ACTUARIAL SOCIETY OF SOUTH AFRICA

SAP 104: CALCULATION OF THE VALUE OF THE ASSETS, LIABILITIES AND CAPITAL ADEQUACY REQUIREMENT OF LONG-TERM INSURERS

Classification

Compliance with this Standard of Actuarial Practice (SAP) (excluding the Appendix) is mandatory for Statutory Actuaries performing valuations of long-term insurers registered in South Africa for the purposes of published financial reporting, statutory reporting, and tax liability calculation. This SAP replaces PGN 104. Where legislation or documentation refers to PGN 104 it should be interpreted as SAP 104.

Appendix A (entitled "Advisory guidelines to assist with complying with accounting standards for producing financial statements") has an advisory status, due to the fact that the authority for financial reporting should be taken directly from the International Financial Reporting Standards (IFRS) themselves.

Abstract

This SAP considers the valuation of a long-term insurer's assets, liabilities and capital adequacy requirement.

Purpose

The purpose of this SAP is to assist fellow members of the Actuarial Society of South Africa in discharging their professional responsibility in relation to the valuation of a long-term insurer's assets, liabilities and capital adequacy requirement.

Legislation or Authority

The Long-term Insurance Act, 1998 (Act No. 52 of 1998), and associated FSB Board Notices; IAS 39; IAS 32; IFRS 4; IAS 18; the Companies Act, 2008 (Act 71 of 2008); the Income Tax Act, 1962 (Act 59 of 1962).

Application

Statutory Actuaries

Author

Life Assurance Committee of the Actuarial Society of South Africa.

Status

Version 1	Approved in August 1986
Version 2	Approved in August 1995
Version 3	Effective for financial years starting on or after 1 January 1998, and updated in May 1998, October 1999 and May 2001
Version 4	PGN 104 Addendum version 1, effective from 30 June 2003
Version 5	PGN 104 Addendum version 2, effective from 31 December 2003
Version 6	Effective for valuations performed for financial years commencing on or after 1 January 2005
Version 7	Effective for valuations performed as from 31 December 2008
Version 8	SAP 104 effective for valuations performed as from 31 December 2012

Version 9	SAP 104 effective for valuations performed as from 30 September 2017 (members may elect to adopt version 9 early for reporting dates on or after 30 June 2017)

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2 BACKGROUND TO STANDARD OF ACTUARIAL PRACTICE

2.1 Introduction

2.1.1 There are a number of different reasons for performing a valuation of a long-term insurer's assets and liabilities and, in certain instances, its capital requirements.

2.1.2 Generally speaking, the purpose of the valuation will drive the valuation methodology and assumptions.

2.2 Three main valuations

2.2.1 There are three valuations of long-term insurers that are required to be performed regularly. These are:

2.2.1.1 Valuation of assets and liabilities for published financial accounts.

2.2.1.2 Valuation of assets, liabilities and capital requirement for statutory reporting.

2.2.1.3 Valuation of assets and liabilities for calculation of the insurer's tax liability.

2.2.2 While in many instances the above three valuations may be arrived at by use of the same methodology and assumptions, they are three distinct valuations, with different purposes, and the Statutory Actuary should be aware of the distinctions.

2.2.3 Importantly, each of these valuations is governed by different statutes, falling under different regulatory bodies. Specifically:

2.2.3.1 Published financial reporting falls under the Registrar of Companies and needs to comply with the Companies Act, 2008 (Act 71 of 2008) as well as the Long-term Insurance Act, 1998 (Act 52 of 1998). Published financial reporting also needs to comply with South African Generally Accepted Accounting Practice. JSE-listed companies also need to comply with the JSE rules.

2.2.3.2 Statutory reporting falls under the Financial Services Board ("FSB") and needs to comply with the Long-term Insurance Act, 1998 (Act 52 of 1998) and associated Board Notices and directives.

2.2.3.3 Asset and liability valuations used for calculating a long-term insurer's tax liability falls under the South African Revenue Service and need to comply with the Income Tax Act, 1962 (Act 59 of 1962).

2.2.4 Developments in South African prudential supervision and financial reporting for long-term insurers, driven in part by international developments in these areas, have seen some differences in the valuation requirements begin to emerge.

2.3 International Accounting Standards

2.3.1 The International Accounting Standards Board has issued a standard for Insurance Contracts (IFRS 4) and has updated the standard for the Recognition and Measurement of Financial Instruments (IAS 39), both of which apply to the valuation of assets and liabilities for published financial reporting purposes and took effect from 1 January 2005 in Europe.

2.3.2 South African accounting standards have moved in line with the international standards.

2.3.3 SAICA's convention is to refer to the international standard with the corresponding local standard in parentheses thereafter. This convention is also used in SAP 104.

2.3.4 With the introduction of IAS 39 and IFRS 4, long-term insurers in South Africa need to approach the valuation of certain parts of their business from two distinct perspectives, that is a published financial reporting perspective (addressed primarily by IAS 39 and IFRS 4), and a statutory reporting perspective.

2.3.5 As further developments take place, further modifications of local accounting standards are expected, possibly leading to increased differences between the asset and liability valuation methodology used for statutory reporting and published financial reporting.

2.3.6 The accounting standards themselves provide the authority that must be complied with when producing financial statements. It is thus considered inappropriate to provide any additional mandatory guidance in SAP 104. Nevertheless, Appendix A contains guidance of an advisory nature to assist actuaries in complying with the accounting standards when producing financial statements.

2.4 Statutory Reporting – Board Notice 14 of 2010

2.4.1 The FSB has incorporated much of a previous version of SAP 104 into the Long-term Insurance Act via the introduction of a Board Notice entitled "Prescribed requirements for the calculation of the value of the assets, liabilities and capital adequacy requirement of long-term insurers" (currently Notice 14 of 2010 as published in Government Gazette number 32916 of 5 February 2010).

2.4.2 The FSB has gone a step further and has introduced some changes to a previous version's SAP 104 methodology in an effort to enhance the prudential supervision (in particular in the valuation of assets). As such, the new Statutory Valuation Method is different (although only slightly) from the Financial Soundness Valuation.

2.4.3 Statutory Actuaries are advised to ensure that they have access to the latest version of the "Prescribed requirements for the calculation of the value of the assets, liabilities and capital adequacy requirement of long-term insurers."

2.5 Financial Soundness Valuation

2.5.1 New accounting standards introduced mean that the Financial Soundness Valuation as described in previous versions of SAP 104 may no longer always be applicable for producing published financial results.

2.5.2 From a statutory reporting perspective, the Financial Soundness Valuation, as described in previous versions of SAP 104, has been replaced by the Statutory Valuation Method, as detailed in the Board Notice.

2.5.3 Nonetheless, for the foreseeable future, aspects of the Financial Soundness Valuation are still likely to play an important role in published and statutory reporting.

2.5.4 The Financial Soundness Valuation methodology for determining liabilities remains a pivotal part of this SAP and is detailed in section 3 below.

2.5.5 Note that section 3 is limited to details around liability valuation and does not explicitly include details of the valuation of assets or of the calculation of the Capital Adequacy Requirement. These are more appropriately dealt with in the sections on published financial reporting, statutory reporting (separate sections for assets and liabilities, and capital adequacy requirement) and tax liability calculation.

3 FINANCIAL SOUNDNESS VALUATION OF LIABILITIES

3.1 Introduction

3.1.1 A Financial Soundness Valuation of a long-term insurer's liabilities is intended to be prudently realistic, allowing 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.

3.1.2 A minimum level of financial resilience is introduced by compulsory margins added to best-estimate assumptions of all parameters. Further resilience and prudent release of profits is achieved by the inclusion of additional discretionary margins.

3.1.3 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.

3.2 Best-estimate assumptions

3.2.1 Best-estimate assumptions should be considered separately for relatively independent groups of homogeneous policies (i.e. the policies within the groups are similar, but the groups differ from each other). Examples of appropriate groupings that could be considered include splitting business by product type, by cohort, by distribution channel or by geographic region.

3.2.2 The best-estimate assumptions should be realistic, generally guided by immediate past experience, and modified by any knowledge of or expectations regarding the future. Best-estimate assumptions should depend on the nature of the business.

3.2.3 Allowance must be made for:

3.2.3.1 Expenses at a realistic level, making allowances for escalation of future expenses at an inflation rate that is consistent with the rate(s) of interest used.

3.2.3.2 The effect of lapses and surrenders at a level that is consistent with past experience modified by expected future trends.

3.2.3.3 Mortality and morbidity, at a level consistent with past experience modified by expected future trends. This must include the best-estimate of the effect of AIDS.

