that there is no specific mention to exclude profitable policyholder options from the measurement of the liability, as is the case with the FSV approach.
- Secondly, a retrospective approach is allowed for the determination of liabilities, but it must be shown that the retrospective method is sufficiently prudent as well.
- Thirdly, for a valuation to be appropriately prudent, best-estimate estimates values should be adjusted for the possibility of future adverse deviations through the use of appropriate margins.
- Fourthly, valuation of liabilities should take into consideration the method used to value the assets that correspond to the liabilities.
- Fifthly, liabilities should be valued separately for each contract (although they can be generalised where approximations give a similar answer), but additional reserves for general risks should also be established where relevant. Sixthly, the liability for a policy with a surrender value should be as least as great as its surrender value.
- This sixth component does not feature in either FSV or IFRS 4 approaches as it is primarily a solvency consideration required by an insurance regulator, rather than a published financial reporting consideration required by users of financial statements.

Principle (b) requires the interest rate that is used in the determination of insurance liabilities to be prudent taking into account currency, yields on assets and expected future yields. Principles (c) to (e) relate to setting of the expense basis and treatment of with-profits policies, all of which should be allowed for prudently and completely considering future expectations. Principle (f) is the final principle and of particular interest: it requires that the method of calculating insurance liabilities should “recognise profit in an appropriate way over the duration of each policy” in such a way that the profits recognised are “not subject to discontinuities arising from arbitrary changes to the method or the bases of calculation” (Wilkie, 1991:240). In respect of Principle (f) we would expect IFRS 4, with the CSM which serves to dampen the impact of assumption and method changes, to be more appropriate than the FSV approach.

### Global financial reporting

Barth (2008) discusses a number of principles underlying global financial reporting and current best-practice trends and interpretations. Her discussion of nine common misunderstandings of global financial reporting methods provides a useful check against the features and principles of IFRS 4 and FSV.

Note that Barth (2008) was published before the release of the 2010 exposure draft of the Conceptual Framework (IASB, 2010) and is therefore based on a conceptual framework from 2001 (IASB, 2001). Although the underlying fundamentals have not changed significantly, some of the terminology has changed which can result in different interpretations. The main difference in terminology in the 2010 exposure draft is the introduction of faithful representation as the fundamental qualitative characteristic, replacing the previous characteristic of reliability. Together with this change in terminology in the 2010 exposure draft, the supporting characteristic of prudence was removed from the framework, and replaced by neutrality; these concepts are discussed in point 3 below. The following points are as discussed in Barth (2008) which means they consider a conceptual framework in pre-2010 terminology and concepts. The two conceptual frameworks will be considered together in making conclusions on the appropriateness of FSV and IFRS 4 approaches.

- 1) Financial reporting standards do not require ‘matching’ as a principle, but rather, they note that matching is an outcome of reporting on matched economic positions. This misunderstanding mostly relates to the recognition component of financial reporting and is most relevant in realising deferred incomes and expenses. This is not discussed further

as the focus of this dissertation is on measurement methodology and not disclosure or presentation.

- 2) Re-measurement of financial statement amounts is pervasive throughout financial reporting requirements and the only items that may be recorded at historical cost are cash and land in the transaction currency. This suggests that insurance liabilities should be revalued regularly, as is required both in terms of IFRS 4 and FSV measurement approaches.
- 3) The quality of conservatism is not required by financial reporting frameworks as a fundamental qualitative characteristic. The requirement is for financial information to be unbiased in order to be both reliable and neutral. Prudence, which is an “inclusion of a degree of caution in the exercise of the judgements needed in making the estimates required under conditions of uncertainty” (IASB, 2001:4), is required but it should not be confused with conservatism (the concepts of prudence and reliability are features of the IASB Conceptual Framework in 2001). The approach that the IFRS 4 and FSV approaches take towards allowing for uncertainty in the best-estimate liability (i.e. risk margin and CSM versus compulsory and discretionary margins) may be different in terms of conservatism and prudence and this should be considered in the comparison of the two approaches.
- 4) Reliability is not verifiability or precision. Reliable information is “complete, neutral and free from error” (IASB, 2010:A41) and can be depended on to faithfully represent information. Reliability therefore results in faithful representation, but precision does not necessarily result in faithful representation. Verifiability is a supporting or enhancing characteristic, but also not required for faithful representation.
- 5) The income statement has not become less important in financial reporting globally. The basis of the Conceptual Framework on the definition of assets and liabilities, and the definition of income and expenses in terms of assets and liabilities, is an operational way constructing the Conceptual Framework. It is not intended to steer focus away from income and expenses. This is not discussed further as it relates specifically to the construction of the Conceptual Framework and not to IFRS 4.
- 6) Financial reporting standards are not aimed at users who can demand information from the entity to make their decisions. Financial statements are intended for outside parties who do not have access other information in making their economic decisions (this point was discussed in more detail in a previous section).
- 7) It is not necessarily the case that principles-based standards are less rigorous than rules-based standards (this point was discussed in more detail in a previous section).

- 8) It is not necessarily the case that rules-based standards result in improved comparability of financial results (this point was discussed in more detail in a previous section).

The definition of conservatism and the difference between conservatism, prudence and neutrality as discussed in point 3 above is particularly relevant to the comparison of IFRS 4 and FSV approaches. The FSV approach is defined as a prudently realistic approach (Kruger & Franken, 1997), whilst the IFRS 4 approach only refers to best-estimate assumptions (with separate risk adjustment and CSM components, which themselves use best-estimate assumptions). The move from FSV to IFRS 4 therefore appears to be a move from prudence to neutrality of estimates and is likely to agree with the current Conceptual Framework which no longer requires prudence of estimates. Note that although IFRS 4 requires neutral estimates, overall it may be a more conservative method than the FSV method as the CSM under IFRS 4 is likely to result in higher liabilities under IFRS 4 than under FSV.

## 4. Method

A spreadsheet cashflow projection model was created to project insurance contract liabilities and profits for both the FSV and IFRS 4 approaches. The model's purpose is to illustrate key quantitative and theoretical differences between the results of the two approaches for specific South African products and scenarios. Scenarios and sensitivities were chosen to highlight key differences between the two approaches and to estimate the potential impact of these differences under different scenarios. Due to the complexity of insurance products and insurance companies, not all features and possible discrepancies were investigated and, in some cases, reasonable simplifications were made in order to produce results which are applicable in general, rather than to a very specific situation.

This section is broken down into four sub-sections. Section 4.1 outlines the high-level assumptions underlying the illustrative policies considered in the base scenario. Detail regarding the assumptions and approaches used in the scenario and sensitivities is then provided in Section 4.2. Sections 4.3 and 4.4 finally provide more detailed application guidance for the base and scenario results for FSV and IFRS 4 approaches respectively.

### ***4.1 Assumptions and simplifications***

Only simple, illustrative life insurance policies were examined in this investigation. The focus of the investigation was a non-profit term insurance policy for which a variety of scenarios and sensitivities were explored. The investigation also looked at non-profit endowment and whole of life policies briefly. No linked products or products with discretionary participation features were examined.

The best-estimate cashflows for both the FSV and IFRS 4 approaches were assumed to be the same in terms of the types of cashflows considered, their timing and their magnitude. The cashflows considered were premiums, expenses, commission, surrender benefits and maturity benefits, all affected by interest rates. Under IFRS 4, initial expenses were split into direct and indirect initial expenses and treated separately. For simplicity it was assumed that all renewal expenses were direct for the calculation of the best-estimate liability under IFRS 4.

All cashflows were assumed to occur annually. Premiums, expenses and commission were assumed to occur at the start of each year whilst deaths, lapses and maturities were assumed to happen at the end of each year. Deaths were assumed to occur first at the end of the year, and lapse rates

were applied to the policies in force after the death decrement. Maturities were then considered to be policies which had reached the end of their policy term and had not died or lapsed (i.e. after considering all decrements for that period). The actual level of cashflows assumed in each of the projections, as well as all other assumptions used in the projection can be viewed in Appendix B.

For term and whole of life policies it was assumed that no surrender values are offered to policyholders. Commission is only assumed to be applicable at inception of the policy (no trail commission) and renewal expenses are assumed to be a fixed amount per annum (increasing with inflation) over the duration of the policy. Endowment policies were assumed to offer a surrender benefit which pays out the sum assured in proportion with the proportion of total premiums received under the policy.

A term structure of interest rates was used for discount rate, investment return and inflation assumptions. The discount rate and investment return assumptions were assumed to be equal to each other and to the nominal forward swap curves provided by the FSB for the Second South African Quantitative Impact Study (QIS2), relevant at 31 December 2011. The swap curve allows for an element of credit risk which is arguably not necessary in the context of non-profit term and endowment products (these products are typically backed with government bonds). Due to the small impact of this credit risk component it was assumed that the swap curve provided an appropriate discount rate to use in terms of both the IFRS 4 and FSV approaches.

Inflation was assumed to be the difference between the real and nominal forward swap rates as per QIS2, plus an explicit 1% margin to accept that company expense growth is likely to be higher than implied inflation from the swap rates (a 1% margin is not unusual in the South African market). Since the difference between nominal and real yield curves reflects both an unbiased expectation of future inflation and an inflation risk premium component, it could be argued that the inflation risk premium component is a sufficient margin to allow for higher company expense growth. The impact of this is however considered to be immaterial to the analyses conducted and it is not considered further.

Actual experience was assumed to be consistent with best-estimate assumptions for all scenarios. This means that for the FSV approach profits for each year are the release of compulsory and discretionary margins in the period, whilst for IFRS 4 profits are the releases of CSM and risk adjustment for the period.

In all scenarios, tax is ignored and no investigation was conducted into the impact of tax on the results.

## **4.2 Scenario-specific issues**

This section outlines the scenarios examined in the comparison of FSV and IFRS 4 approaches. The scenarios were chosen because they were expected to provide meaningful differences between the FSV and IFRS 4 approaches, based on the discussions of the two approaches in Sections 2 and 3.

### **4.2.1 Inherent profitability**

Scenarios examining the impact of different levels of inherent profitability on a policy alter the level annual premium received over the life of a policy only. All other assumptions remain unchanged from the base scenario.

### **4.2.2 Premium and sum assured escalation**

Scenarios examining the impact of premium and sum assured escalations are considered. Both scenarios with compulsory and voluntary escalations are considered. For the compulsory escalation scenario the escalation is included in the cashflows used to determine the policy liability at inception for both the FSV and IFRS 4 approaches. For the voluntary escalation scenario the escalation is included in the cashflows used to determine the policy liability at inception for the IFRS 4 approach only. For the FSV approach the voluntary escalation is only included in the cashflows used to determine the policy liability from the date when the option is taken up by the policyholder (this scenario only examines the impact of a policy option which is profitable from the perspective of the insurer). The take-up of the voluntary escalation is assumed to be 100% to bring out the difference between the IFRS 4 and FSV approaches in respect of differences in the treatment escalations.

### **4.2.3 Assumption change scenarios**

In the assumption change scenarios, a single assumption change at the end of the fifth policy year is considered. All experience prior to the assumption change and subsequent to the assumption change is assumed to occur as expected. All other assumptions are assumed to remain unchanged for the duration of the contract under consideration.

#### **4.2.4 Other policy types**

Endowment and whole of life policies are briefly considered in addition to the base term insurance policy. The endowment policy has a maturity value equal to death benefit (which is the same death benefit as in the base term insurance scenario). The whole of life policy also has a death benefit equal to that in the term insurance policy and assumes a maximum age of 104, as per the underlying SA85-90 mortality tables. Both the endowment and whole of life policies have all other assumptions equal to the base term insurance policy, except for the annual premium which is set to assume a reasonable level of profitability (approximately 10%).

#### **4.3 FSV-specific issues**

The base FSV scenario includes all compulsory margins but makes no use of discretionary margins in its calculation.

The FSV liability which is projected into the future is rebased at each future year. This means that for each projected liability it is assumed that best-estimate experience occurs up to the liability calculation date, but any subsequent cashflows include margins. The result of this is that each projected liability is held for a number of policies which is projected to be in force at the calculation date according to best-estimate assumptions.

The magnitude of compulsory margins is as per the Actuarial Society of South Africa Standard of Actuarial Practice 104 (SAP104). In scenarios where discretionary margins are considered (i.e. zeroisation of negative liabilities and additional mortality margins), no changes to compulsory margins or any other assumption are made. Zeroisation of negative liabilities, a fairly common method of reducing an insurer's statutory capital adequacy requirement in South Africa, is effected in the scenarios by setting any negative reserve (which is calculated using the relevant best-estimate assumptions and applicable compulsory margins) to zero.

#### **4.4 IFRS 4-specific issues**

##### **4.4.1 Best-estimate liability**

The best-estimate liability considered for IFRS 4 is the same as for FSV, with the exception that initial expenses are split into direct and indirect. Indirect expenses are then excluded from the IFRS 4 best-

estimate liability and are instead passed straight through to profit and loss when they are incurred. The base scenario examines a policy with a portion of initial expenses assumed to be indirect and with all the renewal expenses assumed to be direct. Scenario analyses then examine the impact of varying the proportion of initial expenses which are considered to be direct or indirect. In these scenarios both the impact of changing the proportion of initial expenses which are direct or indirect, as well as the interaction of the CSM carrier used in the resulting profit profiles are examined.

All estimates and calculations consider a single policy for the determination of the best-estimate liability. According to the IFRS 4 Exposure Draft (Appendix B36), making estimates at a portfolio level should yield results which are no different to making estimates on an individual contract level and hence the results of the individual policy can be extrapolated to a portfolio.

No rebasing is necessary for the IFRS 4 best-estimate liability since it does not include margins which result in a policy run-off which is different from the best-estimate experience.

No significant attention has been given to the split of cashflows between profit and loss and OCI (other comprehensive income). Since the scenarios considered in this dissertation do not include the mirroring approach (i.e. the policies considered do not contain cashflows which are directly or indirectly linked to the value of underlying assets), and for most scenarios the experience over time is as expected (i.e. discount rates do not change), OCI is not used. This means that the profit and loss results for the FSV and IFRS 4 approaches can be compared directly. For the specific scenario where discount rates are assumed to change, OCI is used. It is however still possible to compare the profits between the FSV and IFRS 4 approaches by looking at total comprehensive income, which includes profit and loss as well as OCI.

#### **4.4.2 Contractual service margin**

In the base scenario, the run-off assumption for the CSM uses the present value of claims as a carrier. This is consistent with the idea that the primary service provided to term and endowment insurance policyholders is the payment of claims to policyholders who die over the period.

Other services, such as collection of premiums and administrative functions, can also be viewed to be provided to policyholders over the term of a policy. To examine the potential use of these services as carriers for the CSM, the present value of premiums, and present value of claims plus expenses were considered as alternative carriers for the CSM.

A straight-line run-off of CSM is also considered as a simple alternative. This straight-line run-off has a level run-off of CSM in real terms over time (not in nominal or absolute terms). The run-off is calculated in such a way that the nominal CSM run-off increases with investment return over the policy term.

#### **4.4.3 Risk Adjustment**

The risk adjustment is determined based on a cost of capital approach with the capital requirement being a simplified Solvency Capital Requirement (SCR) as per the QIS2 technical specifications. The simplified SCR includes components for mortality, lapse, expense and catastrophe risks. The cost of capital is determined by finding the present value of a simplified SAM SCR calculation at the QIS2 recommended rate of 6% per annum (for the base scenario). Reduction in capital due to diversification effects, as per the SAM correlation matrices, is allowed. However, no allowance is made for any risk-mitigating actions of the insurer to reduce the capital requirement.

The SCR is calculated on the SAM basis (i.e. it looks at the impact of shocks and assumption changes on the SAM best-estimate liabilities and assets). This means that, for example, the mass lapse risk component would be very significant for a policy with negative best-estimate liability (despite the IFRS 4 basis having a CSM which tops up negative liability at inception).

The impact of using different cost of capital rates is also examined. For these scenarios only the cost of capital rate applied to the SCR value calculated changes and all other assumptions remain unchanged from the base scenario.

#### **4.4.4 Transition**

A simple transition scenario is considered for a company which has sold an identical (base) term insurance policy at the start of each of the preceding nine years as well as at the start of the current year. All assumptions underlying the policies are assumed to be the same and the experience is as expected. The aggregate liability profile and profit releases from the ten policies over time are examined and contrasted under the FSV and IFRS 4 approaches.

#### **4.4.5 Assumption changes**

##### Changes in estimates of future cashflows

A change in the estimate of future cashflows (for example a demographic change such as a change in future mortality rates) affects the CSM under IFRS 4. For an adverse change in assumptions, the best-estimate liability will increase and the CSM will decrease (down to a possible minimum of zero) to result in zero overall impact on the liability. Once the CSM has been depleted all effects of changes in assumption result in an increase in overall liability and hence cause a loss to arise. Positive assumption changes result in a decrease in best-estimate liability and increase in CSM (up to any magnitude).

##### Changes in the discount rate

Under IFRS 4, the impact of changes in discount rates is not absorbed by the CSM and will result in a change in insurance liability and hence profit. However, in the current exposure draft discount rate changes are required to be put through OCI (and not the profit and loss section of the statement of comprehensive income). This approach is used in conjunction with the fair value through OCI approach in the draft IFRS9 standard in an attempt to remove volatility from the profit and loss section of an insurer's statement of comprehensive income. The impact of the change in asset values is not considered further in this investigation.

## 5. Results and comparisons

### 5.1 Introduction

The following section covers the quantitative investigation and contains the results of the comparisons performed between the FSV and IFRS 4 approaches. The figures below are a graphic representation of the results obtained and serve to highlight the key differences and findings. The calibration of the base and other scenarios was performed with the specific intent of identifying differences between the FSV and IFRS 4 approaches so that meaningful conclusions can be drawn.