3.2.4 When setting the interest rate(s) at which to discount the liabilities, the Statutory Actuary should:

3.2.4.1 Ensure that the rates used are mutually consistent and consistent with market yields to maturity of fixed interest securities;

3.2.4.2 Consider the expected future investment returns on a portfolio of assets appropriate to the liabilities, bearing in mind characteristics such as term, nature and duration;

3.2.4.3 Make allowance for tax, using the Statutory Actuary's expectation of the effect of the tax basis on the expected future investment returns and of any expected future changes in the long-term insurer's tax position.

3.2.5 The Statutory Actuary, in setting the assumptions, must take cognisance of the sensitivity of valuation results to changes in the various parameters, and may need to undertake valuations on more than one basis. Where this is done, there is no requirement to report on the result of more than one valuation.

3.3 Compulsory and discretionary margins

3.3.1 Compulsory margins as per the following table must be added to all best-estimate assumptions. The value of any reserves calculated on a retrospective basis should be at least equal to the corresponding prospectively calculated reserves, where the prospectively calculated reserves must include allowance for the compulsory margins.

Assumption	**Margin**
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%)
Terminations for Disability Income Benefits in Payment	10%
Surrenders	10% (increase or decrease, depending on which alternative increases liabilities)
Expenses	10%
Expense inflation	10% (of estimated escalation rate)
Charge against investment return	25 basis points in the management fee or an equivalent asset-based or investment performance-based margin

3.3.2 The following should be noted when applying the compulsory margins:

3.3.2.1 The intention of the compulsory margins (to be added to the best-estimate assumptions) is to introduce a degree of prudence to allow for possible adverse deviations in experience during the expected future lifetime of the business. These compulsory margins will at the same time serve to an extent to defer profits and thus reduce the risk that profits are recognised prematurely.

3.3.2.2 When deciding on the direction in which to apply the compulsory margins, the following should be considered:

i The margins should be applied at a policy grouping level consistent with the level at which the best-estimate assumptions have been set. This is particularly important as the direction in which a particular risk's compulsory margin is applied could differ for different groups of policies. For example, margins in respect of mortality claims applied to a book of term assurance business will lead to an increase in the best-estimate assumption, whereas for a book of annuity business, the best-estimate assumption will be decreased.

ii Consideration should also be given to the extent to which the direction of the margin needs to be changed depending on other factors, such as the duration of the policy, or age of the policyholder. For example, an increase in the assumed level of lapses may be conservative early on in a policy's life; however it is possible that after a certain period, a decrease in the lapse assumption may be more conservative. Simply increasing (or

decreasing) the assumption over the entire life of the policy may not be appropriate and may lead to the reserve being understated. In this case, the Statutory Actuary should consider, where it is practically possible to do so, increasing the best-estimate assumption for a certain period and then decreasing it thereafter, such that at the policy grouping level, the appropriate amount of prudence is built in.

3.3.3 There are a few points to note around the application of the compulsory margin on the "charge against the investment return":

3.3.3.1 Consistent with the points raised in 3.3.2.2 above, the application of the compulsory margin on the charge against investment return needs to be considered separately at different terms and durations for different categories of policies. In the event that one or more categories of policies have negative liabilities at certain terms and/or durations, it may be more appropriate to apply the investment return margin as an addition to rather than a reduction from the best-estimate rate for that category of policies.

3.3.3.2 The margin should be applied differently depending on the type of business being valued. Examples include:

i Linked business (Rand reserve) – assume an investment fee of 1.25% if the real investment fee is 1.5% (say).

ii Reversionary bonus business – value the liabilities at 0.25% less than the valuation rate of the assets (adjusted for the effect of taxation, asset management charges and credit risk), without adjusting the expected future bonus rate accordingly.

iii Non-profit business including immediate annuities - value the liabilities at a rate of 0.25% less than the rate used for valuing the assets, adjusted for credit risk. This is discussed further in 3.4.7 and 3.4.8.

3.3.4 The compulsory margins must be added throughout the lifetime of policies. The exception is for regular renewable policies where the margin should be added for a minimum period of twelve months, or up to the next renewal date, if this period is longer than twelve months. Future management actions may not be assumed to reduce the compulsory margins.

3.3.5 To the extent that business is not expected to be profitable based on best-estimate assumptions plus compulsory margins, a new business loss will have to be reported.

3.3.6 In addition to the compulsory margins, discretionary margins may be included where the Statutory Actuary believes that:

3.3.6.1 The compulsory margins are insufficient in a particular case for prudent reserving; or

3.3.6.2 The discretionary margins should be used in order to defer the release of profits consistent with policy design or company practice.

3.3.7 Reserves in respect of discretionary margins may be calculated on a retrospective or prospective basis.

3.4 Specific points concerning methodology

3.4.1 The premiums and benefits to be valued must be those payable in terms of the contract.

3.4.2 The benefits to be valued must take into account the reasonable expectations of policyholders. This important issue is considered further in 3.5 below.

3.4.3 The liabilities (including the compulsory margins) can be reduced to take account of reinsurance the long-term insurer has in place.

3.4.4 Expected profits should not be recognised in respect of future options expected to be taken up (e.g. automatic premium increases), but expected losses in respect of such options should be recognised. Business may be grouped into broad categories with similar expected take-up rates of the options. Only the net loss in any category (if any) needs to be recognised. In this regard, the Statutory Actuary should also refer to paragraph 5 of Schedule 3 to the Long-term Insurance Act, 1998.

3.4.5 When valuing participating business, liabilities should include expected allocations of profit to shareholders, in particular where there is a specified relationship between profits attributable to shareholders and the bonus rates declared for policyholders. However, if such expected allocations to shareholders could act as a buffer in adverse circumstances, it is not necessary to reserve for both the compulsory margins and such expected shareholders entitlements. It would be adequate to reserve for the higher of the two.

3.4.6 Where a policy of smoothing bonuses has been followed, the liabilities should be increased by any positive bonus stabilisation reserve that exists – i.e. any undistributed surplus that is considered to be earmarked for future distribution to policyholders. If the smoothing process has resulted in a negative bonus stabilisation reserve because of a downward fluctuation in the market value of backing assets, it is acceptable to reduce the liabilities to reflect the amount that can reasonably be expected to be recovered through under-distribution of bonuses during the ensuing three years, provided that the Statutory Actuary is satisfied that if market values of assets do not recover, future bonuses will be reduced to the extent necessary. For statutory reporting, where reference is made to liabilities in section 6 on the Capital Adequacy Requirement, these liabilities are after including any bonus stabilisation reserves (whether positive or negative), unless otherwise stated.

3.4.7 When valuing level annuities and annuities with fixed increases, the projected expected cash flows at each duration should be discounted according to the yields of appropriate duration taken from a yield-curve of appropriate backing assets, reduced where applicable by the best-estimate allowance for credit risk, as well as by the investment return compulsory margin. Alternatively, the cash flows can be discounted at a single discount rate (reduced by the best-estimate allowance for credit risk and by the investment return compulsory margin) derived so as to give the same present value as using the yields from the yield-curve directly.

3.4.8 Inflation-linked annuities should be valued in real terms according to the adjusted real yield curve in the same way as described in paragraph 3.4.7.

3.4.9 Unbundled business consists of contracts where a designated portion of the premium is allocated or deemed to be allocated to investment in an asset accumulation fund. This will usually include the following categories: market-related, smoothed bonus, universal life and deposit administration. The following points specific to the valuation of unbundled business should be noted:

3.4.9.1 For this business the total reserve would consist of two parts, namely a "fund reserve" and a "Rand reserve".

3.4.9.2 Subject to the provisions of 3.4.6, the fund reserve including, where applicable, the face value of any non-vested bonuses, must be taken to be not less than the value of the accumulation fund.

3.4.9.3 The Rand reserve (which can be positive or negative) must be derived from a discounted cash flow calculation that allows for:

i expected future mortality and morbidity experience, including margins; plus

ii expected future commissions, expenses and expense inflation, including margins; plus

iii the cost of any guarantees provided in terms of the contract; less

iv expected future risk benefit premiums, contractual expense charges, contractual management fees and contractual charges for guarantees.

3.5 Policyholder reasonable expectations

3.5.1 The reasonable expectations of policyholders cannot be defined in watertight terms. They will depend upon, inter alia, the 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.

3.5.2 An overriding principle is that in the calculation of the liabilities, account needs to be taken of those expectations that in the Statutory Actuary's opinion should influence the long-term insurer when deciding on future distributions of surplus.