In all the following figures, policy year zero reflects the value of profit at inception, before any cashflows occur. In all scenarios any profit arising at inception will be equal and opposite to the liability determined at inception. Combining the profit at policy year zero and policy year one gives the total profit released in the first policy year. The profits at inception were separated from the profits arising over the first year to highlight the impact that the different approaches have at policy inception. For all policy years after zero, the profit and liability value is as at the end of the year.

### 5.2 Base Scenario

The base policy selected to examine the impacts of IFRS 4 is a profitable (in terms of the present value of future profits) term insurance policy of duration 15 years (the full set of assumptions underlying the policy can be viewed in Appendix B). This policy was chosen because the profit and liability vectors on the IFRS 4 basis highlight some of the key differences to the existing FSV basis.

#### 5.2.1 Profit profile

##### **Overall**

The profit profiles in Figure 2 show the profits emerging over the life of the base policy under the FSV and IFRS 4 approaches. The profit emerging under the FSV approach is higher at inception and in the first policy year, but lower in subsequent years, compared to IFRS 4 profit emergence.

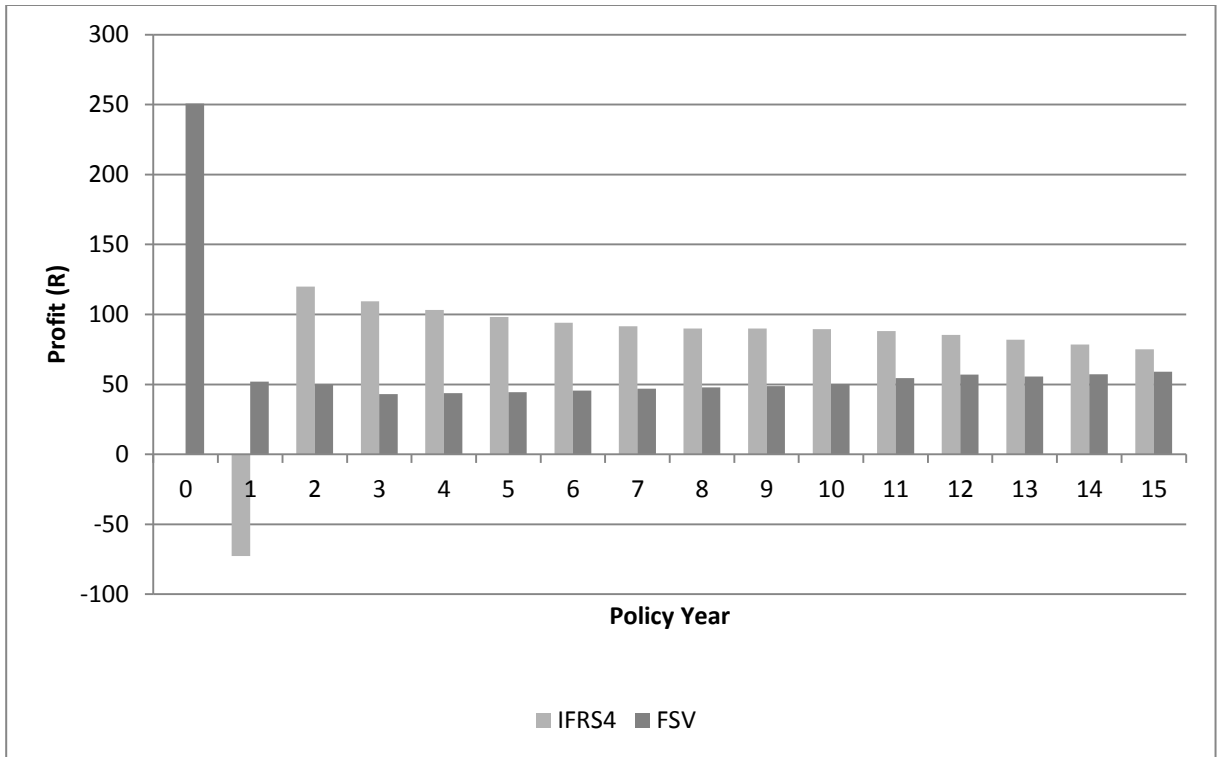


Figure 2. Comparison of profit profile under IFRS 4 and FSV in the base scenario

**Profitability**

Overall profitability (i.e. present value of future profits) is the same under both the FSV and IFRS 4 approaches. This is because the premium and actual experience for each scenario is assumed to be the same. The only difference is the timing of the release of profits.

**Profit deferral**

For this sample policy, the FSV approach releases more profit early on, which means that there is less profit to release later in the term of the policy. This is equivalent to saying that the deferred profits under the FSV approach (i.e. the value of the margins set up at policy inception) are smaller than the deferred profits under IFRS 4 (i.e. the value of the risk adjustment and contractual service margin).

**Discretion**

The base scenario does not include discretionary margins under the FSV approach. Under IFRS 4, the calculation of the risk adjustment and the run-off of the contractual service margin over time are not prescribed and can differ according to the approach decided by the insurer. Scenarios to examine the impact of this discretion are examined later in this section.

### ***Profit pattern***

The pattern of profit release is different between the FSV and IFRS 4 approaches. The FSV approach has a general trend of an increasing level of profit released over the life of the policy. This is because the magnitude of the compulsory margins released in future years is greater than in previous years as mortality, expense and interest margins grow over time. IFRS 4 however shows a decreasing profit level over time. This is due to the components of profit contribution, release of risk adjustment and CSM as well as interest on these components, decreasing over time. These trends are influenced by the number of policies in force and hence the level of lapse and mortality assumptions. However, as the decrement assumptions are the same under both the FSV and IFRS 4 approaches, the number of policies in force and hence the influence on trends is the same under both approaches.

### ***First year profits***

The base policy is a profitable one. Therefore under IFRS 4 the CSM tops up the negative fulfilment cashflows at inception to zero and there is no profit at inception. Due to the negative liability set up under the FSV approach, profits arise at inception to the extent of the negative liability. In the first year the IFRS 4 approach experiences a loss. This is due to indirect initial expenses which are not included in the best-estimate liability calculation, and are effectively included in the CSM. When these expenses are actually paid during the first year, the CSM does not decrease by the amount of the expenses (as the best-estimate liability would, or as the FSV liability does); instead the CSM continues to run off at the set rate in line with the CSM carrier. This means that there is an outgo with no accompanying decrease in liability, and hence an overall loss occurs in the first year.

## **5.2.2 Liability profile**

Figure 3 shows the progression of the liability values under both the FSV and IFRS 4 approaches (including best-estimate liability, CSM and risk adjustment components) over the term of the contract:

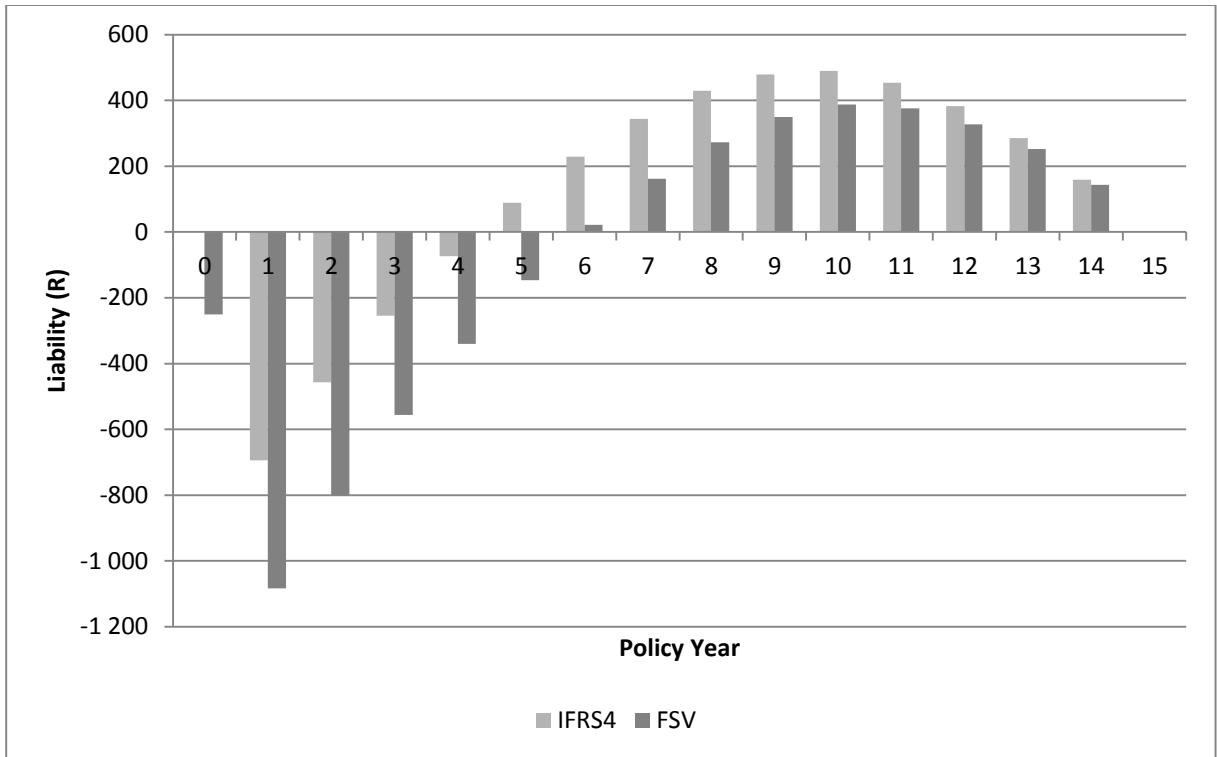


Figure 3. Comparison of end-of-year liability profile under IFRS 4 and FSV in the base scenario

**Overall**

The liability profile in Figure 3 follows a similar shape under both the FSV and IFRS 4 approaches. For the entire period, the IFRS 4 liability is higher than the FSV liability. This is due to the risk adjustment and CSM being greater in magnitude than the compulsory margins. The level of the liabilities is most different close to policy inception, and it converges towards policy maturity. The convergence is due to the run-off of margins (on both the FSV and IFRS 4 approaches) leaving the best-estimate component as the biggest component of both the liabilities near the end of the policy term.

**Negative Liability**

The FSV liability is negative at policy inception because the expected income on the policy exceeds the expected outgo (on a basis which includes compulsory margins). Under IFRS 4, profit may not be recognised at inception and in this scenario the liability at inception is topped up to zero by the CSM. However, immediately after inception, once the initial expense and commission have been incurred, the best-estimate liability drops (with no corresponding adjustment to the CSM or risk adjustment) resulting in a negative total liability which we see in Figure 3.

The IFRS 4 liability is larger (i.e. less negative) than the FSV liability because the IFRS 4 margins (CSM and risk adjustment) are higher than the FSV margins.

### 5.2.3 IFRS 4 liability components

Figure 4 shows the split of the IFRS 4 liability by building block components: best-estimate liability, CSM and risk adjustment.

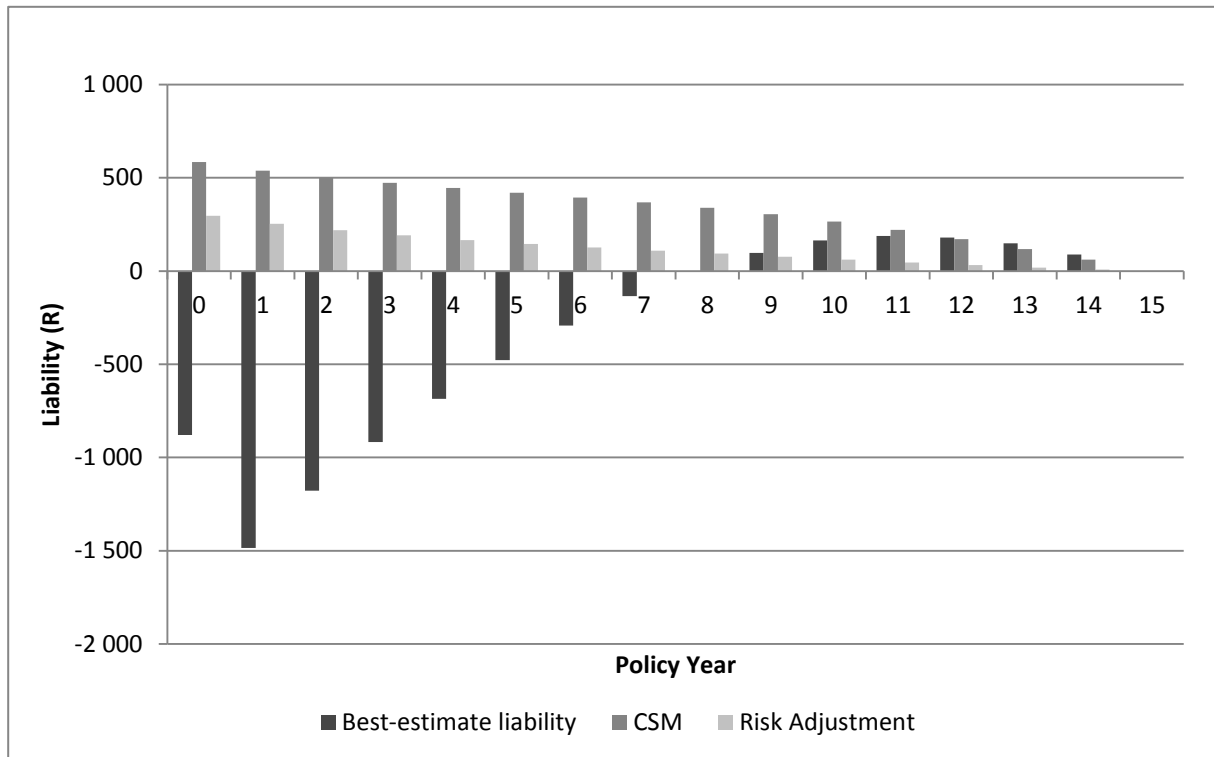


Figure 4. Breakdown of IFRS 4 liability into components in the base scenario

#### **Overall**

At policy inception we can see the interaction between best-estimate liability, risk adjustment and best-estimate liability to arrive at an overall liability of zero at inception (and hence zero profit at inception). The magnitude of the CSM is equal to the opposite of the sum of the best-estimate liability and risk adjustment.

#### **Best-estimate liability**

The progression of this component is similar to the progression of the FSV liability, except that it is more negative since it does not include margins. It is the main driver responsible for the shape of the IFRS 4 liability profile over time.

## **CSM**

The CSM runs down fairly gradually over the term of the policy, releasing profits in a relatively smooth profile. The CSM in this scenario uses the present value of claims as a carrier for profits. The present value of claims runs down over time because the amount of claims that are expected to occur in a period is greater than the accretion of interest to the CSM for that period.

## **Risk Adjustment**

This is the smallest of the three liability components; however it has the potential to be significant for some policy types depending on their riskiness, as measured by the risk adjustment. The risk adjustment runs off more rapidly than the CSM in the base scenario and performs a similar purpose to the compulsory margins under the FSV basis. The risk adjustment determined in the base scenario appears to be smaller than the value of compulsory margins as determined in the FSV approach.

### **5.3 Inherent profitability scenarios**

In these scenarios, the annual premium used in the policy projection is increased and decreased to examine the differences between the FSV and IFRS 4 approaches on policies with different levels of inherent profitability. The inherent level of profitability in the base scenario (using the measure present value of future profits/present value of future premiums) is 11%, whilst the higher premium and lower premium scenarios below have levels of profitability of 25% and -10% respectively. To more realistically consider the impact of higher profitability on FSV profits, scenarios with discretionary margins to prevent the premature release of profits are also considered.

#### **5.3.1 Higher Premium (no discretionary margins)**

Figure 5 and Figure 6 contrast the profit profiles under the FSV and IFRS 4 approaches for base and higher premium scenarios.

The IFRS 4 approach has zero profit at inception for both higher premium and base scenarios. However in the higher premium scenario it realises a profit in the first year since the level of profit being released is higher than the indirect initial expenses which are incurred. Subsequent years' profits under IFRS 4 in the higher premium scenario are steady and decreasing, but at a significantly higher level than the base scenario.

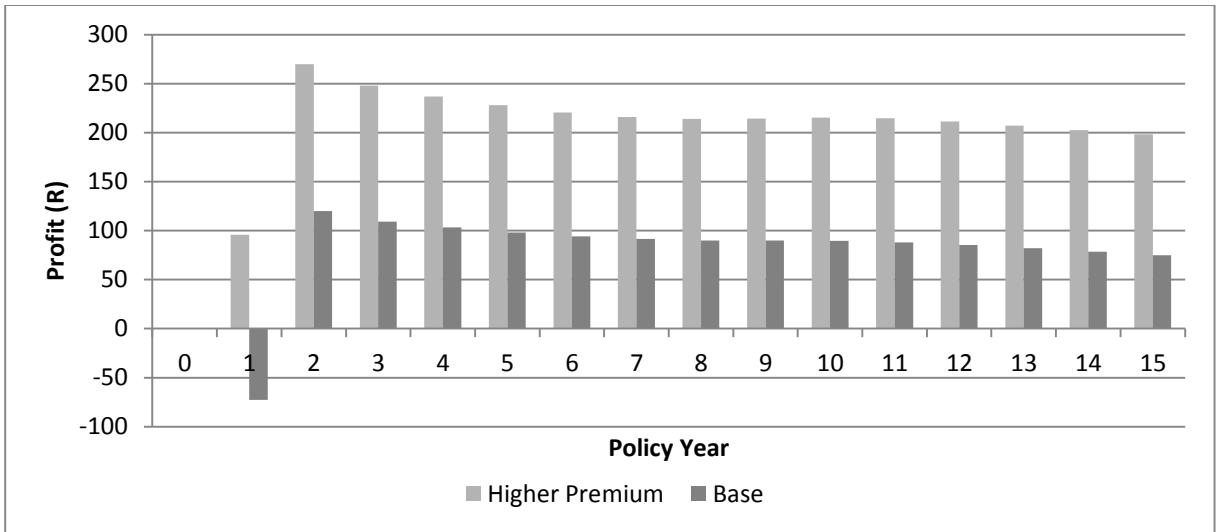


Figure 5. Comparison of profit profiles in higher premium and base scenarios under IFRS 4

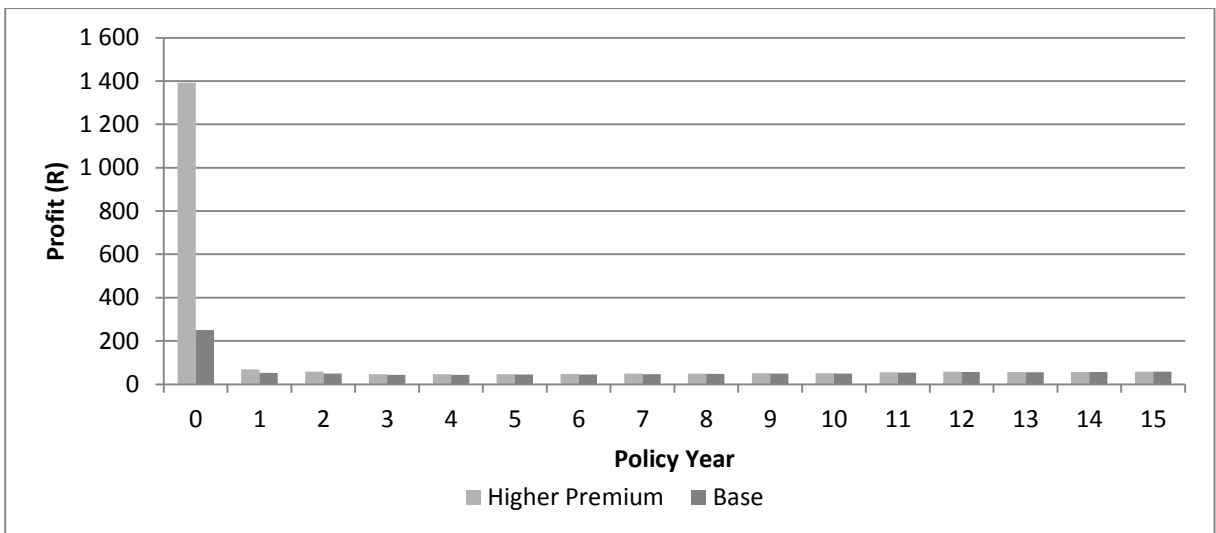


Figure 6. Comparison of profit profiles in higher premium and base scenarios under FSV

For the FSV approach, the increased profitability from the higher premium is almost entirely released at inception, with profit in subsequent years being almost identical to the base scenario. This is consistent with the FSV approach in that the level of margins (or profits deferred) is not dependent on the magnitude of the premium or the inherent policy profitability.

The IFRS 4 overall liability profile in the higher premium scenario is quite similar to the base scenario since any excess negative liability at inception is removed by an increased CSM (which is now very large in relation to the risk adjustment). On the other hand, the shape of the FSV liability is significantly different, with the liability being largely negative for almost the entire policy duration.

In reality, such excessive profits are unlikely to be released at inception under the FSV approach. Discretionary margins, in the form of zeroising negative liabilities or additions to compulsory margins for uncertain future cashflows, would most likely be used to eliminate or significantly reduce such profits. The impact of discretionary margins is examined in the next two scenarios.

### 5.3.2 Higher premium (with discretionary margins)

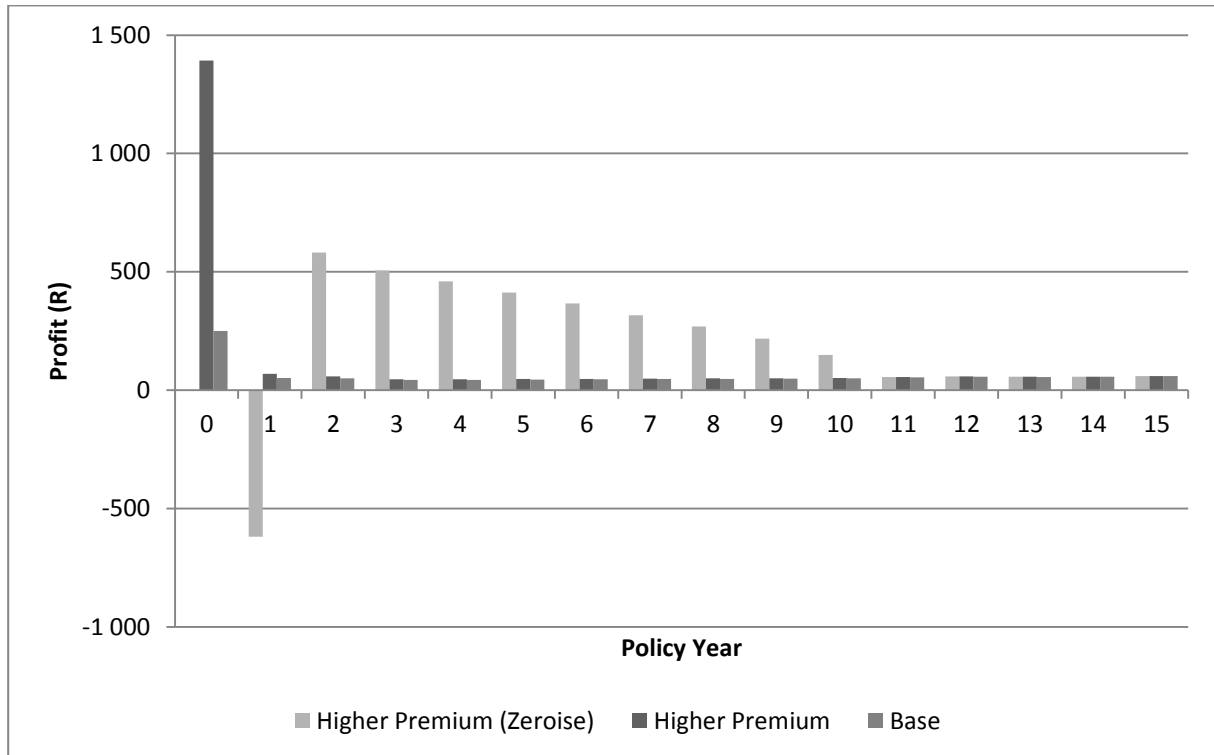


Figure 7. Comparison of profiles in higher premium and base scenarios under FSV

Figure 7 contrasts the FSV profits in the base scenario with the higher premium and higher premium with zeroisation scenarios. In the zeroisation scenario, there is no profit at inception (since the negative liability is zeroised) and an overall loss arises in the first year. The loss is due to the cash outflows in the first year exceeding the inflows, with no corresponding change in liability to offset the loss.

It is interesting to note that subsequent to the first year, FSV profits in the zeroisation scenario are significantly higher than in the base scenario. Whereas in the base scenario the negative liabilities are increasing (i.e. becoming less negative) in this phase, they remain unchanged at zero on this basis, boosting reported profits. After year 10 when there is a positive liability, the profits are back to their base levels.

Figure 8 shows a comparison of IFRS 4 profits in a higher premium scenario with the FSV profits in a higher premium with zeroisation scenario. The comparison shows a more stable emergence of profits under IFRS 4 compared to the FSV approach (with zeroisation of reserves).

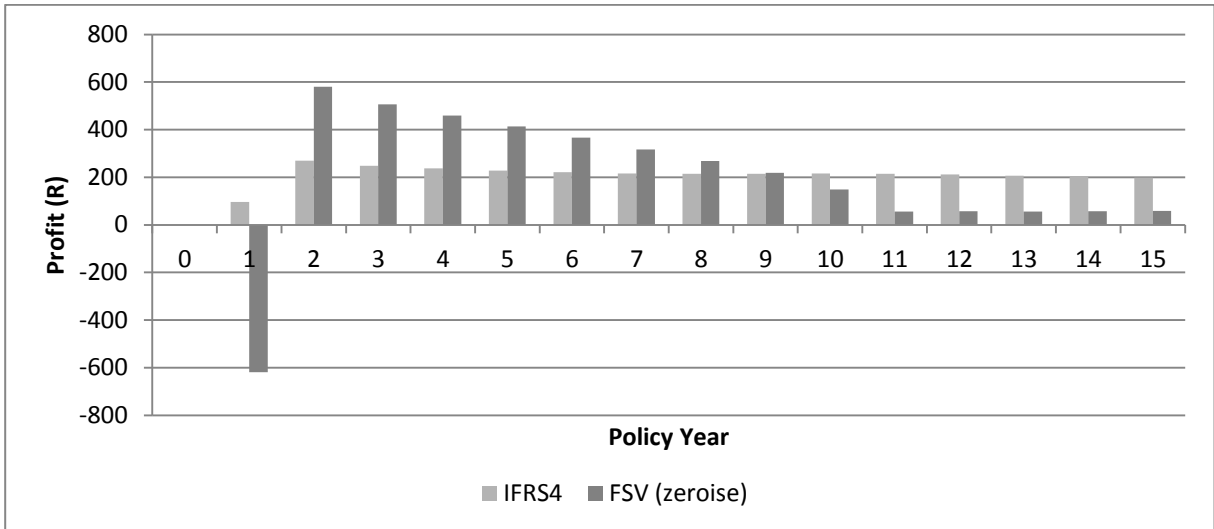


Figure 8. Comparison of profit profile under IFRS 4 and FSV in the higher premium (with zeroisation) scenario

It is possible to use discretionary margins other than zeroisation to defer profits and produce a more stable profit release under the FSV basis. However the magnitude of margins required would be large. For example, in the higher premium scenario a discretionary mortality margin of 40% (above the 7.5% compulsory margin) would be needed to effectively remove profits at inception and spread them relatively evenly over the life of the policy. Figure 9 shows a comparison of the IFRS 4 and FSV profit profiles in the higher premium scenario with the addition of a 40% mortality discretionary margin.

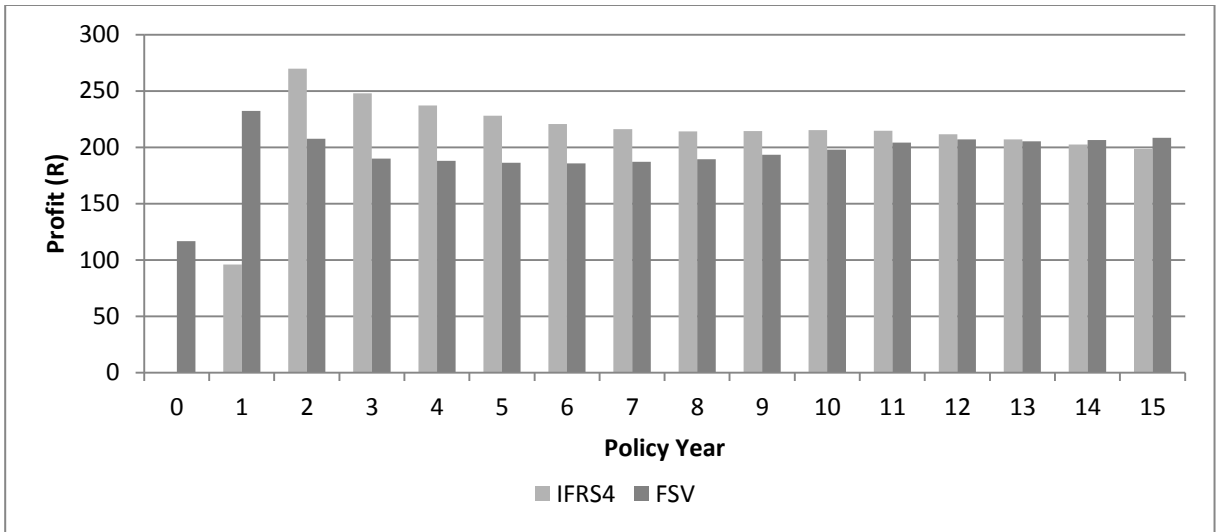


Figure 9. Comparison of profit profile under IFRS 4 and FSV in the higher premium (+40% discretionary mortality margin) scenario

### 5.3.3 Lower Premium

Figure 10 and Figure 11 contrast the profit and liability profiles under the FSV and IFRS 4 approaches for the lower premium scenario.

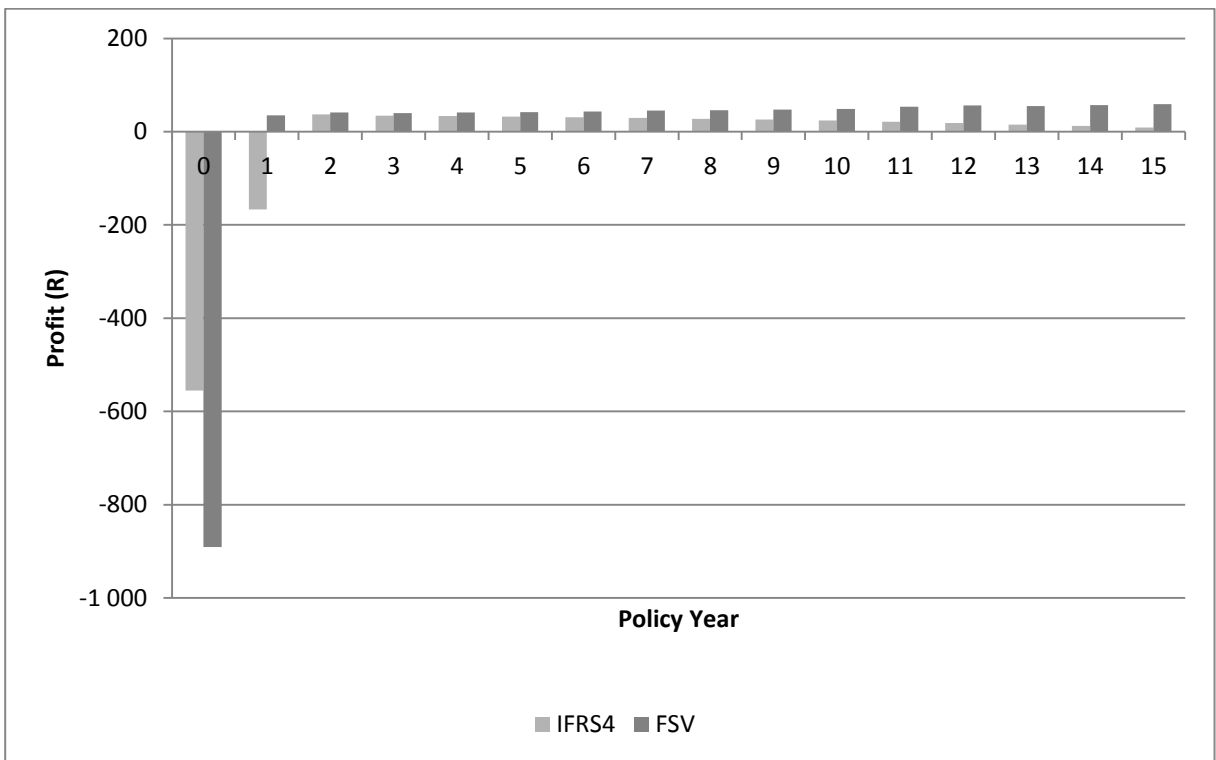


Figure 10. Comparison of end-of-year liability profile under IFRS 4 and FSV in the lower premium scenario

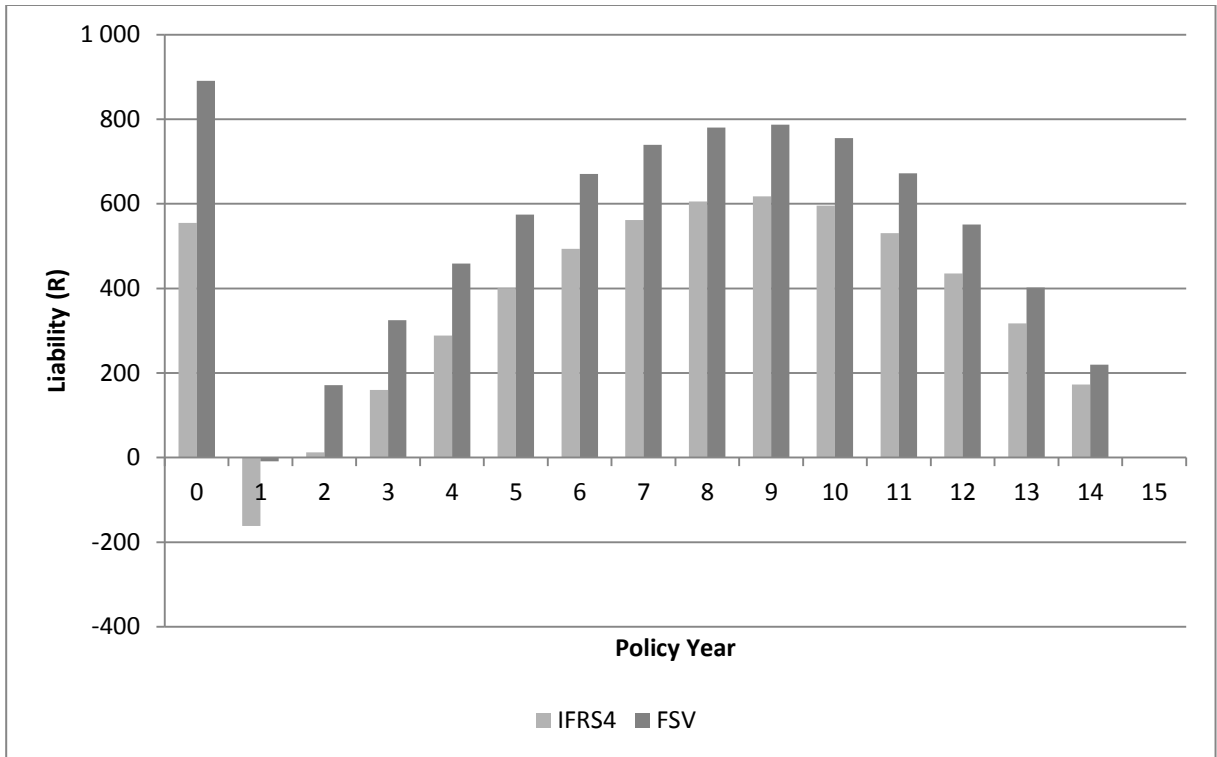


Figure 11. Comparison of end-of-year liability profile under IFRS 4 and FSV in the lower premium scenario

The lower premium scenario results in an inherently loss-making policy (one that will pay out more than it will receive on a best-estimate basis). This means that under the FSV and IFRS 4 approaches, a positive liability is set up at inception, resulting in an equal but opposite loss at that time. The magnitude of the IFRS 4 risk adjustment as calculated for this policy is smaller than the magnitude of the FSV compulsory margins, meaning that the loss at inception under IFRS 4 is smaller than the corresponding loss under the FSV approach. This suggests that policies which are borderline profitable result in a lower reserving strain under IFRS 4 than under the FSV basis.