3.5.3 In order to encourage consistent interpretation of policyholder reasonable expectations, the following guidelines are provided:

3.5.3.1 Policyholders expect all contractual benefits to be paid and obligations to be met.

3.5.3.2 Holders of market-related policies expect to participate in the unsmoothed investment performance of the underlying asset portfolio. For this purpose market-related policies are defined as those where the end benefits are held out as being linked to the value of an asset portfolio, either explicitly or implicitly.

3.5.3.3 Holders of smoothed bonus policies expect to participate in the smoothed investment performance of the underlying asset portfolio as described in marketing literature.

3.5.3.4 In the absence of anything to the contrary, holders of with-profit and smoothed bonus policies (as described in marketing literature) expect over the medium term (three to five years) to receive an equitable share of the investment performance and, where applicable, other profits and losses that are earmarked for policyholders by the insurer.

3.5.3.5 The insurer may have made specific and clear announcements or taken action to change previously created expectations.

i The Statutory Actuary will need to consider what expectations have been created and whether the insurer has taken clear action to change any previously held expectations to determine which expectations need to be taken into account in the valuation.

ii The following are some of the specific ways in which expectations are frequently created:

(a) Where there is a history of maintaining bonus rates or strong smoothing of bonus rates over a sustained period, policyholders will expect that the same approach will apply in the future, given a continuation of past and current circumstances.

(b) The illustration of future values assuming the maintenance of bonus rates creates an expectation that those rates will be maintained, given a continuation of past and current circumstances.

3.5.3.6 In the case of reversionary bonus policies, it is not acceptable to discount future benefits at high interest rates without allowing for the corresponding bonuses that could be supported under such conditions (see 3.5.3.4 above).

i If the Statutory Actuary considers that policyholder expectations have been created in respect of projected values or bonus rate maintenance, to the extent that the long-term insurer would need to take cognisance thereof in future surplus distributions, the full maintenance of the implied bonus rate must be assumed. If the Statutory Actuary considers that no such expectations have been created, the full maintenance of the level of bonus rates that may reasonably be expected under conditions consistent with the investment return assumptions may be assumed.

ii The full amount of non-vested bonuses that have already accumulated or would be paid out on death, must always be valued. In addition, depending upon circumstances, future additions to such bonuses need to be assumed at levels consistent with investment return assumptions (for example, where the amount of bonus depends on a scale that is related to duration).

4 PUBLISHED REPORTING

4.1 Accounting standards

4.1.1 There are four key related accounting standards in South Africa which need to be adhered to for published reporting purposes. They are:

4.1.1.1 IAS 39 Financial Instruments: Recognition and Measurement. This standard relates to the recognition and measurement of IFRS defined investment contracts. A version became effective for published financial statements for accounting periods commencing on, or after, 1 January 2005. A new version of IAS 39, namely IFRS 9, is in the process of development and is being issued in stages. The classification and measurement component has been released with mandatory adoption for published financial reporting periods commencing on or after 1 January 2015 (early adoption is permitted).

4.1.1.2 IFRS 4 Insurance Contracts. This standard relates to the recognition, measurement and disclosure of insurance contracts and became effective for published financial reporting periods commencing on or after 1 January 2005.

4.1.1.3 IAS 32 Financial Instruments: Disclosure and Presentation. This standard relates to disclosure with respect to IFRS defined investment contracts and became effective for published financial reporting periods commencing on or after 1 January 2005.

4.1.1.4 IAS 18 Revenue. This standard deals with revenue recognition and is very relevant for investment management contracts. IFRS 4 made consequential amendments to IAS 18 with the same effective date as IFRS 4.

4.2 Valuation of insurance contracts

As per IFRS 4, local recognised practice should continue to be used for the valuation of insurance contracts, which is the Financial Soundness Valuation method as outlined in Section 3 of this SAP, but subject to some specific requirements included in IFRS 4.

4.3 Valuation of investment contracts with discretionary participating features

Investment contracts with participation in profits on a discretionary basis present particular difficulties of accounting treatment. These difficulties have been recognised by the IASB and the concomitant IFRS 4, which has indicated that these contracts can continue to be valued using local recognised practice. The Financial Soundness Valuation method as outlined in Section 3 of this SAP will continue to be applicable, again subject to some specific requirements included in IFRS 4.

4.4 Capital Adequacy Requirements

The ability of an insurance company to pay dividends, reduce shareholders' equity or to write new business is dependent on the insurer's ability to meet the statutory Capital Adequacy Requirement ("CAR"). As a result, insurers only need to calculate and publish the statutory CAR and corresponding capital. Details of the calculation of the statutory CAR are provided in section 6 below. Disclosure requirements and guidance relating to the CAR are given in APN 103.

4.5 Materiality Guidelines

Where materiality guidelines are applied to the liability side of the balance sheet, they should be the same as those decided on by management and approved by the auditors for use on the asset side and should preferably be stated as a percentage of earnings. Materiality guidelines refer to acceptable margins for errors and approximate valuation methods and not the effect of different valuation assumptions.

5 STATUTORY REPORTING: ASSETS AND LIABILITIES

5.1 Background

5.1.1 The valuation of a long-term insurer's assets, liabilities and capital adequacy requirement for statutory purposes is governed by the FSB.

5.1.2 The valuation requirements are laid out in Board Notice 14 of 2010, issued by the FSB, entitled "Prescribed requirements for the calculation of the value of the assets, liabilities and capital adequacy requirement of long-term insurers".

5.1.3 The principles and content of the valuation requirements contained within the Board Notice are largely based on the Financial Soundness Valuation contained within previous versions of SAP 104. Indeed, prior to the introduction of the Statutory Valuation Method, the Financial Soundness Valuation was prescribed for statutory reporting as well as published financial reporting.

5.1.4 Importantly, this SAP remains the main source of the calculation requirements of the Capital Adequacy Requirement. These guidelines are referred to in paragraph 9.1.2 of the Board Notice and are detailed in section 6 below (note: the Capital Adequacy Requirement forms part of statutory reporting, and the only reason it is in a separate section of this SAP and not included in section 5 is for ease of reference).

5.1.5 Attention is drawn to the FSB's Directive 140.B.iii (LT), regarding the valuation basis for statutory returns, and the need to provide the FSB with a reconciliation of any differences that may exist between the statutory return and the annual financial statements. This Directive is subject to revision by the Registrar, and the FSB's website should be checked for the latest version.

5.2 Valuation of Assets

5.2.1 In principle, assets must be valued at fair value, except where the Board Notice indicates otherwise.

5.2.2 The main exception to the use of fair value is in respect of the valuation of group undertakings.

5.2.3 Details of rules to be followed are found in sections 7 and 8 of the Board Notice.

5.2.4 In addition, certain assets or a portion thereof must be disregarded for solvency purposes. Details are given in paragraph 4 of Schedule 3 to the Long-term Insurance Act.

5.3 Valuation of Liabilities

5.3.1 Liabilities should be valued in accordance with the requirements set out in the Board Notice.

5.3.2 To the extent that these requirements are based on the same principles as the Financial Soundness Valuation, the Statutory Actuary should refer to section 3 of this SAP for further guidance.

5.3.3 Where there is any discrepancy between the Board Notice and the Financial Soundness Valuation, the Board Notice takes precedence for statutory reporting.

6 STATUTORY REPORTING: CAPITAL ADEQUACY REQUIREMENT

6.1 Background

The use of best-estimate valuation assumptions, adjusted by the compulsory margins and possibly also by discretionary margins, aims to ensure that the long-term insurer should have sufficient assets to meet all its future liabilities in respect of its existing in-force business if actual experience deviates from the valuation assumptions. The compulsory and discretionary margins, however, may not protect the insurer or its policyholders in the event of substantial adverse experience variation(s). To protect the solvency of an insurer (and the interests of the policyholders) against larger experience shocks, the excess of assets over liabilities needs to be sufficient to meet liabilities even in extremely adverse times. The minimum amount of assets that an insurer should hold in excess of its liabilities (based on providing an approximate 95% confidence in its ability to meet all liabilities) is referred to as its Capital Adequacy Requirement.

6.2 Capital Adequacy Requirement

6.2.1 The Capital Adequacy Requirement equals:

6.2.1.1 the result of the Capital Adequacy Requirement formula, per 6.7 below; or

6.2.1.2 the result of an FSB approved internal capital model. Internal models should allow for all risks an insurer is exposed to, including operational and credit risk.

6.2.2 The FSB may apply transitional rules in terms of how much reliance it will place on the result of an internal model.