Part of this lower reserving strain is due to the fact that not all initial expenses are captured in the IFRS 4 liability. Indirect initial expenses do not feed into the liability calculation at inception but do add to the loss arising during the first policy year under IFRS 4. This means that while the FSV approach results in a profit due to flows during the first year, the IFRS 4 basis results in a loss (as seen in Figure 10). However, combining profit at inception with profit in the first year still results in IFRS 4 having a lower overall loss in first year when compared to the FSV approach (because the risk adjustment on the IFRS 4 basis is lower than the compulsory margins under the FSV).

The liability shapes are quite similar for the two approaches, with the FSV liability higher throughout. In this case there is not as much convergence of liability values towards the end of the

policy term (as there is in the base scenario) since the risk adjustment runs off more quickly than the compulsory margins.

As seen in the base scenario, the FSV profits increase slightly over policy term whilst IFRS 4 profits decrease over the term. Towards the end of the policy term the profits released on IFRS 4 are very small because they comprise of releases of risk adjustment only (there is no CSM).

#### ***5.4 CSM run-off patterns***

IFRS 4 allows some discretion as to the method used for running off the CSM over the policy term. The base scenario makes use of the present value of claims to run the CSM off over the life of the policy. Other potential approaches include using different cashflow vectors (e.g. premiums or expenses or a combination of these) or using a straight-line approach. A different CSM run-off approach does not impact the magnitude of the initial CSM (that is dependent on the best-estimate liability and risk adjustment at policy inception). However, the method of CSM run-off can impact the shape of the CSM over the life of the policy and hence the emergence of profits over time. For profitable policies the release of CSM is a significant portion of the profits released in each period and the run-off pattern has the potential to materially impact reported profits.

Four methods of CSM run-off were considered for comparison: a straight-line run-off approach, a present value of claims carrier (base scenario), a present value of claims plus expenses carrier and a present value of premiums carrier. Figure 12 and Figure 13 display and compare the CSM run-off profile as well as the magnitude of the CSM releases each year (i.e. the change in CSM) for each method.

The present value of claims approach is surprisingly close to the straight-line approach, particularly towards the end of the policy term. The straight-line approach has increasing releases towards the end of the policy because the releases rather grow with interest, based on the interest rate assumptions at policy inception. The growth in release due to interest outweighs the policy decrements (deaths and lapses); hence the overall release increases over time (see Section 4 for more details on how the straight-line release was determined). Similarly, the claims CSM releases also increase over time as the present value of claims begins to decrease more rapidly due to more of the 'service' being transferred (i.e. higher claims payments being made) in later years.

The present value of claims plus expenses carrier is different to the present value of claims carrier in early years, but the two converge in later years. The biggest difference in the present value of claims plus expenses is in the first policy year when initial expenses are paid and the carrier decreases significantly. Subsequent years see a similar pattern of CSM release happening on both claims and claims plus expenses carrier approaches.

The present value of premiums CSM carrier approach has a significantly different CSM release pattern compared to the other approaches considered. The premium carrier approach results in a greater CSM release early in the policy term, before CSM releases decrease and level out later in the policy term. This CSM release profile arises because per policy premiums are level over the life of the policy, and therefore the expected premium actually received in each future year decreases as a result of decrements. It therefore appears that for a level premium contract the present value of premiums may not be an inappropriate carrier for the CSM, as it does not release the CSM in a way which reflects the (increasing) transfer of services under a contract.

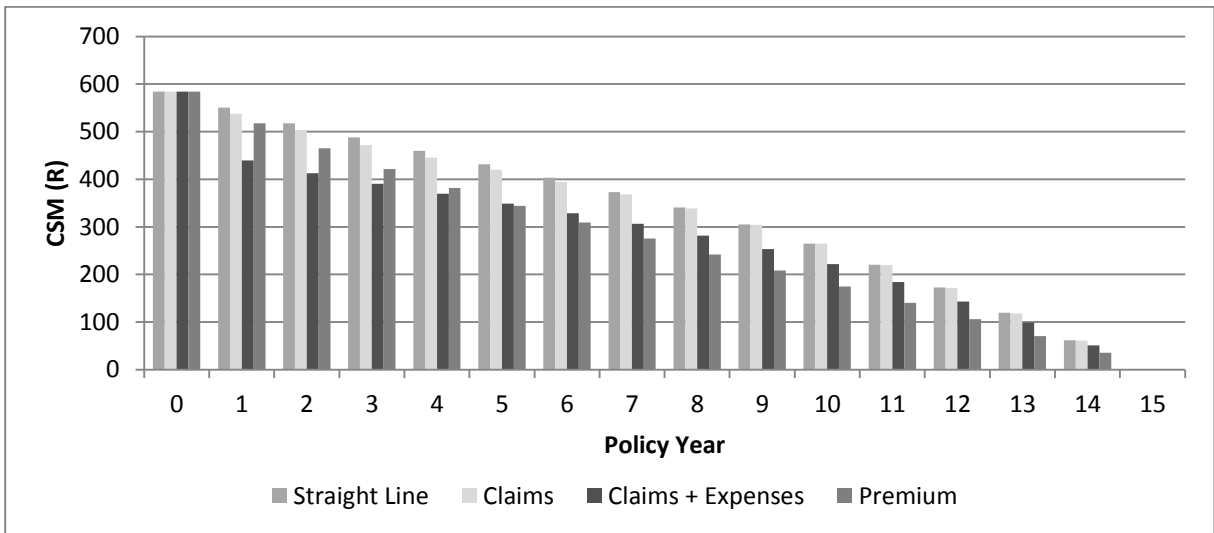


Figure 12. Comparison of CSM profiles under different run-off approaches

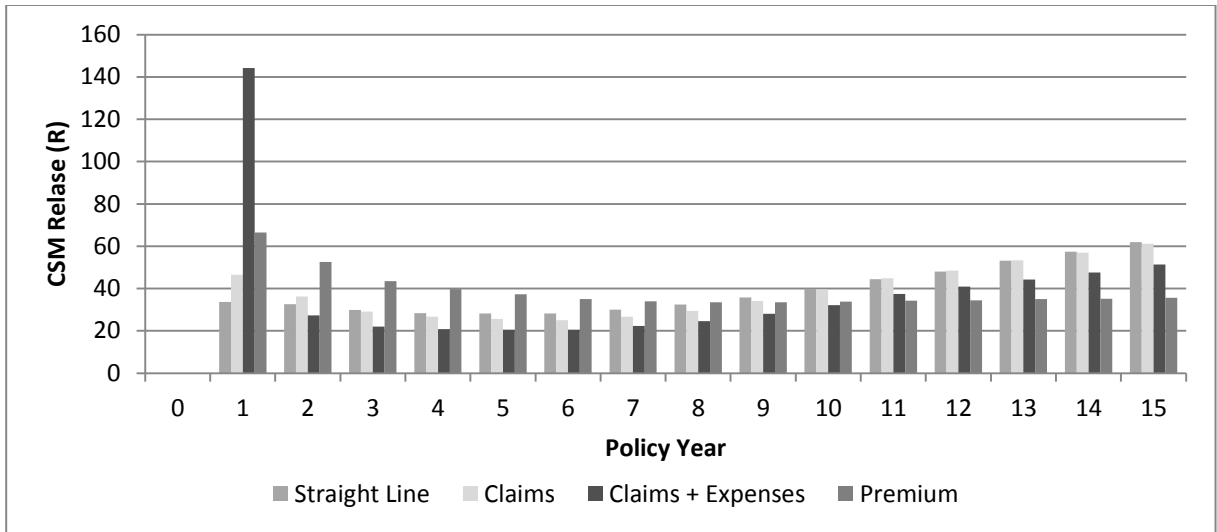


Figure 13. Comparison of CSM releases under different run-off approaches

### 5.5 Risk adjustment calculation and run off

The risk adjustment is most often the smallest of the IFRS 4 liability components, but it is the component which allows the most significant amount of discretion. The calculation method is not prescribed (the three methods to which it was previously constrained have now been made into recommendations) and neither is the strength of calibration (companies can calibrate the risk adjustment to their own risk appetites and it suffices that this is translated and disclosed as a confidence interval value).

The overall IFRS 4 liability and profit pattern is not very sensitive to the cost of capital assumption made in the calculation of the risk adjustment. This is because a different risk adjustment at inception (due to a different cost of capital assumption or risk adjustment methodology) would be allowed for in, and traded off with the CSM at inception (provided the CSM is sufficiently large). The one result of this trade-off between risk adjustment and CSM at inception is a different pattern of profit release over the period. The extent of the difference in profit release profile depends on the extent to which the CSM and risk adjustment run-off patterns are different (in this investigation it typically appears that a cost of capital risk adjustment approach runs off more rapidly than a CSM using present value of claims as a carrier).

Figure 14 and Figure 15 illustrate the impact of different cost of capital rates on the magnitude of the risk adjustment and profit releases over time. Changing the cost of capital is a simple way to impact the risk adjustment calculation significantly. The value and run-off of the risk adjustment can

also be impacted in a number of other ways, e.g. by using a different capital calculation method, or by targeting a different level of confidence, but these approaches are not considered here.

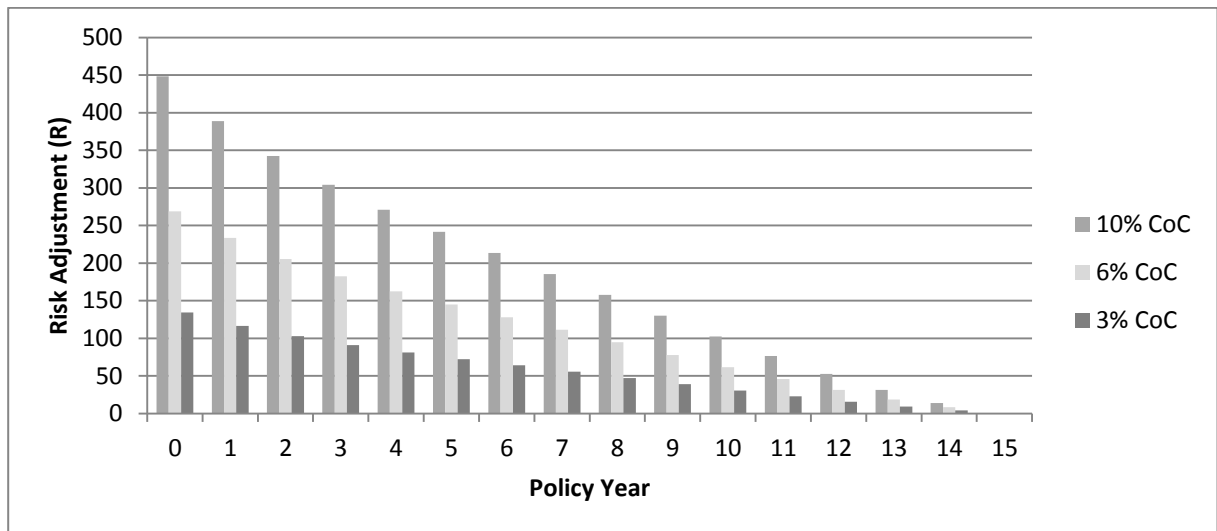


Figure 14. Comparison of IFRS 4 risk adjustment for different cost of capital rates

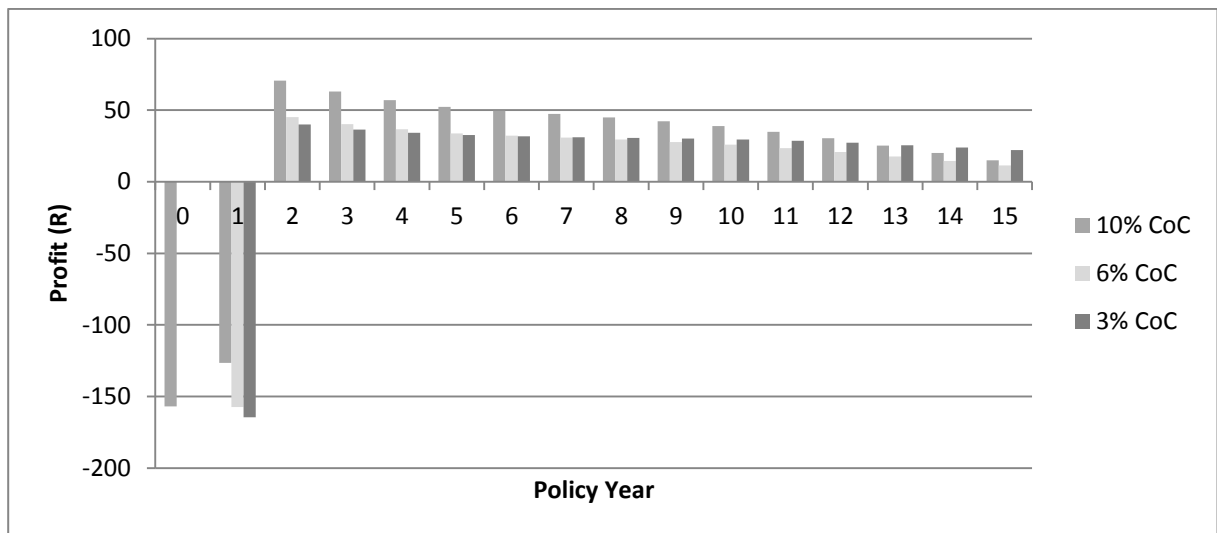


Figure 15. Comparison of profit profiles under IFRS 4 for different cost of capital rates

In the 10% cost of capital scenario the increase in risk adjustment (compared to the base risk adjustment) is greater than the magnitude of the base CSM at inception. This results in a positive overall liability and hence a loss at inception. This also results in a higher overall liability (due to a higher risk adjustment) throughout the life of the policy and consequently a higher profit release over the entire term of the policy (following the loss at inception).

The 3% cost of capital scenario produces a very similar profit profile to the 6% scenario. This is because a lower cost of capital results in a lower risk adjustment. However due to a corresponding

increase in the CSM the overall level of liability at inception is unchanged (i.e. zero). This results in similar profit profiles over the duration of the policy, particularly near inception. Due to the fact that the risk adjustment runs off more quickly than the CSM (as per the approaches used for these respective components) the 6% cost of capital approach (higher risk adjustment) has lower profits later in the policy term when compared to the 3% cost of capital approach (lower risk adjustment).

To highlight the impact of the difference in speed of run-off of the risk adjustment compared to the CSM, we notice that despite being significantly larger in the beginning policy years, the 10% cost of capital profit stream (which purely consists of risk adjustment releases) runs off far more quickly than the 6% and 3% streams (which consist of CSM and risk adjustment components). The result of this is that the 10% profit release is of similar magnitude to the 6% profit release in the final policy year.

Overall, IFRS 4 results are more sensitive to the risk adjustment calculation method and calibration for low-profitability or loss making policies. This is a result of low-profitability policies having insufficient CSM to absorb a higher risk adjustment at inception. The excess risk adjustment then results in a positive overall IFRS 4 liability at inception. Further, this positive overall liability at inception will result in a loss at inception as well as a different release of profits over the life of the policy.

## ***5.6 Indirect expenses***

The single major difference in the recognition of cashflows between the FSV and IFRS 4 approaches lies in the recognition of indirect expenses. IFRS 4 does not allow recognition of indirect expenses and this can have a significant impact on the first year strain as well as liability and profit profiles when compared to the FSV approach (which does not distinguish between direct and indirect expenses). The following scenario examines the impacts of this by varying the proportion of initial expenses which are direct while continuing to assume that all renewal expenses are direct. The impact of indirect expenses is examined together with the interaction of the choice of CSM carrier.