6.2.3 In addition to the above, the FSB prescribes a statutory minimum amount of capital.

6.3 Purpose

6.3.1 The purpose of the Capital Adequacy Requirement is to quantify the minimum level of assets in excess of liabilities that will provide a sufficient cushion against random negative fluctuations in experience in any of the variables used in the statutory valuation. The quantum of this cushion is set in such a manner that in the majority of cases a negative experience variation will lead to a reduced cushion rather than to a deficit under the statutory valuation. The existence of a Capital Adequacy Requirement cannot provide a guarantee against future financial difficulty – it can only help to make it less likely.

6.3.2 A secondary function of the Capital Adequacy Requirement is to act as a regulatory warning system.

6.3.3 In accordance with the Long-term Insurance Act, 1998, inability to cover the Capital Adequacy Requirement would mean that the long-term insurer would be subject to further investigation by the FSB.

6.3.4 The action to be taken in the case of a long-term insurer not having sufficient assets to cover the Capital Adequacy Requirement as well as liabilities is a matter for the FSB.

6.4 Schematic Illustration

The place of the Capital Adequacy Requirement in the overall financial position of a long-term insurer can be illustrated schematically as follows:

<table>
<tr><td>Inadmissible assets</td><td colspan="2"></td></tr>
<tr><td rowspan="4">Admissible assets</td><td>Free admissible assets</td><td rowspan="2">Excess admissible assets</td></tr>
<tr><td>Capital adequacy requirement</td></tr>
<tr><td>Policy liabilities on Statutory Valuation Method</td><td rowspan="2">Statutory valuation method liabilities</td></tr>
<tr><td>Other liabilities</td></tr>
</table>

6.5 Conditional nature of Capital Adequacy Requirement

6.5.1 A large portion of life assurance policies in South Africa allow the long-term insurer to adjust:

6.5.1.1 charges for risk benefits;

6.5.1.2 expense charges;

6.5.1.3 policy value bases; and

6.5.1.4 bonus rates.

6.5.2 As such, the size of the Capital Adequacy Requirement is dependent on the expected management actions resulting from adverse experience. Therefore, the financial effect of the management actions assumed needs to be determined for purposes of the calculation (see 6.14).

6.6 Principles underlying the Capital Adequacy Requirement

6.6.1 A balance is needed: in aggregate the Capital Adequacy Requirement should be large enough to provide a significant cushion against adverse experience, but not so large as to endanger the viability of the long-term insurance industry. Since it would be too conservative to assume that all adverse events occur together, the following approach is adopted:

6.6.1.1 The size of a number of cushions to cover specific events is assessed assuming only that event occurs. Statistically, where practical, the target confidence interval for the size of the cushion is 95%, i.e. owing to random fluctuations alone the cushion is expected to be adequate nineteen years in twenty.

6.6.1.2 The overall cushion is not merely the sum of the individual cushions, but rather a lower amount as it is not expected that all unfavourable conditions will occur at the same time. Instead some simplifying assumptions are made as to the correlation between events, and these assumptions result in the adding together of the cushions in a hierarchical structure where the total is less than the sum of the parts.

6.6.1.3 The simplifying assumptions made with respect to correlations are as follows:

i Two events may be strongly negatively correlated, e.g. the occurrence of A precludes the occurrence of B. In this case the higher of the two cushions is required.

ii Two events are strongly correlated e.g. the occurrence of A will lead to the simultaneous occurrence of B. In this case the sum of the cushions is required.

iii The two events are uncorrelated. In this case the square root of the sums of the squared cushions is required.

6.7 The Capital Adequacy Requirement Formula

The Capital Adequacy Requirement formula = maximum (TCAR, OCAR) with TCAR and OCAR as defined in 6.8 and 6.9 respectively.

6.8 Termination Capital Adequacy Requirement ("TCAR")

6.8.1 TCAR = Lapse Capital Adequacy Requirement + Surrender Capital Adequacy Requirement, as set out below:

6.8.2 Lapse Capital Adequacy Requirement (for policies with no surrender values):

The Lapse Capital Adequacy Requirement equals the amount required to ensure that no policy has a negative liability, where liability refers to the statutory liability before taking any other Capital Adequacy Requirements into account.

6.8.3 Surrender Capital Adequacy Requirement:

The Surrender Capital Adequacy Requirement equals the amount required to ensure that no policy's liability is less than its current surrender value. For policies which cannot be surrendered or transferred from the long-term insurer, the amount is 0.

6.8.4 In effect, the TCAR ensures that a long-term insurer is in a position to survive a very selective "run-on-the-bank" scenario.

6.8.5 A case could be made for taking the effect of a fall in asset values into account in calculating this element of the Capital Adequacy Requirement formula. However, the lapse and surrender assumptions have been set conservatively at immediate termination of all policies where the insurer will suffer a loss and further additions are unnecessary.

6.9 Ordinary Capital Adequacy Requirement ("OCAR")

6.9.1 The OCAR formula comprises a factor-based approach that isolates each major risk category and establishes what capital needs to be held in respect of that risk. The results are summed with an adjustment to the sum to recognise independencies and diversification (hence the "summing and squaring" approach involved in the calculation of IOCAR described below).

6.9.2 The OCAR needs to allow for the effect of a fall in the fair value of the assets backing it as well as any credit risk associated with those assets, so that a sufficient level of capital is maintained even after such a fall in asset values.

6.9.3 A fall in the fair value of assets is allowed for by initially calculating an Intermediate Ordinary Capital Adequacy Requirement ("IOCAR"), and then grossing up the IOCAR for the effect of the assumed fall in fair value of the assets backing the OCAR and the credit risk of those assets. This then equals the OCAR.

6.9.4 The grossing up factor will be based on the assumed change in asset values contained in the resilience scenario envisaged in the Investment CAR (Item g) and the losses arising from credit risk as envisaged in the Credit Risk CAR (Item

h), and will depend on the assets assumed to be backing the CAR. This is described further in 6.10.7.

6.9.5 The relationship between OCAR and IOCAR can be described as:

$$OCAR = \frac{IOCAR}{(1-k)}$$

Where:

$$k = \sqrt{\left(g + \frac{h}{2}\right)^2 + \frac{3}{4}h^2}$$

g and h refer to the factors for the Capital Adequacy Requirement items described in 6.10.

The g-factor takes into account the resilience risk of the assets backing OCAR and should be calculated using the percentages described in paragraph 6.10.7.2

The h-factor takes into account the credit risk of the assets backing OCAR and should be calculated as follows:

$$\sum_{All\ i} \left(f_i \times \%CAR_i\right)$$

Where:

- f_i is the factor for credit rating i as given in the table in 6.10.8.4; and
- $\%CAR_i$ is the percentage aggregate holding of assets with credit rating i backing OCAR

6.9.6 For example:

6.9.6.1 Cash, fixed interest and equities are available as free assets. For the purpose of this example assume falls in fair values of 0%, 10% and 30% respectively. Further assume the average credit risk charges for the cash and fixed interest assets are 0.5% and 2% respectively.

6.9.6.2 Further denote:

x = percentage of OCAR backed by cash = 20%;

y = percentage of OCAR backed by fixed interest assets = 30%; and

z = percentage of OCAR backed by equities = 50%.

So that x + y + z = 100%

g = 10% y + 30% z = 0.18

h = 0.5% x + 2% y = 0.007

k = 0.1836

The relationship between IOCAR and OCAR can then be set out as follows:

$$OCAR = \frac{IOCAR}{1 - \sqrt{\left(0\% * x + 10\% * y + 30\% * z + \frac{(0.5\% * x + 2\% * y)}{2}\right)^2 + \frac{3}{4}(0.5\% * x + 2\% * y)^2}}$$

OCAR = IOCAR / 0.8164

6.9.7 It is not necessary to take into account the fall in the fair value of the excess assets that are not needed to cover the OCAR.

6.9.8 Where an insurer uses foreign currency denominated assets to back OCAR, the same grossing up factors should be used as for similar Rand denominated assets, but subject to a minimum grossing up factor of 0.8 per asset class. This means that a minimum 20% volatility allowance is to be made on each class of foreign currency denominated assets (refer to 6.10.7).

6.9.9 Each of the components of the IOCAR formula is described in detail in 6.10.

6.9.10 The IOCAR is calculated according to the following formula:

$$IOCAR = \sqrt{\left\{a^2 + b^2 + ci^2 + cii^2 + ciii^2 + d^2 + e^2 + f^2 + (g + \tfrac{1}{2} \cdot h)^2 + \tfrac{3}{4} h^2\right\}} + i$$

Where *a* to *i* refer to the Capital Adequacy Requirement items described in 6.10.

6.9.11 Summing the individual requirements would produce the capital requirement necessary if each independent risk event was assumed to occur simultaneously (i.e., with a probability much lower than 5%.) Therefore, the IOCAR is calculated as the square root of the sum of the square of the individual capital requirements to allow for the independence of the risks.

6.9.12 The sum of all groups must be taken in respect of an item before squaring. If in respect of lapses (item a), there are 2 subgroups namely x and y, then $a^2 = (a_x + a_y)^2$, where a_x and a_y are the lapse CAR for groups x and y respectively. The Capital Adequacy Requirement should generally be higher where groups are used instead of bundling all policies, since expected profits in one group may not be used to reduce expected losses in another group (i.e. the Capital Adequacy Requirement for a group in respect of an element, e.g. a_x must be greater than or equal to 0.)

6.10 IOCAR components

6.10.1 Item (a): Lapse risk (for policies with no surrender values)

6.10.1.1 Calculated as 40% of the amount required to ensure that no policy has a negative liability (before taking into account the effect of any negative bonus stabilisation reserve).

6.10.1.2 The lapse risk component has been chosen to provide for roughly a doubling of lapse rates (ignoring any allowance already contained within the liability calculation). Thus, on the assumption that typical base lapse rates could be 20%, the lapse risk Capital Adequacy Requirement has prudently been set equal to 40%.

6.10.1.3 Additions to the above amount must be considered where:

i the office's lapse experience fluctuates significantly from year to year or the trend in lapses has been worsening over time;

ii the typical level of base lapses is in excess of the requirement outlined above.

6.10.2 Item (b): Surrender risk

6.10.2.1 Calculated as 20% of the amount required to ensure that no policy's liability (before taking into account the effect of any negative bonus stabilisation reserve) is less than its current surrender value. For policies which cannot be surrendered or transferred from the long-term insurer, the amount is 0.

6.10.2.2 Similarly to lapse risk, the surrender risk component has been chosen to provide for roughly a doubling of the surrender rates (ignoring any allowance already contained within the liability calculation). Thus, on the assumption that base surrender rates are 10%, the surrender risk Capital Adequacy Requirement has been set equal to 20% of the amount required to ensure that no policy's liability before taking into account the effect of any negative bonus stabilisation reserve is less than its current surrender value. For policies which cannot be surrendered or transferred from the long-term insurer, the amount is 0.

6.10.2.3 Additions to the above amount must be considered where:

i material surrender values are guaranteed;

ii the office has created expectations of stabilised future surrender values at the point of sale or in regular correspondence with policyholders;

iii the typical level of surrenders is in excess of 10% of in-force policies per annum.

6.10.3 Item (c): Mortality, morbidity and medical fluctuation risk

6.10.3.1 The required IOCAR provides for fluctuations in experience over the year up to the next valuation. In the case of mortality, Monte Carlo simulations have been performed for the business spread of two large long-term insurers, taking into account a 95% confidence level to derive the requirements.

6.10.3.2 A similar calculation has been performed for morbidity, ignoring the dependency between morbidity and mortality lump sum benefits. The offset was ignored to make some provision for the moral and economic risks which also influence morbidity claims.

6.10.3.3 The medical fluctuation risk IOCAR is set at 3 times the mortality fluctuation risk IOCAR.

6.10.3.4 The requirements are as follows:

i (ci) Mortality $\frac{45p}{\sqrt{n}}$;

ii (cii) Morbidity $\frac{65p}{\sqrt{n}}$;

iii (ciii) Medical $\frac{135p}{\sqrt{n}}$;

Where:

n = number of lives assured in the category (net of lives fully reinsured); and
p = annual risk premium on the valuation basis or expected strain (net of reinsurance).

6.10.3.5 Notes:

i The above formulae are based on typical spreads of risks. Where this is not the case (i.e. not a typical spread of risks), the Statutory Actuary should consider calculating separate fluctuation Capital Adequacy Requirements for different homogeneous groups and holding the sum of these capital requirements.

ii The fluctuation risk can be decreased to a large extent by suitable reinsurance. Whilst it is not practical to prescribe formulae that depend on reinsurance arrangements, the Statutory Actuary may make an adjustment for reinsurance where this can be justified (see 6.11 for more specifics on the treatment of reinsurance).

iii Mortality includes funeral benefits and accident benefits.

iv Morbidity includes lump sum disability benefits, dread disease benefits and income protection benefits.

v Medical includes hospital cash plans and major medical benefits.

vi p should include any relevant option premiums.

6.10.4 Item (d): Annuitant mortality fluctuation risk

6.10.4.1 Similar to item (c), the annuitant mortality IOCAR provides for fluctuations in experience over the year up to the next valuation. For annuitant lives a Monte Carlo simulation has been carried out on the same basis as for mortality.

6.10.4.2 The annuitant mortality fluctuation Capital Adequacy Requirement equals

$$\frac{r}{\sqrt{n}}$$

Where:

r = statutory valuation method reserves for the relevant (i.e. where mortality plays a role) annuity portfolios on the valuation date and
n = number of annuitants in the relevant category.

6.10.5 Item (e): Mortality, morbidity and medical assumption risk

6.10.5.1 One-third of the best estimate AIDS liability must be allowed for.

6.10.5.2 Based on modelling performed, allowing for item (c) (i.e. mortality, morbidity and the medical fluctuation risk) together with the mortality, morbidity and medical compulsory margins, leads to a requirement which already exceeds a 95% confidence interval. No mortality, morbidity and medical assumption capital adequacy requirement (apart from AIDS in 6.10.5.1 above) is thus deemed necessary.

6.10.5.3 Additions to the above amount must be considered for new types of benefits, new distribution channels, insufficient experience data being available, or experience worsening over time.

6.10.5.4 Where the mortality risk is eliminated, for example by the use of back-to-back policies there is no mortality Capital Adequacy Requirement.

6.10.6 Item (f): Expense fluctuation risk

6.10.6.1 The expense fluctuation Capital Adequacy Requirement has been set at 10% of all renewal expenses in the previous year (excluding commission and commission-related and other acquisition costs).

6.10.6.2 For a mature office, typically the volumes of business may fluctuate by about 10% from those expected in an office's annual budgeting exercise. An exceptional variance may be of the order of 20%. In such a circumstance, the office may have difficulty adjusting its cost structure to cater for the changes in flows of new business. If fixed or relatively fixed overheads

constitute half of an office's expenses, then an expense overrun of 10% for the assumed renewal loading may reasonably be expected.

6.10.6.3 An addition to the above amount must be considered where:

i new business figures historically have deviated by more than 20% from budgets;

ii the office is rapidly growing and expenses are unpredictable; or

iii the office has recently launched a new class of contract with a substantially different expense structure to existing contracts.

6.10.7 Item (g): Investment risk

6.10.7.1 The investment risk component is equal to the greater of (gi) and (gii), as defined below.

6.10.7.2 Item (gi): Resilience Capital Adequacy Requirement

i The purpose of the resilience Capital Adequacy Requirement is to test the robustness of the financial position of a long-term insurer in the face of volatile market conditions. The Statutory Actuary must reconsider the statutory valuation assuming the following fall in the fair values of the assets backing the liabilities on the valuation date:

Type of asset	**Fall in fair value**
Equities FTSE/JSE All Share dividend yield below 4% FTSE/JSE All Share dividend yield 5% or above FTSE/JSE All Share dividend yield at 4% or above, but below 5%	 30% fall in value 20% fall in value Interpolate between 20% and 30%
Fixed property	15% fall in value
Fixed interest	Impact of 25% relative increase/decrease in yield to maturity (i.e. when yields are 10%, test resilience to both 7.5% and 12.5% yield environments)
Inflation linked bonds	Impact of increase/decrease in real yield to maturity by factor of 25% of real yield to maturity (i.e., a real yield of 4% increases to 5%).
Cash and similar floating interest rate assets	No change in value
Other assets	35% fall in value
Foreign currency denominated assets	Same as for domestic assets subject to a minimum of 20% fall in value

Note 1: For fixed interest and inflation linked bonds, the Statutory Actuary needs to determine whether an increase or decrease will lead to the

highest Capital Adequacy Requirements on total life fund. The Statutory Actuary must use the yield movement that produces the highest CAR.

Note 2: For assets not listed in this table, for example unlisted holdings and preference shares, the Statutory Actuary should be guided by the fall in fair value of the closest equivalent(s) listed above.

ii The calculation of the resilience Capital Adequacy Requirement is then as follows:

Assume:

L_0 = Statutory valuation method liabilities (including any bonus stabilisation reserves) at the valuation date.