For the indirect expenses base scenario (with a claims CSM carrier), a larger proportion of total initial expenses being direct (assuming a fixed amount of initial expenses) results in a lower loss in the first policy year (or perhaps a profit). This is because direct expenses are included in (i.e. increase) the best-estimate liability calculated at inception and hence result in a lower CSM when compared to indirect expenses (which do not form part of the best-estimate liability and instead go

straight to profit and loss in the first year). This means that when the direct expenses are paid during the first year the best-estimate liability goes negative to allow for them, resulting in zero profit impact. This is in contrast with indirect expenses which impact profit and loss as they are realised.

In addition to avoiding first year losses, a higher direct expense ratio results in lower future profits (since more of the profits are recognised near policy inception). Figure 16 and Figure 17 illustrate the differences that the percentage of initial expenses that are direct can have on profit and liability profiles when the CSM carrier is claims.

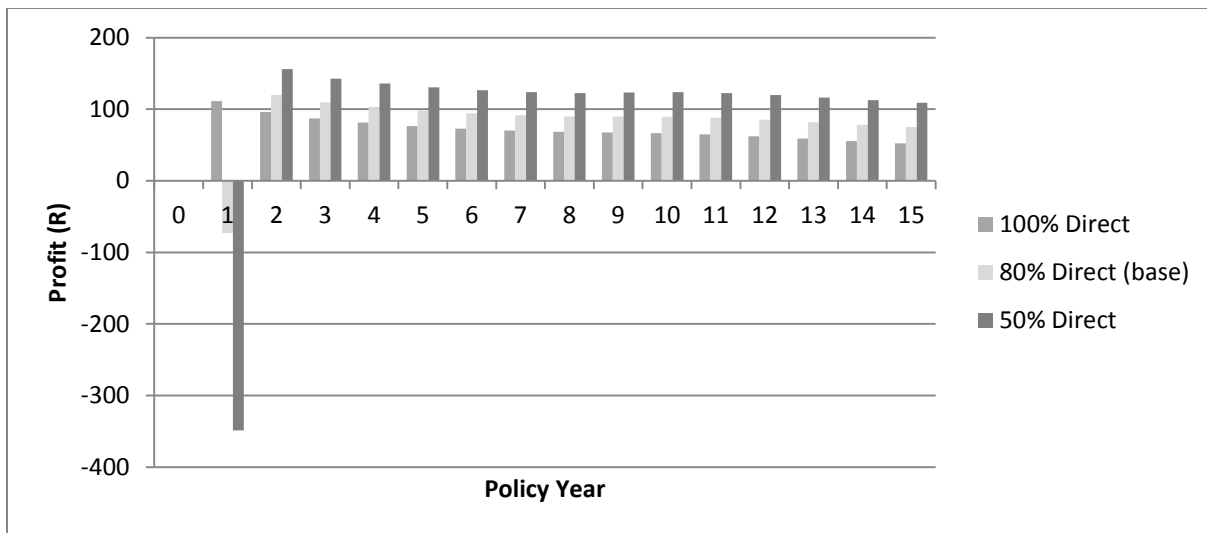


Figure 16. Comparison of IFRS 4 profit profiles for different proportions of direct initial expenses

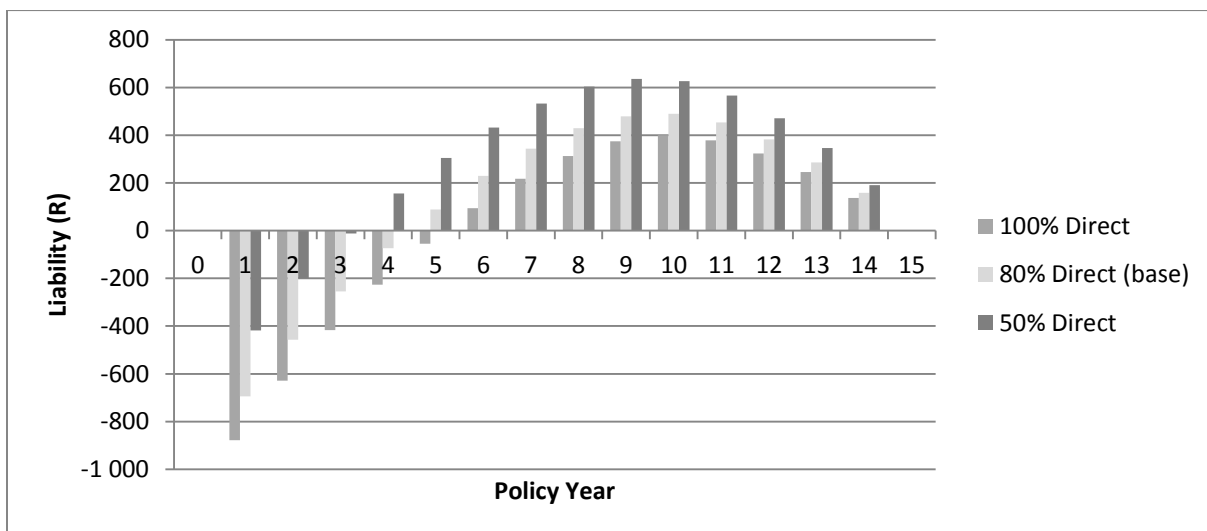


Figure 17. Comparison of IFRS 4 liability profiles for different proportions of direct initial expenses

When the CSM carrier used includes an allowance for initial expenses, the negative impact on profits of a lower portion of direct expenses is dampened. This is because the payment of the direct and indirect acquisition expenses then coincides with an additional (and significant) release of the CSM, when compared to a carrier which does not allow for initial expenses. Figure 18 compares the profit profiles of the 50% direct initial acquisition expense scenario for a claims CSM carrier compared to a claims and expenses CSM carrier. The claims and expense CSM carrier results in a lower loss in the first year, but has smaller subsequent year CSM releases and hence profits. The release of the CSM in time with the occurrence of direct expenses therefore serves to offset the impact of indirect expenses (which are assumed to occur at the same time as direct expenses).

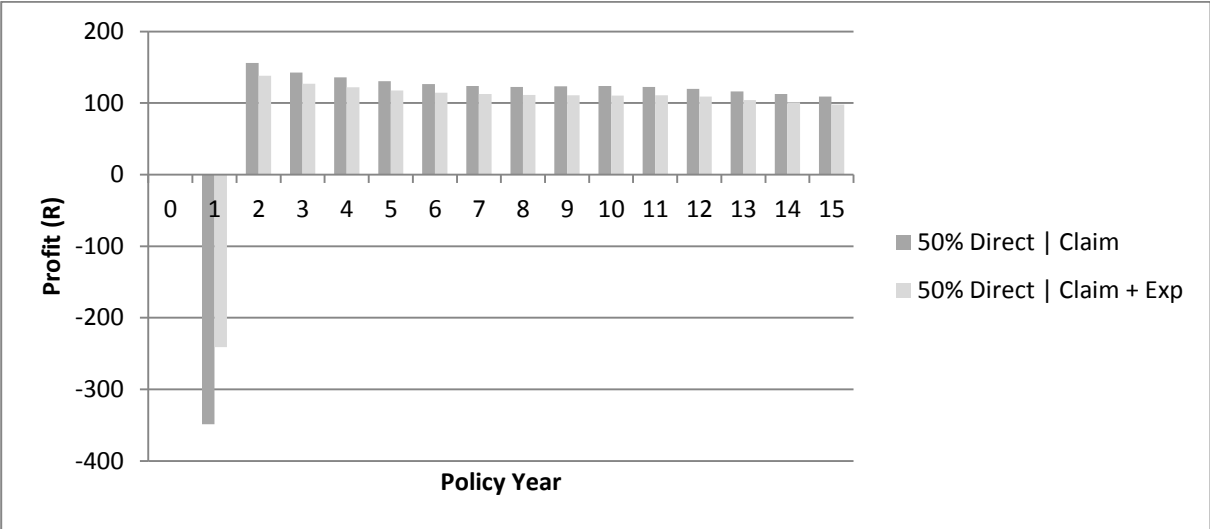


Figure 18. Comparison of IFRS 4 liability profiles with 50% direct acquisition expenses for different CSM carriers

**5.7 Premium and sum assured escalations**

Premium and sum assured escalations scenarios can consider different escalation rates of the premium and sum assured, as well as the impact of escalations being voluntary or compulsory. The distinction between voluntary and compulsory escalation affects the FSV liability calculation as the FSV approach does not allow for voluntary premium increases. This distinction does not affect the IFRS 4 approach as it includes both voluntary and compulsory premium escalations in its estimate of fulfilment cashflows and in so doing requires that all future escalations are modelled at their expected take-up rates. The impact of varying rates of escalation of the sum assured and premium, as well as the impact of voluntary policy escalations are considered below.

**5.7.1 Compulsory escalations**

The first escalation scenario looks at the scenario of compulsory premium and sum assured escalation of 8% and 6% per annum respectively. The starting premium paid on the base policy is then adjusted in order to bring the inherent profitability of the policy to 10%.

The results of this scenario are examined in Figure 19 and Figure 20 and follow a similar pattern to the base case with no escalations. Significant negative liabilities remain under the IFRS 4 approach throughout the majority of the policy term (although they are smaller than under the FSV approach). The FSV approach has significant profits emerging at inception and thereafter lower (but increasing) profits for the remaining term. The IFRS 4 basis has level profits throughout and comes close to converging with the FSV profit level towards the end of the policy term.

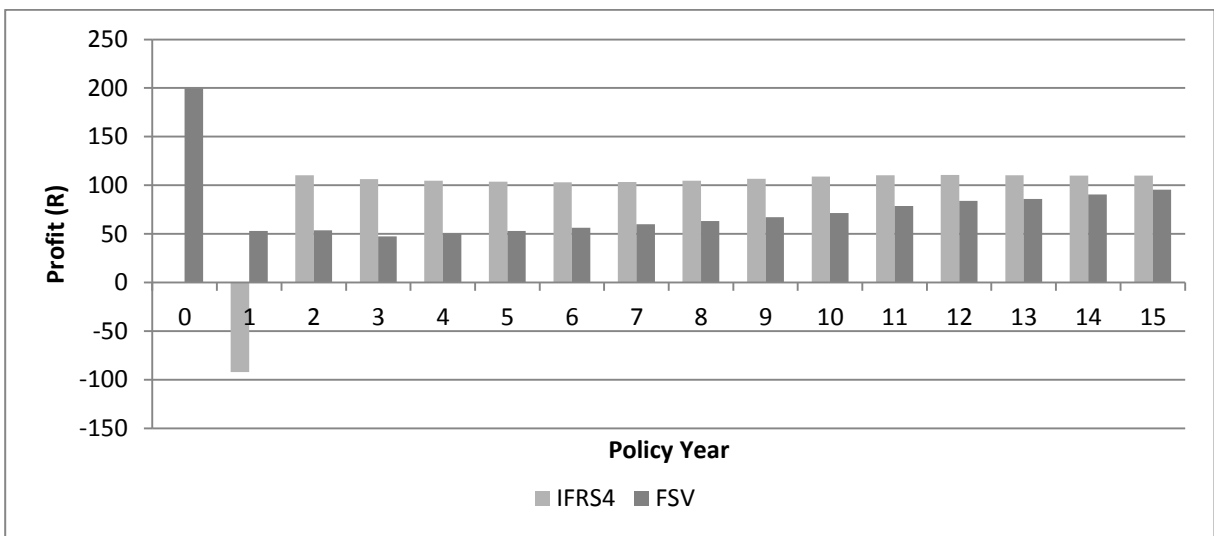


Figure 19. Profit profiles under IFRS 4 and FSV in escalation scenario: 8% premium 6% sum assured escalation

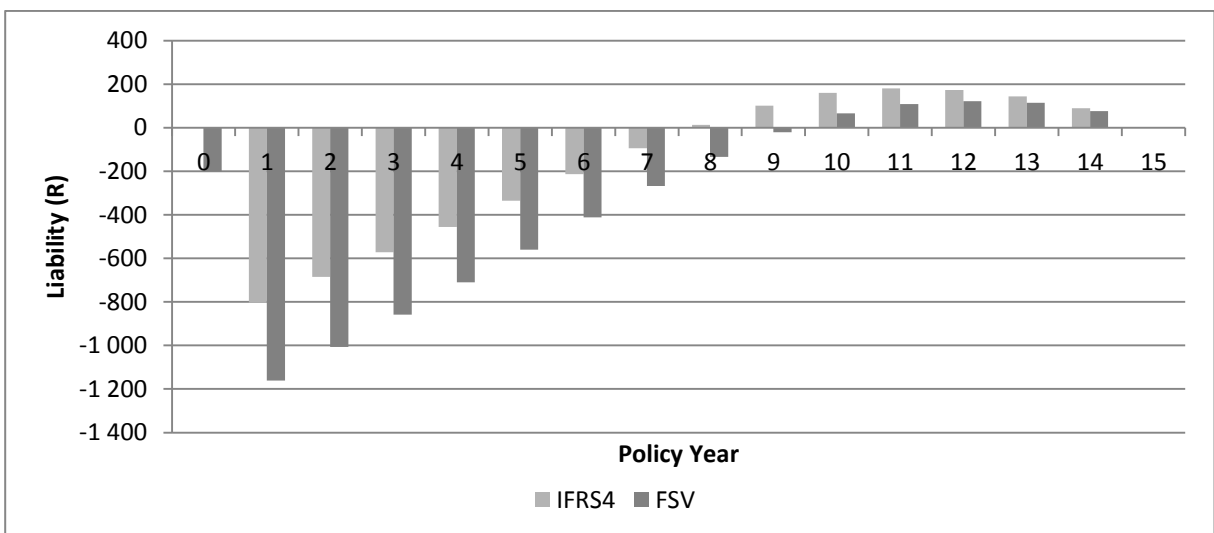


Figure 20. Liability profiles under IFRS 4 and FSV in escalation scenario: 8% premium 6% sum assured escalation

A perhaps more interesting scenario is using the same starting premium as in the above scenario together with a 10% premium escalation (sum assured escalation stays at 6%). The result is a policy with profitability closer to 20% and a graph which shows significantly different profits and liabilities between the FSV and IFRS 4 approaches, as seen in Figure 21 and Figure 22.

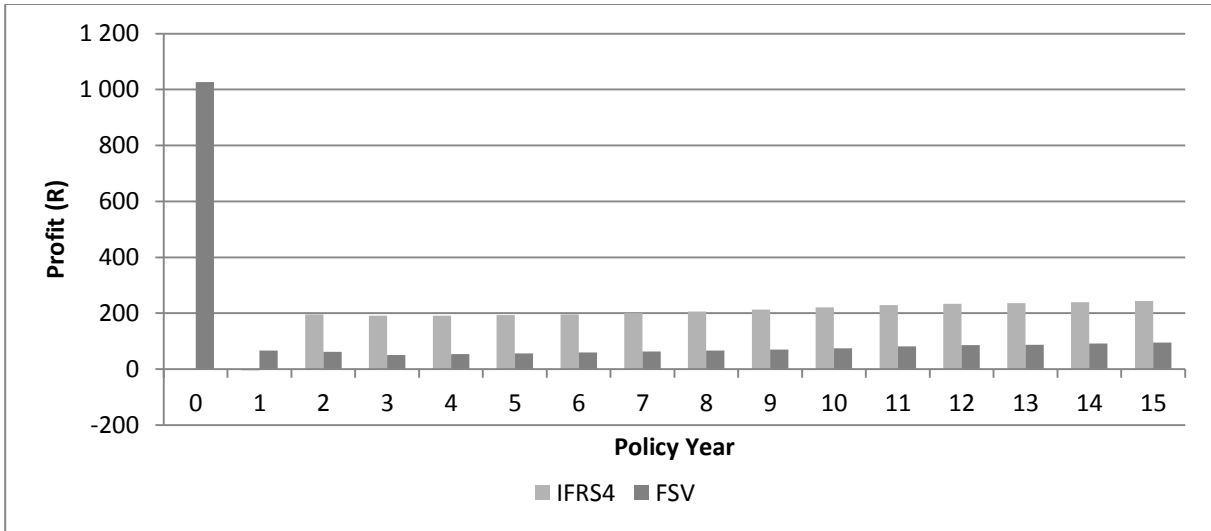


Figure 21. Profit profiles under IFRS 4 and FSV in escalation scenario: 10% premium 6% sum assured escalation

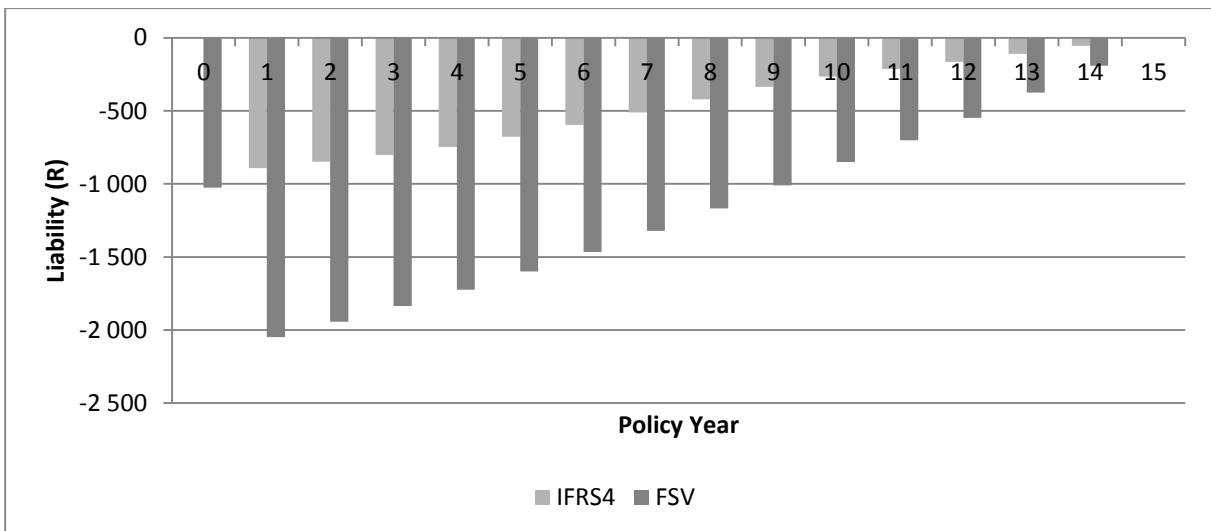


Figure 22. Liability profiles under IFRS 4 and FSV in escalation scenario: 10% premium 6% sum assured escalation

The result is as expected under the FSV approach: a large profit at inception and large negative liabilities throughout the duration of the policy. IFRS 4 does not allow a negative overall liability at inception and hence the liability can never become more negative than the excess of cash outflows over cash inflows at the beginning of a policy. The large difference in liabilities between FSV and IFRS 4 approaches also means that there is a significant difference in the profit vectors, with IFRS 4

producing larger profits throughout policy duration compared to the high initial profit and low subsequent profits under the FSV approach.