A_0 = L_0 (i.e. the assets necessary to back the liabilities at the valuation date)

L_1 = Statutory valuation method liabilities after the assumed fall in fair value (before deduction of the absolute value of any negative bonus stabilisation reserve), reduced by the effect of any proposed management actions e.g. lower bonus rates.

A_1 = Value of the assets (A_0) after the assumed fall in fair value.

Then the resilience Capital Adequacy Requirement equals:

$(A_0 – L_0) – (A_1 – L_1) = L_1 – A_1$

Notes:

(a) Assume that fair values will not recover (within a short period).

(b) For options and futures the long-term insurer's exposure to the relevant assets (e.g. equities) must be taken into account when calculating this requirement. A long-term insurer might, for example, hedge an equity portfolio by selling futures. Should the composition of the portfolio and the future index sold be identical, a fall in fair value of say 30% would make a resilience Capital Adequacy Requirement unnecessary for the hedged portion of the portfolio. As the composition will normally not be identical the Statutory Actuary would have to consider what offset to allow. In an extreme case, the fair value of the equity portfolio may even fall while the index rises.

(c) Although the Statutory Actuary must consider liquidity when valuing and reporting on a long-term insurer, there is generally no particular Capital Adequacy Requirement for lack of liquidity.

(d) Where share capital invested in foreign assets is used to cover the OCAR, assume that these foreign assets have the same assumed fall as Rand denominated assets, but with an allowance for exchange rate volatility and subject to a minimum fall of 20% per asset class. This in turn implies that any offshore assets used will result in a minimum "up-ratio factor" of 20% in the determination of OCAR from IOCAR.

(e) Refer to 6.12 for the treatment of group undertakings in the calculation of the resilience Capital Adequacy Requirement.

(f) Refer to 6.13 for the treatment of embedded derivatives in the calculation of the resilience Capital Adequacy Requirement.

iii The requirement for equity values has been deduced from studying 12 months' price movements of the JSE Actuaries All Share Index. The levels of 30% and 20% have been chosen to roughly correspond with a probability of less than 5% that these limits would be exceeded in any 12-month period.

iv The limits for the other asset categories have been chosen to reflect the fact that in general terms the other asset classes are less volatile than equities.

6.10.7.3 Item (gii): Worse investment return Capital Adequacy Requirement

i The "worse investment return" scenario assumes that future investment returns would be equal to 0.85x the valuation assumption (test for a 15% relative reduction). This implies that the valuation interest rate used in valuing both assets and liabilities and the assumed growth rates for future dividends and rentals where applicable must all be reduced to 0.85x valuation rate per annum.

ii Calculation of the worse investment return Capital Adequacy Requirement is then as follows:

Assume:

L_0 = Statutory valuation method liabilities (including any bonus stabilisation reserves) at the valuation date

A_0 = L_0 (i.e. the assets necessary to back the liabilities at the valuation date)

L_1 = Statutory valuation method liabilities assuming the worse investment return scenario (before deduction of the absolute value of any negative bonus stabilisation reserve), reduced by the effect of any proposed management actions e.g., lower bonus rates.

A_1 = The value of the assets (Ao) taking into account the worse investment return scenario. (It is expected that fixed interest assets will be revalued).

Then the worse investment return Capital Adequacy Requirement equals:

$(A_0 - L_0) - (A_1 - L_1) = L_1 - A_1$

Notes:

(a) Refer to 6.13 for the treatment of embedded derivatives in the calculation of the worse investment return Capital Adequacy Requirement.

(b) Fixed interest assets need to be revalued.

6.10.7.4 Item (g) of the Capital Adequacy Requirement deals with a change in the value of assets relative to liabilities that are backed by those assets in certain resilience scenarios. To the extent that liabilities may be backed by negative reserve "assets", the same rules apply, i.e., for the resilience test allow for a 25% relative change in yields, for the worse investment return scenario allow for a return equal to 0.85x the valuation rate. This will essentially mean revaluing the liabilities (positive and negative) at the new rate. If the change in assets (i.e. negative reserves) relative to liabilities results in a strain, the strain will be reflected in item (g).

6.10.7.5 With respect to allowing for a fall in assets backing the OCAR, a similar logic should apply. That is, one must use the fall in assets prescribed by item (gi)

(the resilience test) and apply that to any negative reserve assets backing the OCAR. Applying this to the IOCAR will lead to the usual increase to get to the OCAR.

6.10.7.6 Note that the first point above applies to negative reserves backing positive reserves (i.e. policyholders' funds), while the second point applies to negative reserves backing the Capital Adequacy Requirement itself (i.e. shareholders' funds).

6.10.8 Item (h): Credit Risk

6.10.8.1 The credit risk component takes into account the credit risk (the inability or unwillingness of a counterparty to fully meet its on- or off-balance sheet contractual financial obligations) inherent in various assets held by the insurer.

6.10.8.2 The component of CAR for credit risk is calculated for assets backing discretionary participation ("DP") liabilities (e.g. Smooth Bonus and With Profit Annuities) and non-profit liabilities. Assets backing other reserves (e.g. APN 110, AIDS reserves) are to be included in non-profit liabilities. Linked business is excluded.

6.10.8.3 For each of the DP and non-profit components the credit risk CAR is equal to:

$$\sum_{All\ i} \left(f_i \times MV_i \right)$$

Where:

- f_i is the factor for credit rating i as given in the table in 6.10.8.4; and
- MV_i is the market value of the aggregate holdings of assets with credit rating i backing each of the non-profit and discretionary participation policy liability portfolios

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6.10.8.4 The table of factors to be used is:

	Factor (f)							
	Duration in years							
Credit Rating	**Cash**	**1**	**2**	**3**	**5**	**10**	**15**	**20**
AAA	0.10%	0.14%	0.27%	0.40%	0.65%	1.30%	1.94%	2.58%
AA+	0.10%	0.14%	0.27%	0.40%	0.65%	1.30%	1.94%	2.58%
AA	0.19%	0.26%	0.44%	0.62%	0.98%	1.88%	2.78%	3.68%
AA-	0.27%	0.36%	0.58%	0.80%	1.24%	2.34%	3.44%	4.54%
A+	0.49%	0.65%	0.96%	1.27%	1.88%	3.42%	4.96%	6.49%
A	0.68%	0.91%	1.28%	1.66%	2.40%	4.26%	6.11%	7.97%
A-	0.80%	1.07%	1.48%	1.89%	2.70%	4.73%	6.77%	8.80%
BBB+	1.08%	1.44%	1.92%	2.40%	3.35%	5.75%	8.14%	10.54%
BBB	1.37%	1.83%	2.38%	2.92%	4.01%	6.74%	9.46%	12.19%
BBB-	2.06%	2.75%	3.42%	4.09%	5.43%	8.78%	12.14%	15.49%
BB+	2.56%	3.41%	4.15%	4.89%	6.37%	10.06%	13.76%	17.46%
BB	3.27%	4.36%	5.17%	5.99%	7.62%	11.70%	15.78%	19.86%
BB-	4.35%	5.81%	6.69%	7.58%	9.36%	13.80%	18.24%	22.68%
B+	5.68%	7.58%	8.50%	9.42%	11.26%	15.87%	20.47%	25.08%
B	7.96%	10.62%	11.55%	12.49%	14.35%	19.02%	23.69%	28.36%
B-	10.10%	13.47%	14.42%	15.36%	17.26%	21.99%	26.73%	31.46%
CCC+	14.47%	19.29%	20.17%	21.05%	22.82%	27.22%	31.62%	36.02%
CCC	15.38%	20.51%	21.33%	22.15%	23.80%	27.91%	32.02%	36.13%
CCC-	15.86%	21.15%	21.91%	22.67%	24.19%	27.98%	32.02%	36.13%

6.10.8.5 These credit ratings are based on Standard and Poor's International Scale, Local Currency rating. Where other rating agencies and methods have been used, the statutory actuary must use a factor corresponding to the comparable S&P International Scale, Local Currency rating.

6.10.8.6 The duration measure to be used in determining the relevant credit risk factor to apply should be the modified duration. For variable interest rate bonds, the modified duration should be equivalent to the duration of a fixed income bond with coupon payments equal to the forward interest rate.

6.10.8.7 The statutory actuary should apply appropriate interpolation methods to calculate the spread risk factors between the durations specified above.

6.10.8.8 Where the instrument does not have a credit rating but the asset is exposed to a credit-rated counterparty (e.g. a promissory note with XYZ bank), then the exposure to the counterparty is aggregated and this constitutes MV_i.