### 5.7.2 Voluntary escalations

The second escalation scenario looks at the impact of a policy with a voluntary escalation at the end of the fifth policy year. For this policy, the policyholder has the option at the end of the fifth year to increase the sum assured and premium paid (on the base term insurance policy) by 50% and it is assumed that 100% of policyholders take this option up. This increase in premium and sum assured is profitable or beneficial to the company issuing the company. Under the FSV approach the option is therefore not considered in the determination of the insurance liability until the option is taken up. Under the IFRS 4 approach, the option is considered from inception for the determination of the liability. Figure 23 shows the profit profile under both FSV and IFRS 4 approaches for the base policy as well as the policy with the voluntary escalation at the end of the fifth year.

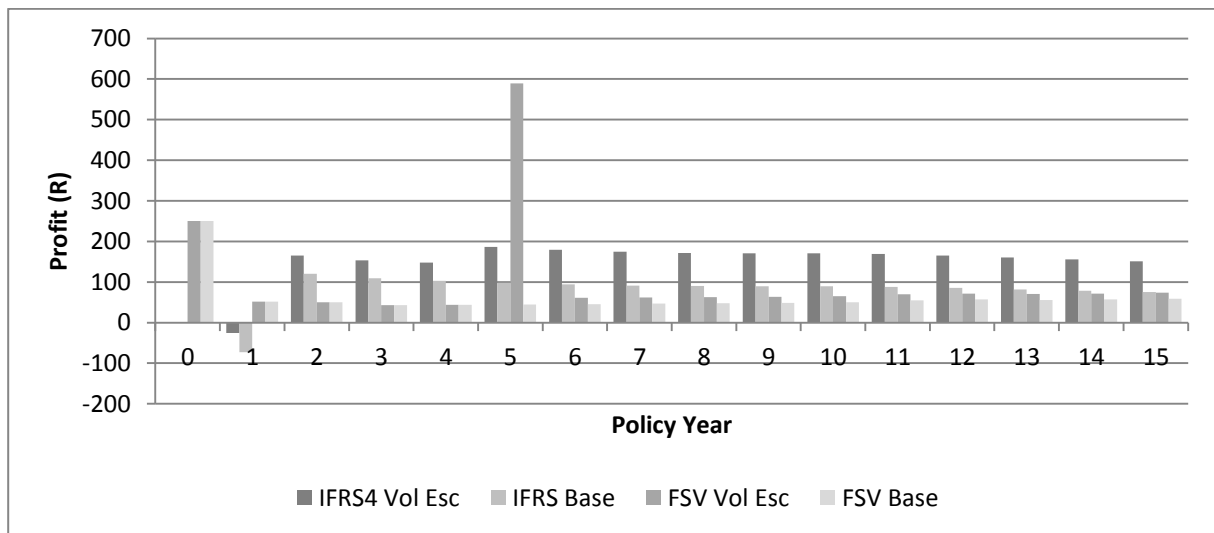


Figure 23. Profit profiles under IFRS 4 and FSV in a voluntary premium escalation scenario

Figure 23 shows that under FSV, the profit for the policy with or without escalation is the same for the first five years. In the fifth year, the policy option is taken up and considered in the liability, resulting in a large decrease in the liability (due to the escalation being profitable to the insurer). This large decrease in liability results in a large increase in profit for that year. Subsequent year profits under FSV are then slightly higher as the escalated policy has slightly more compulsory margins than the base policy and hence has larger profit releases in subsequent years.

Under the IFRS 4 approach, the escalation is considered in the liability from inception and therefore the IFRS 4 approach has a different profit arising in all years for the policy with escalation compared to the policy without. The policy with escalation is inherently more profitable than the policy without and therefore the IFRS 4 approach shows a higher level of profit throughout the term of the policy (except in the fifth year, when the FSV approach recognises the taking up of the option) and a reduced loss arising in the first year.

## **5.8 Assumption changes**

Assumption changes affect the FSV and IFRS 4 approaches differently due to the unlocking of the CSM under IFRS 4. The CSM is unlocked for changes in future cashflows only; however changes in discount rates also give rise to differences between the two bases because IFRS 4 makes use of OCI for recording discount rate changes. All assumption changes examined in this section are assumed to occur at the end of year 5.

### **5.8.1 Demographic assumption changes**

Only changes in mortality assumption are considered for demographic assumption changes. Different levels of withdrawal assumption and changes in the level of withdrawal assumptions were examined briefly but are not presented in this results section. For the base term insurance policy withdrawals result in a profit or loss to the insurer, depending on whether the policy liability is positive or negative at time of withdrawal (there is no payment on withdrawal). The more significant impact of withdrawals is on the number of policies in force, but since the withdrawal (and mortality) assumptions and hence number of policies in force are the same for both IFRS 4 and FSV approaches, the impact on liability and profit profiles of the two approaches is the same. Withdrawals are not considered further in this investigation.

First demographic scenario: Small (5%) permanent increase in future mortality rates (Figure 24)

Under IFRS 4, the base policy has a CSM at the time of the assumption change and that CSM is sufficient to absorb the impact of the small change in future best-estimate liabilities. Hence the results in Figure 24 show that there is only a small change in profits in year 5 (this is due to the change in risk adjustment, which is never absorbed by the CSM). Future profits under IFRS 4 are however lower as the CSM is smaller, resulting in smaller future profit releases.

Under the FSV approach the entire assumption change is capitalised at the end of year 5 since there is no dampener or absorption mechanism. This means that a loss comes through in that year, but profit in future years is almost unaffected. The small increase in future years' profits is a second-order impact of the increase in the value of the compulsory mortality margin.

The corresponding picture for the liability profiles is similar to the profit profiles. The IFRS 4 liability is almost unchanged due to the increase in best-estimate liability component being offset by a decrease in the CSM liability component. The FSV liability changes significantly at year 5 as the assumption change is fully capitalised at the time of the change.

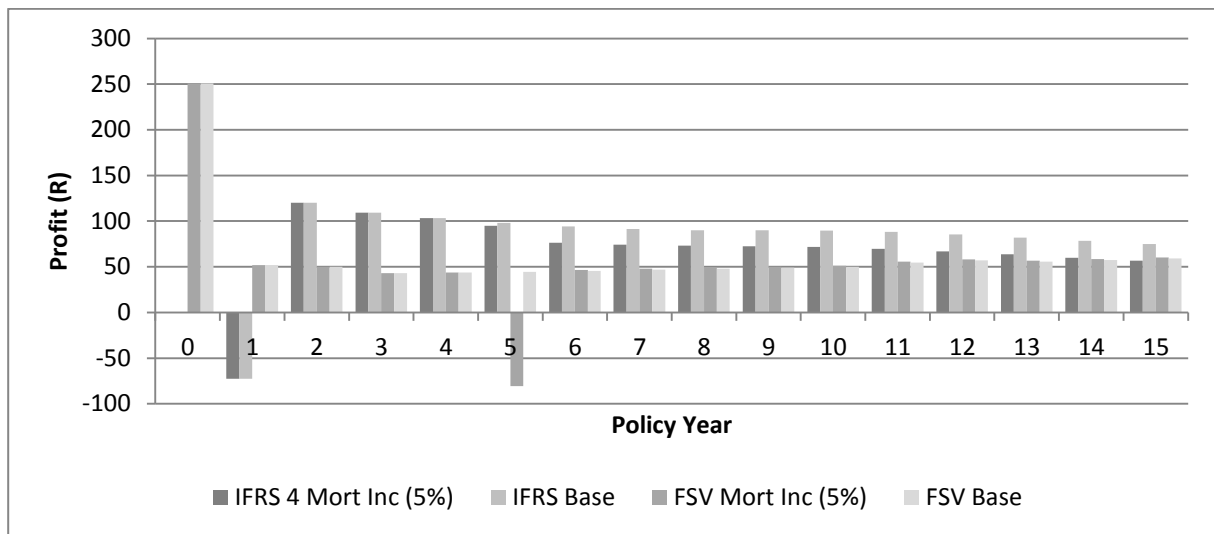


Figure 24. Comparison of base profit profiles under IFRS 4 and FSV with small mortality assumption increase

Second demographic scenario: Large (20%) permanent increase in future mortality rates (Figure 25)

For this scenario the change in best-estimate liability under IFRS 4 is larger than the magnitude of the CSM at the time of the assumption change and the entire change cannot be absorbed. The change in best-estimate liability which cannot be absorbed by a reduction in the CSM results in an immediate loss and therefore an increase in the overall liability level at the time of the assumption change. Profits emerging subsequent to the assumption change under IFRS 4 will be significantly lower and will comprise only of the release of risk adjustment as the CSM has been reduced to zero as part of the assumption change.

Under FSV the large demographic assumption change has a very significant impact on profits in the year it is made. This is because the assumption change is permanent and affects mortality for the remaining policy term. Once again, future profits under the FSV approach are almost unaffected.

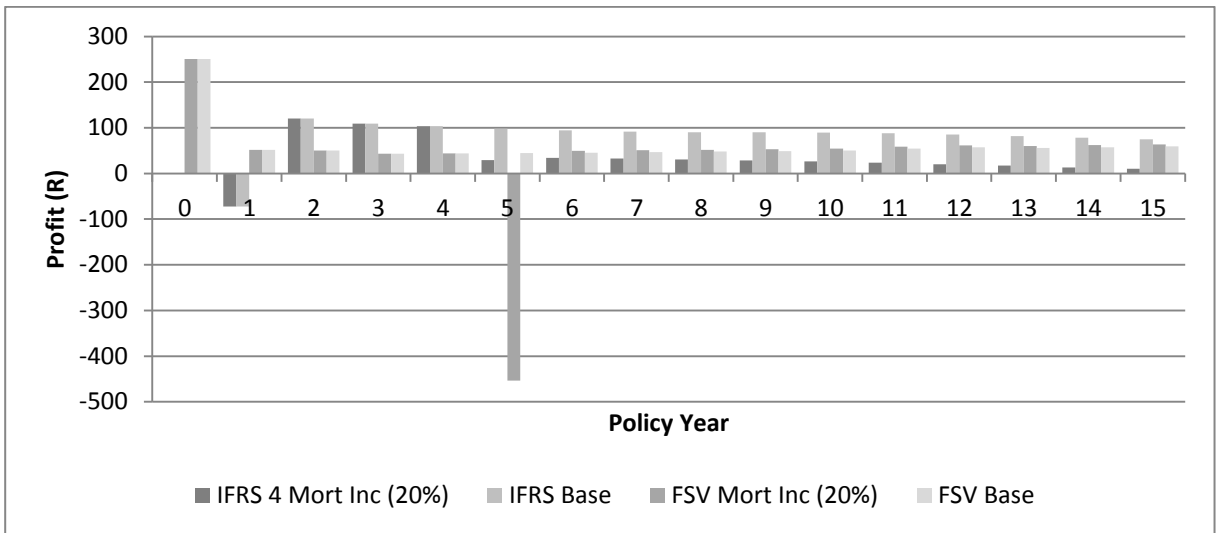


Figure 25. Comparison of base profit profiles under IFRS 4 and FSV with large mortality assumption increase

Third demographic scenario: Small (-10%) permanent decrease in future mortality rates (Figure 26)

This scenario constitutes a weakening of the demographic basis and an accompanying increase in profitability of the policy. IFRS 4 requires that any favourable change (i.e. reduction) in best-estimate liabilities is offset by an increase in the CSM. This means that at the time of the assumption change there will be very little impact on profit (apart from changes in the risk adjustment as a result of the assumption change). Subsequent years will however have a higher profit release as there will be a larger CSM which is running off. There is no limit to how large the CSM can become as a result of introducing favourable assumption changes.

Under the FSV approach, the assumption change results in an immediate profit in the year it is made and very little change to profits in subsequent years.

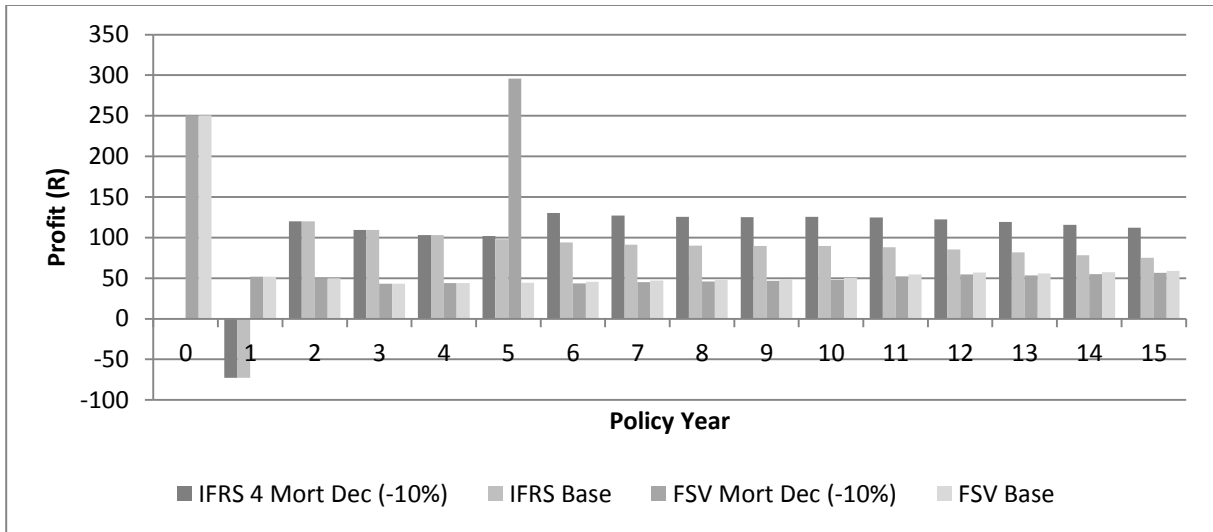


Figure 26. Comparison of base profit profiles under IFRS 4 and FSV with mortality assumption decrease

### 5.8.2 Discount rates

Unlike demographic changes, changes to the discount rate are not absorbed by the CSM under IFRS 4. The objective however is to avoid any accounting mismatch (and hence volatility of profits) where no underlying economic mismatch exists. For this reason IFRS 4 makes use of the other comprehensive income (OCI) section of the income statement to reflect changes in the value of assets and liabilities due to changes in discount rates (at a high level). This means that relatively volatile movements in assets and liabilities resulting from market changes are confined to the OCI, whilst more stable earnings appear in profit and loss.

Figure 27 shows the relative impacts on the FSV and IFRS 4 approaches (on total comprehensive income including both OCI and profit and loss) for a level 2% increase in discount rates at the end of year 5 for the rest of the policy term. The profit profile reflects the impact of the change in discount rate on the IFRS 4 and FSV liabilities but does not take into account corresponding movement in the insurer's asset values.

Overall, an increase in the discount rate increases profits and decreases liability in the year of the change. The FSV basis appears more sensitive to the increase in discount rate than IFRS 4 in this case. This is because the CSM under IFRS 4 is unaffected by changes in the discount rate in the year in which the discount rate changes, whereas the entire FSV liability is affected by the change in discount rate (the entire FSV liability includes both best-estimate cashflows and compulsory margins).

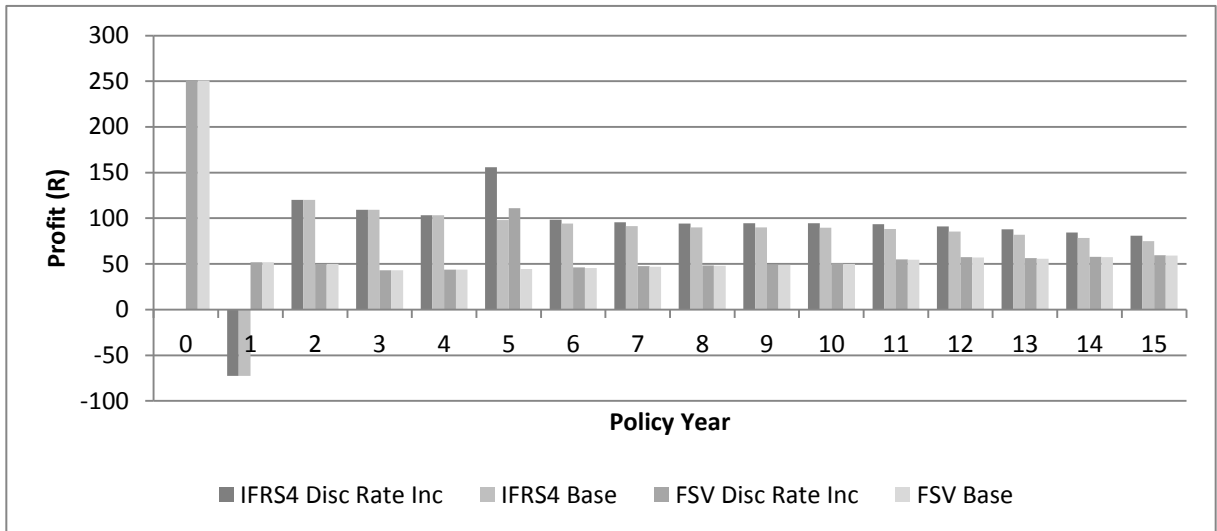


Figure 27. Comparison of base profit profiles under IFRS 4 and FSV with discount rate increase

There is however a change in the CSM in subsequent years as the CSM run-off pattern changes due to a change in the value of the CSM carrier (which is the present value of claims in this scenario). Therefore under IFRS 4 only the best-estimate liability and the risk adjustment components are affected by the discount rate change in the year that the change occurs. Under FSV, the entire liability is impacted by changes in the discount rate and hence the FSV liability is more immediately sensitive to discount rate changes than the overall IFRS 4 liability.

Compared to an increase in discount rate as discussed above, a decrease in discount rates has an impact of similar magnitude, but in the opposite direction for both the FSV and IFRS 4 results (i.e. profits decrease and liabilities increase in the year in which the discount rate changes).

The change in liability however only represents half the picture in terms of the overall impact a change in discount rates will have on an insurer's profits. The other half of the picture is of course the change in the value of the assets backing the liabilities. To the extent that the assets are matched to the liability (in terms of currency, amount and timing), the overall impact on profit should be zero on a financial reporting basis that accurately reflects the true economic profits.

No attempt has been made to illustrate the impact of asset movements in our profit profiles. Apart from the subjectivity of assuming the degree of matching, the situation is made more uncertain by pending changes to IFRS 9.

## 5.9 Transition

In the ideal situation insurers would have access to perfect information regarding policy history and would be able to calculate the IFRS 4 liability on transition accurately without the need for approximations. This means that the IFRS 4 liability on transition would be the same as the IFRS 4 liability would have been had IFRS 4 been in force since inception.. The impact of the change from FSV to IFRS 4 at transition would then be the move from the FSV liability to the IFRS 4 liability at the projected transition point.

However, in reality insurers do not have perfect historical information available for all their policies (in particular for older books of business). The best-estimate liability and risk adjustment components of the IFRS 4 liability are fully prospective and do not require historical information to determine their value at transition. The difficulty however comes in estimating the CSM at transition because it requires the value of the CSM at inception, and hence the value of the best-estimate liability and risk adjustments at inception as well as the original premium paid. To determine the value of these components at inception, the IASB has allowed some simplifications.

The first simplification is to allow the insurer to use the value of the risk adjustment at transition as the value of the risk adjustment at policy inception. Since the risk adjustment typically decreases over the life of the policy, using a later risk adjustment at inception will result in a higher CSM at inception than if perfect information had been available, all else being equal. In turn, a higher CSM at inception will result in a higher CSM (and hence higher overall insurance liability) at transition than if perfect information were available. Overall, this suggests that the gap between the FSV liability and IFRS 4 liability on transition would be higher than it would be without the simplification (for a profitable policy the FSV liability is typically lower than the IFRS 4 liability).

The second simplification relates to the estimates of the best-estimate liability at inception. In the absence of best-estimate assumptions at inception, the insurer is allowed to use actual historical cashflows to determine the value of the best-estimate liability at transition. To the extent that actual cashflow experience was in line with the best-estimate assumptions that would have been in place, this simplification would have no impact on the value of the CSM at inception and therefore the IFRS 4 liability on transition relative to the FSV liability. Similarly, there would be no impact on the CSM for the third simplification relating to discount rates if simplified estimates of discount rates at inception are in line with the actual discount rate at inception.

For existing insurers the impact at transition will be on a diverse in-force book and not at a single policy projection year. A simplified replication of this was created by examining the future profit

releases and the projected liability profile of a book of 10 base scenario term insurance policies sold evenly over the last ten years. The results of this replication are displayed in Figure 28 and Figure 29.

The results show a far higher level of profit emergence over the life of the policy portfolio under the IFRS 4 basis. This is the result of a much larger liability on transition which effectively recaptures the profits which the FSV method released on inception in the base scenario. This recapture or increase in the value of the liability on transition is put directly through as a reduction in equity (according to the transition guidance in IFRS 4) and does not impact the income statement in the year of transition. The biggest difference in profits is in years 2-5 after which the profit and liability profiles begin to converge.

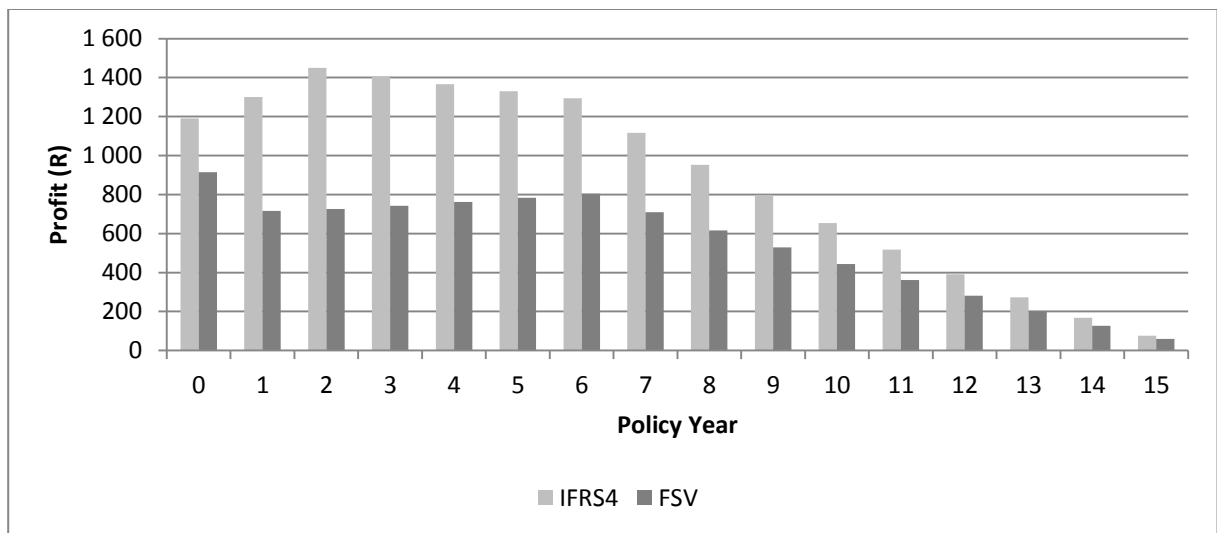


Figure 28. Comparison of profit profiles for IFRS 4 and FSV in a transition scenario

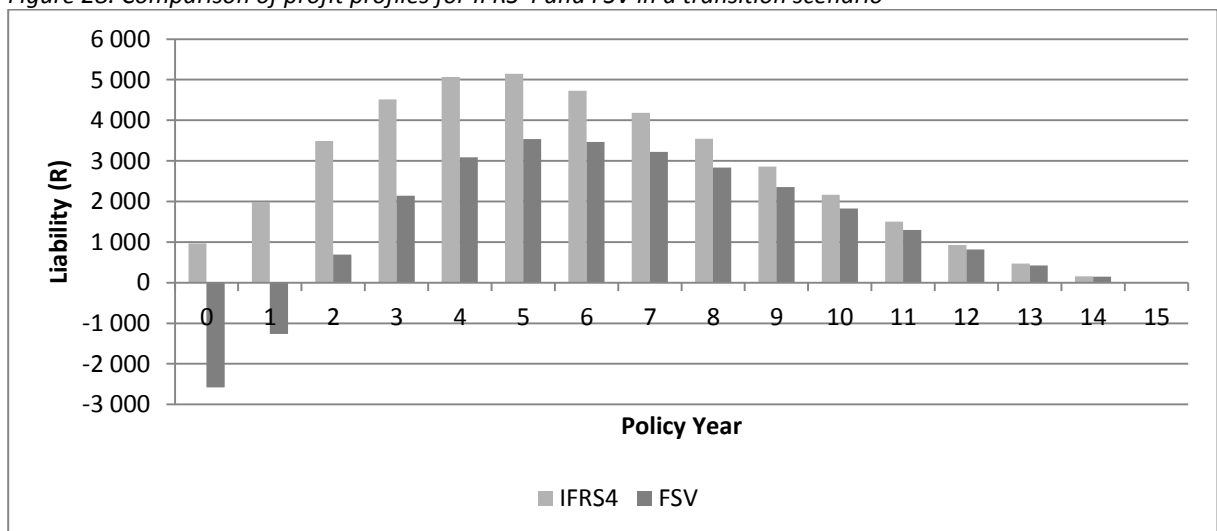


Figure 29. Comparison of liability profiles for IFRS 4 and FSV in a transition scenario

### 5.10 Endowment policy

Altering the policy type to an endowment with a guaranteed payment of the sum assured at maturity does not bring any significant new insights. Overall the profit under the FSV approach is higher at inception and lower throughout the life of the policy, when compared to IFRS 4. Significant reserves build up for an endowment policy and as a result the best-estimate liability component is the most significant component of overall liability profile under both FSV and IFRS 4 approaches. This results in the overall liability profiles under the FSV and IFRS 4 approaches being similar because they are based on the same best-estimate liabilities.

Figure 30 and Figure 31 show this for a mildly profitable policy (inherent profitability of 5%). A more profitable endowment policy would have more marked differences in profit and liability profiles, whilst an unprofitable policy would have results which are more similar (i.e. both approaches result in a loss at inception and a low level of profits emerging over the life of the policy). Even though the magnitude of the profits is similar in this scenario, the shapes of the profit profiles are different with the FSV profits increasing towards policy maturity and the IFRS 4 profits decreasing. This is however dependent on the measure chosen for the risk adjustment calculation and the rate at which it runs off, as well as the choice of run-off for the CSM.

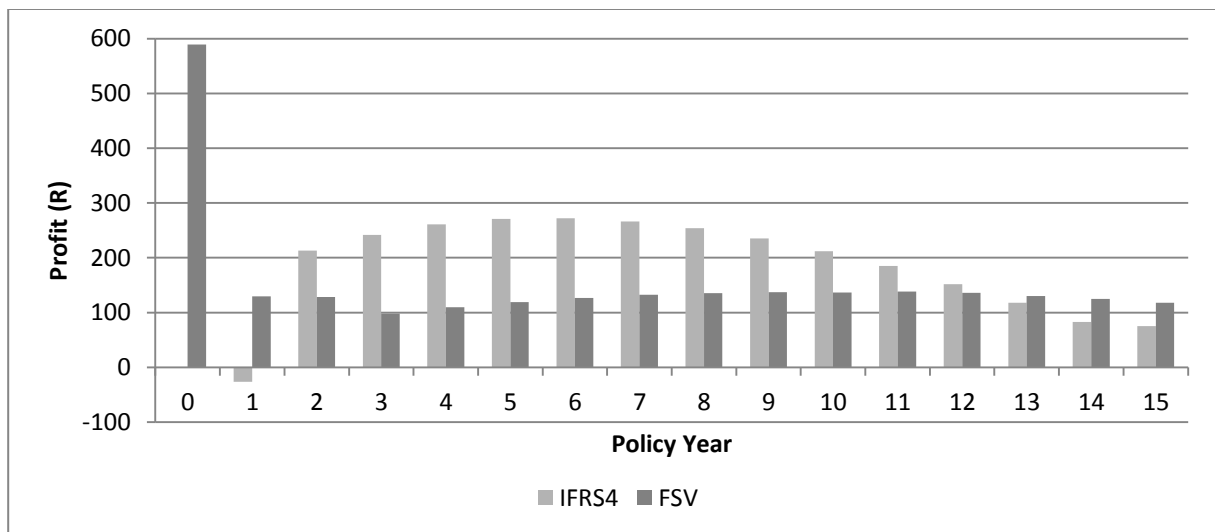


Figure 30. Comparison of profit profiles for IFRS 4 and FSV for an endowment policy

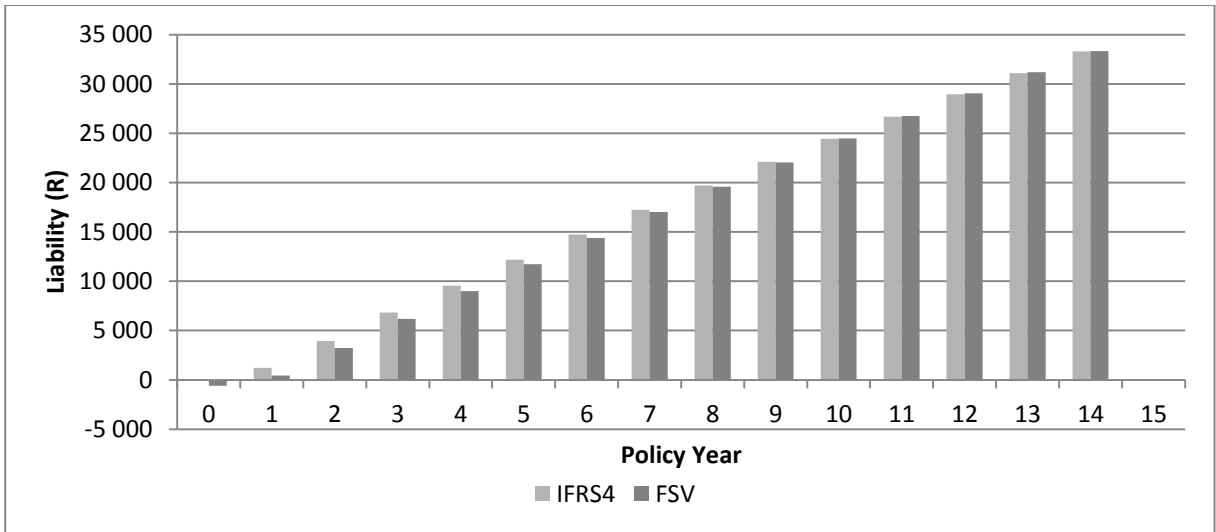


Figure 31. Comparison of liability profiles for IFRS 4 and FSV for an endowment policy

### 5.11 Whole of life

Extending a 15 year term policy to a whole of life policy does not bring about any surprising results. The FSV basis recognises profits at inception if the contract is profitable, and then has subsequently lower profits over the policy term. The IFRS 4 liability is greater over most of the contract term of a profitable contract, since the CSM is greater than the compulsory margins in the FSV.

## 6. Conclusions

The results of the scenarios examined in Section 5 were analysed and have yielded some interesting results, both on their own and in the context of financial reporting principles discussed in Section 3. The scenarios which resulted in the most significant impacts on insurer financial statements in the quantitative comparison are discussed in this section. This discussion is then built upon in the context of appropriate and useful financial reporting approaches and principles to discuss the overall impact that the implementation of IFRS 4 will have on South African life insurers.

### ***6.1 Quantitative impacts of IFRS 4***

#### **6.1.1 Best-estimate liability**

Both the FSV and IFRS 4 approaches are based on a similar set of best-estimate cashflows. The major difference in these cashflows is regarding the expenses which are included in the liability calculation. IFRS 4 does not allow indirect expenses (both initial and renewal) to be included in the best-estimate liability, whereas the FSV approach does.

Initial indirect expenses, which are excluded from the best-estimate liability, result in a loss in the first year under IFRS 4. The lower best-estimate liability that arises from excluding indirect expenses results in a correspondingly higher CSM at inception which is not directly reduced when the indirect expenses are incurred, resulting in a loss. Direct expenses on the other hand are offset by reductions in the best-estimate liability when incurred. No doubt, there will be increased scrutiny by insurers on the allocation of their expenses between direct and indirect expenses.

The subsequent rate of profit recognition under IFRS 4 is dependent on the release of the CSM and risk adjustment over time and it will also be of interest to see what carriers companies settle on as being appropriate measures of the rate at which they render their services. A carrier based on claims plus expenses, where expenses include initial expenses, can help offset the strain of not providing for indirect initial expenses compared to a carrier based purely on claims. The indirect initial expense in the first year would be offset by a more material release of CSM in the first year. This interaction is complex but important since the CSM run-off is an integral part of IFRS 4 profit releases over time.

A further difference in the recognition of cashflows between the FSV and IFRS 4 approaches is regarding voluntary premium escalations. The FSV approach does not allow for voluntary escalations while IFRS 4 requires a best-estimate of voluntary premium escalations to be included in the determination of the best-estimate liability. However, since IFRS 4 does not recognise profits at inception, the inclusion of premium escalations does not impact insurer results significantly (as the CSM tops up the total liability to eliminate profit at inception). Once the escalation option is taken up, the FSV basis would allow for profits to be released at the time the option is taken up, despite them not being explicitly included in the liability and profits at inception.

Over the life of any policy, as the best-estimate liability becomes a more significant component of the IFRS 4 overall liability (i.e. as the risk adjustment and CSM run down), the IFRS 4 liability will converge towards the FSV liability since, at their core, the best-estimate liabilities are largely the same under both approaches (with the exception of indirect renewal expenses which have been ignored in this analysis). There will always be some degree of difference depending on the different run-off pattern of the compulsory margins relative to the CSM and risk adjustment. Near the end of a policy term, CSM and risk adjustment under IFRS 4 typically tend to run off faster than the compulsory margins under the FSV basis.

Examination of a simple whole of life policy did not yield any additional insights as the differences and features were very similar to the base scenario term insurance policy. A similar examination of a simple endowment policy did not lead to new conclusions either, but it was noted that because of the significant build-up of reserves over the policy period, the FSV and IFRS 4 liabilities were more closely related than under a term policy.