6.10.8.9 Exposures to unrated banks should be assigned a credit rating at least one step lower than the lowest rated South African bank

6.10.8.10 Where there is no rating for an instrument, or the credit counterparty has not been rated, an internal company rating may be used. In this case the actuary must be satisfied that appropriate and industry accepted techniques have been used. Alternatively the minimum factor that can be used for unrated exposures is15%. This is a minimum, and the actuary should consider the credit quality of the counterparty before applying this minimum.

6.10.8.11 For government debt and debt instruments carrying an explicit South African government guarantee and issued in South African Rand, a factor of 0% is used.

6.10.8.12 The factors (f_i) in the table above is a minimum level that can be used. The statutory actuary should consider the appropriateness of the factors for all exposures and use a higher factor if required.

6.10.8.13 The assets to be included are assets held where credit risk is assumed and include, but are not limited to:

i Bonds and short-term deposits (promissory notes, letters of credit, convertibles, etc)

ii OTC derivative positions (looking at the counterparty of the derivative and the market value of the derivative). This will include swaps, options, forwards, etc. Where collateral has been posted, credit can be taken for this collateral

iii Preference shares (if not allowed for as an equity investment in determining (gi) above)

iv Policies of insurance and reinsurance

v Debtors

vi Intermediary balances

vii Credit derivatives

6.10.8.14 Collective investment schemes should be considered on a "look through" basis to take into account the underlying holdings of each collective investment scheme in which they have invested DP and non-profit policyholder's funds in order to calculate the credit risk on the underlying instruments. Approximate methods that give reasonable answers may be used where the calculations are too complex.

6.10.8.15 The reduction in the policyholder liabilities due to approved reinsurance must be included as a notional asset in the calculation.

6.10.8.16 To the extent that the insurer has purchased credit derivatives (i.e. an instrument where the payoff is related to the credit-worthiness of an underlying company/entity, e.g. a credit default swap) the statutory actuary must consider the net of recovery nominal exposure to that counterparty (and add it to other exposures to the same counterparty in 6.10.8.2 above). In addition the insurer will have exposure to the issuer of the derivative, and this must also be taken into account, but in this case just the mark-to-market value of the derivative instrument needs to be considered in the calculation.

6.10.8.17 The actuary should consider the extent to which the portfolio is diversified and increase the allowance for credit CAR if necessary since factors detailed in 6.10.8.4 are derived from a well diversified credit portfolio.

6.10.8.18 With derivative exposures, the statutory actuary should consider the additional risk a credit failure of the counterparty could have on the nominal exposure.

6.10.8.19 The effect of management action on discretionary participation business to a credit event may be taken into account to reduce the credit risk CAR. It is acceptable to include this management action in the calculation of the investment resilience CAR (g), and not allow for it in the calculation of (h), however the statutory actuary must satisfy him/herself that such action can reasonably be expected to be taken.

6.10.8.20 Additional management actions such as releasing prudence in the allowance for credit risk in the liability calculation (i.e. "best estimate"

allowance and margins) or elsewhere in provisions (e.g. accounting provisions for bad debt; other elements of CAR) can be used to reduce (h).

6.10.9 Item (i): Operational risk and other risks

6.10.9.1 The Statutory Actuary must ensure that an appropriate level of capital is held to cover operational risk. Operational risk is defined as "the risk of loss resulting from inadequate or failed internal processes, people and systems, or from external events".

6.10.9.2 Should there be any other factor that could place the long-term insurer at risk, the Statutory Actuary must consider additional Capital Adequacy Requirements. In making this decision, the Statutory Actuary should consider, amongst other things:

i The company's mission and strategic plan

ii The intended growth of the company

iii The risk profile of the business

iv The capital levels required by rating agencies for the company's required credit rating

v The capital levels being maintained by competitors

vi How the capital itself is invested

vii The relative level of the investment markets at the time

6.11 Treatment of reinsurance

6.11.1 The calculation of the Capital Adequacy Requirement may take into account the impact of any FSB approved reinsurance contract entered into by the insurer. There should therefore be sufficient capital to cover the risks retained by the insurer, net of approved reinsurance.

6.11.2 In financial or other reinsurance arrangements, where some or all of the risk is transferred back to the insurer, the insurer must hold whatever is the appropriate amount of capital in the light of the risk that is effectively retained.

6.11.3 This is broadly based on the concept that the loss function without reinsurance is the sum of the loss distributions of each risk in the portfolio. If one reinsures 25% of each sum at risk, then the loss distributions of the retained sums at risk have a new distribution, and one can reduce the Capital Adequacy Requirement to the 95% point on the new distribution. Reinsurance with a profit share arrangement may alter the loss distribution, but with different and most likely lower impact. The Capital Adequacy Requirement is then the 95% point on the new distribution. It is not practical to prescribe formulae that depend on reinsurance arrangements, but the Statutory Actuary may make an adjustment for reinsurance where he/she believes this to be appropriate.

6.11.4 The following are examples of how to determine the appropriate allowance for a reduction in capital adequacy due to reinsurance:

6.11.4.1 Reinsurance cover that may only be cancelled by mutual agreement (this will normally include a termination payment from one party to another):

In this case full allowance may be made in respect of the reinsurance, as the reduction in the amount of capital required to meet the 95% criterion is irrevocable.

6.11.4.2 Reinsurance cover that may be cancelled by the reinsurer or with a limited term:

The Statutory Actuary should exercise judgement in determining to what extent the insurance reduces the amount of capital required to meet the 95% criterion on a risk based approach.

6.11.4.3 Reinsurance cover with a profit share arrangement or financial reinsurance:

The Statutory Actuary should exercise judgement in determining to what extent the insurance reduces the amount of capital required to meet the 95% criterion on a risk based approach, paying regard to the underlying risk that is effectively retained.

6.12 Group undertakings

6.12.1 Group undertakings are as defined in Board Notice 14 of 2010 issued by the FSB titled "Prescribed requirements for the calculation of the value of the assets, liabilities and capital adequacy requirement of long-term insurers".

6.12.2 Where OCAR is backed by group undertakings, in performing the resilience test allowance should be made for the fact that the volatility of shareholders' assets may have been reduced as a result of valuing the group undertakings at net asset value rather than fair value.

6.12.3 Define:

6.12.3.1 N_0 = Net asset value of group undertaking before resilience test scenario, as per asset valuation regulations.

6.12.3.2 N_1 = Net asset value of group undertaking after applying the resilience test scenario.

6.12.3.3 X_0 = Excess of fair value of group undertaking over N_0 (before applying the resilience test).

6.12.3.4 X_1 = Excess of fair value of group undertaking over N_1 (after applying the resilience test).

6.12.3.5 f = the proportion of the excess of fair value over net asset value of a listed subsidiary that is allowed to be included and counted as capital by the asset valuation regulations.

6.12.4 Then the valuation of a group undertaking as prescribed by asset valuation regulations is given by:

6.12.4.1 Before resilience scenario: $N_0 + f * X_0$

6.12.4.2 After resilience scenario: $N_1 + f * X_1$

(assuming fair value is represented by its market capitalisation)

6.12.4.3 Then for any hypothetical resilience test scenario, the proportional change in value of the group undertaking as a result of that scenario is given by:

$$G = \frac{N_1 + f * X_1}{N_0 + f * X_0}$$

6.12.4.4 If OCAR is completely backed by the group undertaking, then:

OCAR = IOCAR / G

6.12.5 Assuming that fair value of a listed subsidiary is represented by its market capitalisation, the following possibilities are worth noting:

Nature of group undertaking	Likely behaviour of the above variables
Unlisted, not a regulated financial institution	$N_1 = N_0$, $f = 0$, X_0 and X_1 are irrelevant
Listed, not a regulated financial institution	$N_1 = N_0$, $(N_1 + X_1) = 70\%$ of $(N_0 + X_0)$, $0<f<1$
Unlisted, regulated financial institution	$N_1 < N_0$, $f = 0$, X_0 and X_1 are irrelevant
Listed, regulated financial institution	$N_1 < N_0$, $(N_1 + X_1) = 70\%$ of $(N_0 + X_0)$, $0<f<1$

6.12.6 The following example illustrates the above (assume all amounts are in Rm).

Example: Listed, 100% owned life insurance subsidiary that writes mostly linked business:

Before resilience test:
Value of assets = 1,100
Value of liabilities = 800
Capital adequacy requirement = 50
Market capitalisation = 350

Given f = 0.2

$N_0 = 1{,}100 – (800 + 50) = 250$
$X_0 = 350 – 250 = 100$

Value as per asset valuation regulations = $N_0 + f * X_0 = 250 + 0.2 * 100 = 270$

After resilience test:
Value of assets = 900 (say)
Value of (mostly linked) liabilities = 620 (say)
Capital adequacy requirement = 45 (say)
Market capitalisation = 0.7 * 350 = 245 (resilience test assumption)

$N_1 = 900 – (620 + 45) = 235$
$X_1 = 245 – 235 = 10$

Value as per asset valuation regulations = $N_1 + f * X_1 = 235 + 0.2 * 10 = 237$

Fall in value of group undertaking assumed by resilience scenario = 1 – 237/270 = 12%

Compare this to the 30% fall that would have been incurred under the resilience scenario if the subsidiary was treated as a pure equity investment, and one sees that the above method resulted in a slight reduction in the Capital Adequacy Requirement.