### **6.1.2 CSM**

The use of the CSM under IFRS 4 to eliminate profits at inception is a significant change from the FSV approach which allows profits at inception. The mandatory minimum level of deferment introduced by the CSM for profitable contracts is significantly higher than the deferment provided by compulsory margins. This serves to reduce first year profits (and, in cases where there are significant indirect acquisition expenses, incur first year losses) and increase the future profit releases over the life of a policy.

In principle, the FSV approach need not result in excessive profits emerging at policy inception: discretionary margins can be used to spread the profits appropriately over the policy term.

However, in practice, discretionary margins may not always be used to result in a smooth release of profit in line with the service rendered. An example is the zeroisation of negative FSV liabilities which prevents significant profits at inception. Zeroisation however can be a blunt instrument resulting in an initial strain followed by high profits in each year where the liability remains zeroised. Once the liability turns positive, the discretionary margin is no longer in effect and the profit release reverts to releases as a result of compulsory margins only. These compulsory margins can be very small when compared to the profits released in earlier policy years, which is not necessarily representative of the risk that the insurer is exposed to, nor the service provided by the insurer (particularly when compared to earlier years in the policy term).

The discretion allowed under IFRS 4 in the approach used to run off the CSM over the life of a policy has the potential for different insurers to produce materially different profit release patterns for similar policy types. However, the range of reasonable run-off patterns for a particular policy type under IFRS 4 is substantially narrower than the range of feasible discretionary margins under FSV and the comparability of profit and liability profiles of insurers is therefore likely to be significantly greater under IFRS 4 than it has been under FSV. One of the more interesting interactions is that of the run-off of the CSM carrier which uses claims plus expenses with the payment of indirect expenses. As discussed in Section 6.1.1, the use of this CSM carrier can absorb some of the initial strain, which can be significant under IFRS 4 for profitable contracts.

For unprofitable or marginally profitable policies where the CSM is zero under IFRS 4, the value of deferred margins under the FSV approach is greater than the risk adjustment under IFRS 4 as determined in this investigation. This means that the FSV approach results in a higher reserving strain at policy inception and higher subsequent profit releases later in the policy term. On the other hand, for profitable contracts the IFRS 4 liability is normally more onerous than the FSV liability at inception due to the CSM. In this case IFRS 4 would result in a higher reserving strain at inception.

Demographic assumption changes have a more significant impact under the FSV approach than under IFRS 4. Under the FSV approach there is no mechanism to offset the impact of demographic assumption changes and any positive or negative assumption changes result in a direct impact on profit or loss. Under IFRS 4, policies with a positive CSM will utilise the CSM to offset any adverse change in best-estimate liability, to the extent that the change is smaller than the CSM. Any adverse change in excess of the CSM results in a loss for the period. Positive assumption changes will always increase the CSM under IFRS 4 and never result in an increased profit in the year in which they are made.

The result of this is that a demographic assumption change under IFRS 4 will have minimal impact on the liability and profit level in the year in which it is made. However that assumption change will affect the future liability profile and profit releases as the value of the CSM and risk adjustment will have been affected, hence influencing their respective future releases.

Under IFRS 4, when the CSM has been depleted to zero, the impact of an adverse demographic assumption change flows directly to the profit and loss statement. However, that impact under IFRS 4 will remain slightly smaller than would be the case under the FSV approach. This is because the compulsory margins on the FSV approach typically exceed the IFRS 4 risk adjustment and are also sensitive to changes in assumption.

Changes in the discount rate assumption do not affect the CSM under IFRS 4. Instead, all changes in discount rate go straight to OCI (a component of total comprehensive income). The FSV approach also allocates the entire change in discount rates into profit and loss. However, the FSV liability and hence profits are slightly more sensitive to discount rate changes since the entire FSV liability is usually sensitive to discount rate changes. Under IFRS 4, the CSM is not affected by discount rate changes at the time the change is made. Therefore, to the extent that the CSM forms a large component of the overall IFRS 4 liability, the sensitivity of the IFRS 4 liability to discount rate changes is reduced.

The determination of the CSM on transition to the IFRS 4 approach is problematic because it is dependent on the value of the CSM at inception of the contract. To determine the CSM at inception requires the value of the best-estimate liability and risk adjustment at inception and these calculations may require more historical assumptions and cashflow information than an insurer has available. Despite the simplifications available to insurers on transition, insurers should aim to begin collecting and recording relevant information in terms of best-estimate cashflow and interest rate assumptions at inception in preparation for the implementation of IFRS 4.

### **6.1.3 Risk Adjustment**

Neither the method nor the strength of calibration used to calculate the risk adjustment under IFRS 4 is prescribed. This means that insurers with different risk appetites can determine significantly different risk adjustment values.

In the case of profitable contracts, variation in the risk adjustment approach is absorbed by compensating changes in the CSM, so the total liability at inception for insurers valuing the same portfolio with a different risk adjustment will not be different, but the run-off over time will differ. Certainly in the case of unprofitable contracts where there is no CSM, different approaches to the risk adjustment will reduce comparability of reporting.

The requirement to translate the risk adjustment to a disclosed confidence interval will provide an understanding of the strength of the risk adjustment calibration, but it will not allow for direct comparison of published results between insurers with vastly different risk appetites. This is a potential shortcoming in the attempt to improve the comparability of insurer results under IFRS 4.

The risk adjustment approach used in this investigation (cost of capital at 6% on a pseudo-SCR calculation as per the latest SAM requirements) produced a smaller increase in liability than that produced by the FSV compulsory margins. Also, where the magnitude of the expected FSV margin releases typically increases, the magnitude of the expected risk adjustment releases under IFRS 4 typically decrease over the life of a term insurance policy. Different approaches to calculating the risk adjustment and different decrement assumptions may however result in a different magnitude and release of risk adjustment over time.

## ***6.2 Overall impacts of IFRS 4***

For profitable policies, the FSV approach results in a profit at inception in the absence of discretionary margins. The level of profit is volatile depending on the extent of the inherent profitability of the policy. This is because the same quantum of compulsory margins is deferred regardless of the premium level charged on a policy. The IFRS 4 approach does not allow profits at inception, which means that the profit arising in the first year is independent of the profitability of the policy. Furthermore, the amount of profit deferred at inception is dependent on the overall profitability of the policy, ensuring that profits are always spread over the policy term. Waugh (1998) identifies that insurer financial reporting methodologies around the world do not typically allow profit to emerge at inception and the principle of not allowing profit to emerge at inception is generally accepted as best-practice. Therefore, a move from FSV to IFRS 4 where no profit is allowed to emerge at inception will result in South African insurer financial reporting being more comparable to international insurer financial reporting and therefore more useful to (particularly international) users of South African insurer financial statements.

The FSV requires insurance liabilities to be calculated using a defined set of compulsory margins and allows an option to introduce additional discretionary margins where required. On onerous contracts, discretionary margins might accentuate the loss at inception but may be appropriate in order to reduce the probability of further losses emerging in all future years. On profitable contracts, discretionary margins serve to distribute profit over the life of the insurance contract at the discretion of the insurer. The IFRS 4 approach does not allow for discretionary margins and the move from the FSV approach to IFRS 4, and the accompanying removal of this discretionary allowance, may improve comparability of financial results between insurers. This increased comparability may however not be evident as the IFRS 4 approach also allows for significant discretion through the allowance of a broad range of approaches to be used in the determination of the risk adjustment. The varying levels of calibration of the risk adjustment would reduce the comparability of insurer financial statements under IFRS 4; however with appropriate disclosures this may mean that the IFRS 4 financial results are more comparable than the corresponding FSV financial results.

The absence of discretionary margins in IFRS 4 and corresponding lessening of discretion does not however mean that the IFRS 4 approach is more rules-based than the FSV approach. On the contrary, the IFRS 4 methodology governing calculation of insurance liabilities appears to be more principles-based than the FSV approach. Both IFRS 4 and FSV approaches require the inclusion of all relevant best-estimate cashflows and adhere to the same principles in the identification and inclusion of these best-estimate cashflows. However, where the FSV requires the addition of strictly defined compulsory margins (these compulsory margins can be added to by discretionary margins, but not reduced whether or not these are appropriate to the specific insurer), the IFRS 4 approach has a risk adjustment which is determined using a methodology and including relevant factors as identified by the insurers, and calibrated to the risk appetite of the insurer (with the appropriate disclosures). Furthermore, the release of profit over the term of an insurance contract under the FSV approach is largely dictated by the requirements of the compulsory margins (through the release of the margins over time), which is a rules-based approach. On the other hand, the release of profit under the IFRS 4 approach is according to the CSM carrier, which is chosen by the insurer according to the concept of the transfer of services over the life of the contract, which is a more principles-based approach. The FSV approach also has specific guidance on certain elements of the insurance liability measurement, for example the exclusion of cashflows relating to policyholder options which are profitable to the insurer. This detailed implementation guidance is further evidence in support of the FSV approach being a more rules-based measurement methodology. Overall, the IFRS 4

approach appears to contain a more principles-based measurement approach compared to the FSV approach and is therefore more appropriate in the context of modern financial reporting standards.

The minimum margin required under the IFRS 4 approach (the risk adjustment) is typically less than the minimum margin required under the FSV approach (compulsory margins). This might raise concerns with regard to the prudence of liabilities for marginally profitable policies under IFRS 4, but financial soundness and solvency is a regulatory issue addressed under a different basis and should not be the focus of published financial reporting. Furthermore the principle of the FSV methodology comprising a prudent best-estimate calculation of the insurance liability (through the use of best-estimate assumptions plus compulsory margins) is not appropriate in the context of the 2010 Conceptual Framework for Financial Reporting published by the IASB. The 2010 conceptual framework has removed the concept of prudence from the principles of financial reporting and now requires neutrality and unbiased estimates in its place. In this regard, the IFRS 4 approach is more appropriate as it is fundamentally constructed on best-estimate assumptions together with an element of appropriate profit deferment. That is, the building block components comprise best-estimate liability (best-estimate assumptions of future cashflows with no prudence), risk adjustment (best-estimate of the compensation the insurer will require to take on uncertainty of insurance risk) and contractual service margin (deferments of insurance contract profit in line with transfer of service over the life of the policy). Therefore, although the FSV approach of best-estimate plus compulsory and discretionary margin performs a similar function to the IFRS 4 approach of best-estimate plus risk adjustment and contractual services margin, the IFRS 4 approach is more appropriate in the context of the Conceptual Framework due to its underlying requirement for neutral and unbiased estimates without allowance for prudence. This does not mean that the FSV liability is always larger (i.e. prudent) when compared to the IFRS 4 liability (for profitable policies the opposite is generally true), but rather that due to the theoretical construction of the two approaches the IFRS 4 approach does not have explicit prudence or conservatism (or its 'prudence' is dressed up as profit deferment).

The Third European Life Assurance Directive (although slightly outdated, as it includes for example a requirement for prudence in insurance liability measurement) contains a number of relevant principles for financial reporting of insurance companies. One of these principles requires that profits arising on insurance contracts are not volatile or overly sensitive to changes in assumptions and methodology of insurance liability calculation. Due to the dampening effect of the CSM, the IFRS 4 approach has a profit stream which is less sensitive to assumption and method changes than

the FSV approach, which capitalises the impact of changes at the time they are made. In this regard, the IFRS 4 approach appears to be more appropriate in meeting the principles of the directive.

The IFRS 4 and FSV approaches to measurement of insurance liabilities also need to be considered in the context of the fundamental characteristics of financial reporting according to the Conceptual Framework. The requirement of relevance of financial information, in terms of confirmatory value and predictive value, is exhibited equally well by IFRS 4 and FSV approaches. Both provide sufficiently appropriate financial information (and relevant disclosures, although these are not the focus of this research) to be able to utilise the financial information in confirming past financial information and in calibrating and constructing models and processes for predicting future potential financial information.

The requirement of faithful representation of financial information is exhibited more appropriately by the IFRS 4 approach. Both IFRS 4 and FSV approaches provide complete information which is free from error, however, as mentioned previously the FSV approach does not provide neutral information. The FSV approach requires prudence which is not appropriate in the context of neutral and unbiased financial information. This means that the IFRS 4 approach provides a more faithful representation of financial information than the FSV approach.

The supporting characteristic of comparability has also been discussed previously. The principles-based nature of the IFRS 4 approach with regard to risk adjustment and CSM runoff means that comparability of IFRS 4 result between insurers may be reduced. However, given the discretion currently allowed under the FSV approach with regard to the use of discretionary margins, the IFRS 4 approach will not necessarily result in an increase or decrease of comparability between the published financial information of South African insurers. However, given that IFRS 4 will be applicable globally, it will result in an increased comparability of South African insurer financial information on a global scale which can serve to significantly increase the usefulness of the financial information to a far larger audience of users. The supporting characteristics of verifiability and understandability are unlikely to be affected by a change to IFRS 4 since comprehensive disclosure requirements exist under both approaches, ensuring that both approaches produce financial information that is verifiable and understandable to a sufficiently knowledgeable user. IFRS 4 will also not change the requirement for published financial information to be made available annually, meaning that the supporting characteristic of timeliness will also be largely unchanged in the move to IFRS 4.

Certainly the move from FSV to IFRS 4 measurement for insurance contracts will bring significant changes to financial reporting for South African life insurers. The exclusion of indirect expenses from fulfilment cashflows, the use of CSM to absorb profits at inception and at subsequent assumption changes, and the change in the discretion available to insurers in calculating their insurance liabilities are amongst the major changes which will be introduced. These changes will result in both increased costs and benefits to insurance companies and users of insurance company financial statements. The extent to which the benefits of the change to and implementation of IFRS 4 outweigh the costs (and vice-versa) is likely to differ between individual insurance companies based on their individual situations, although this is outside the scope of this dissertation. Instead, it is identified and concluded that the benefit of the change to using IFRS 4 as the measurement methodology for financial reporting is financial information which is more useful to users in making economic decisions. The information will be more useful as a result of it better meeting the requirements of fundamental financial reporting principles; IFRS 4 will furthermore result in an increase in international comparability of the financial information and a move toward a more principles-based approach to financial reporting.

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## **Appendix A: Issues not considered in this investigation**

The investigations conducted in this dissertation and the results produced are based on the June 2013 IFRS 4 Exposure Draft with a number of simplifying assumptions. Certain issues were deliberately not considered due to the uncertainty surrounding them for future IFRS 4 standards. This allowed the investigations to focus on the key IFRS 4 principles which departed from the FSV approach and were unlikely to change in the final published IFRS 4 standard. Some of the complications and uncertainties which were not considered in the investigation are briefly outlined below.

### Availability of information

One of the major issues for insurers in implementing the IFRS 4 standard will be the availability of current and historical information to perform the required measurement calculations and financial disclosures. This investigation assumed perfect information was available for all scenarios.

### Actual experience

The actual experience over a policy term was assumed to be the same as the expected experience for all scenarios.

### Presentation

The determination and presentation of premium revenue, the split of investment premiums from insurance premiums for presentation and the split of asset and liability value changes between OCI and profit and loss are all fairly contentious issues in the draft standard. This investigation briefly touched on the issue of the use of OCI, but did not delve into the premium presentation. No consideration was made as to the reconciliation requirements of IFRS 4.

### Use of cohorts

The investigation looked at a single policy projection. This is theoretically equivalent to investigating a cohort of identical policies sold at the same time.

### Complex policy features

Only simple policies without any options, riders, discretionary participating features, bells or whistles were considered in the investigation.

With profits policies, the mirroring approach and IFRS9

The investigation only considered non-profit conventional policies, not considering the complexities around the treatment of with profit policies and the mirroring approach. The investigation focussed solely on the impact of IFRS 4 on the value of insurance liabilities and no consideration was made as to the impact of changes in IFRS9 on insurer financial results.

Reinsurance

No reinsurance was applied to the policies considered.

Premium allocation approach

Only the building block approach was considered in this investigation.

## Appendix B: Policy details and assumptions

The following is a description of the policy and assumptions used in the base scenario, as well as the level of annual premium assumed in scenarios where premium level changed.

### ***Policy description***

Type of policy	Term insurance
Tax status	Non-taxable
Contract term	15 years
Premium term	15 years
Sex of policyholder	Female
Age at entry	40 last birthday
Annual premium	R1 000 p.a.
Sum assured	R100 000
Premium and sum assured escalation	None

### ***Best-estimate assumption***

#### Non-economic

Initial expenses	R1 000
Renewal expenses	R100 p.a.
Commission	30% of initial annual premium
Mortality	80% of SA85-90 (light)
Aids	20% of ASSA2008 Lite national female rate (starting in year 2012)
Withdrawals:	
Year 1	15%
Year 2	10%
Year 3+	5%

#### Economic

Investment return	Nominal forward swap curve at 31 Dec 2011 as provided by FSB for QIS2.
Discount rate	Same as investment return
Inflation	Difference between nominal forward swap and real forward swap curves at 31 Dec 2011 as provided by FSB for QIS2, +1%

***IFRS 4 specific assumptions***

Proportion of initial expenses that are direct	80% of initial expense (excluding commission)
Risk adjustment calculation method	Cost of capital on QIS2 Life SCR
Cost of capital rate	6%
CSM carrier for run-off	Present value of future claims at discount rate

***FSV specific assumptions***

Compulsory margins	SAP104
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***Premium levels assumed in scenarios***

Higher premium	R1 200 p.a.
Lower premium	R800 p.a.
Premium and sum assured escalation	R825 p.a.
Cost of capital sensitivities (10% and 3%)	R900 p.a.
Endowment	R5 000 p.a.
Whole of life	R1 300 p.a.