6.13 Embedded investment derivatives

6.13.1 The size of the liability arising as a result of investment guarantees and other embedded derivatives is likely to be very sensitive to adverse economic scenarios such as a substantial reduction in the level of the equity market or a significant change in the term structure of interest rates. The minimum amount of assets the insurer needs to hold in excess of its liabilities to ensure its solvency in

adverse circumstances should therefore take into account the effect of the existence of embedded derivatives.

6.13.2 The effect of embedded derivatives on the size of OCAR should be quantified by including the liabilities in respect of embedded derivatives in the calculation of the (gi) item of IOCAR. This implies a re-calculation of the liability in respect of embedded investment derivatives assuming changes in the values of assets and economic variables (such as interest rates) as specified in 6.10.7.2. The assets backing the liabilities in respect of investment derivatives should be re-valued accordingly. Management action considerations spelt out in 6.14 should be taken into account where applicable.

6.13.3 It should be noted that the above requirement implies that the stochastic model should be re-calibrated in order to be consistent with the shock economic conditions in a resilience test scenario contemplated in the item (gi) of IOCAR. This re-calibration should involve a change in the initial zero-coupon bond yield curve or the swap curve as its risk-free rate reflecting a 25% proportional increase or reduction in zero-coupon bond yield curve or the swap curve as its risk-free rate at all durations (whichever is more onerous to the total IOCAR).

6.13.4 It is not required that any other parameters (such as risk premia, volatilities or correlations) of the stochastic model should be changed. The simulation of future investment returns and discount factors for the purposes of the CAR calculation should be consistent with this new calibration.

6.13.5 6.10.7.3 requires a re-valuation of liabilities on a worse investment return scenario. In the context of investment guarantees, the worse investment return scenario contemplated in 6.10.7.3 can be interpreted as a proportional 15% reduction in the zero-coupon bond yield curve or the swap curve as its risk-free rate at all durations (with all other model parameters remaining unchanged). While it is very likely that the resilience scenario will be more onerous than the worse investment return scenario, the actuary must consider which scenario will be more onerous for the total CAR for a specific company.

6.14 Management actions

6.14.1 Wherever applicable, allowance for offsetting factors may be made in calculating the Capital Adequacy Requirement – such offsetting factors could apply to either the TCAR or OCAR, and to any of the individual items (a) through (i) that make up the OCAR. An example of a management action impacting the TCAR would be the application of a market-value adjuster to surrender values.

6.14.2 A reduction in discretionary margins can be used as an offsetting factor, i.e., such margins are reduced in the valuation basis, capitalising future profits through the change in basis.

6.14.3 Examples of management actions that could be considered when calculating CAR include the following:

6.14.3.1 Removal of a portion of non-vested bonuses applicable to with-profits business;

6.14.3.2 Reduction in future bonus rates on with-profits business;

6.14.3.3 Additional surrender penalties in the event of mass selective adverse withdrawals;

6.14.3.4 For closed portfolios with investment reserves, removal of these reserves;

6.14.3.5 The right to review premium rates, risk premiums and policy conditions could be allowed for.

6.14.4 The level of the Capital Adequacy Requirement is then a function of the expected management action resulting in offsets. Credit for offsets may be taken only where management action has been resolved by the Board and where the Statutory Actuary is satisfied that:

6.14.4.1 The office would exercise the discretions should circumstances require it in practice.

6.14.4.2 The required action is not constrained by policy guarantees.

6.14.4.3 Such action is not contrary to any representations made to the policyholder (including marketing literature) that may have impacted policyholder reasonable expectations.

6.14.5 Although it is not the responsibility of the Statutory Actuary to ensure that management actions do get implemented in practice (this being a Board responsibility), it is the responsibility of the Statutory Actuary to ensure that the Board is aware of the potential consequences of any proposed management action, and in particular how it stands up against policyholder reasonable expectations.

6.14.6 In the case of the investment Capital Adequacy Requirement it should be taken into account that certain management actions have already been assumed to justify the use of any negative bonus stabilisation reserve. It is therefore recommended that the Board should separately resolve these management actions and any further management actions necessitated by the occurrence of the resilience or worse investment return scenario.

6.14.7 When management action is assumed all relevant assumptions should be adjusted on a consistent basis. However, where a management action is assumed on more than one item it is cautioned that double counting should be avoided or allowed for. Double counting includes double counting in respect of the Capital Adequacy Requirement itself, and double counting items already allowed for in the actuarial liabilities.

6.15 Additional considerations and general guidance

6.15.1 Approximate methods may be used to calculate the Capital Adequacy Requirement.

6.15.2 It has been decided to ignore the effect of future new business when calculating the Capital Adequacy Requirement, as is the case with the statutory valuation method in general. In considering the future financial position of the office, the Statutory Actuary will of course take expected new business into account.

6.15.3 Separate calculations must be made for business written in different countries should exchange controls apply. (Refer also to paragraph 9.4 of Board Notice 14 of 2010).

6.15.4 The total Capital Adequacy Requirement as set out above is the minimum amount that must be available. Where the Statutory Actuary perceives that this minimum is inadequate for a particular long-term insurer, he/she must set aside such higher amount as he/she regards as prudent. In the particular case of a long-term insurer that runs only non-profit business with stringent guarantees, the Capital Adequacy Requirement that will leave a 5% chance of insolvency is too low, i.e. the total Capital Adequacy Requirement as set out above will have to be increased.

7 TAX LIABILITY

7.1 Valuation of Assets

The valuation of assets for tax purposes must correspond to the valuation of assets in the annual published financial statements.

7.2 Valuation of Liabilities

7.2.1 According to Section 29A of the Income Tax Act the valuation of the liabilities in the policyholder funds must be calculated on the basis as determined by the Chief Actuary of the FSB, in consultation with the Commissioner for the South African Revenue Service ("SARS").

7.2.2 Details (and further information) to determine the value of the long-term insurer's liabilities for tax purposes are given in:

7.2.2.1 Long-term Tax Directive (as issued by the Chief Actuary of the FSB);

7.2.2.2 Long-term Tax Directive Cover Letter 2011;

7.2.2.3 Directive 145.A.i (LT) – Disregarding amounts representing negative liabilities in respect of long-term policies when calculating the value of assets according to paragraph 4 (iv) of Schedule 3 to the Long-term Insurance Act; and

7.2.2.4 Directive 140.B.iii (LT) – Application of SA GAAP to the Requirements – Differences between the annual financial statements and the Long-term Insurance Return.

7.2.3 All the documents referred to above are available on the FSB's website and readers are advised to obtain them from the website to make sure that they are working with the latest version.

APPENDIX A: ADVISORY GUIDELINES TO ASSIST WITH COMPLYING WITH ACCOUNTING STANDARDS FOR PRODUCING FINANCIAL STATEMENTS

1 BACKGROUND

1.1 This Appendix gives advisory guidance to Statutory Actuaries to assist with complying with accounting standards when producing published financial statements. This Appendix is not a substitute for meeting the requirements of the relevant accounting standards that are listed in Section 4 of the main body of SAP 104. It should be borne in mind that the published financial statements must be signed off by the company's auditors. Practitioners are therefore directed to the relevant accounting standards for authoritative requirements.

1.2 One of the implications of the new accounting standards is the need to identify separately investment business from insurance business. The accounting standards that apply to each of these elements of the long-term insurer's business are different and consequently, the valuation methodology may well differ between them.

1.3 As a result, one of the key aspects to the liability valuation for published financial reporting revolves around the classification of business. This is detailed in section 2 below.

1.4 As per paragraph .02(e) of IAS 39, IAS 39 will not apply to rights and obligations under an insurance contract as defined in IFRS 4 or under a contract that is within the scope of IFRS 4 because it contains a discretionary participating feature. Furthermore, if an insurance contract is a financial guarantee contract entered into, or retained, on transferring to another party financial assets or financial liabilities within the scope of IAS 39 the issuer shall apply IAS 39 to the contract.

1.5 One of the key tenets of IAS 39 is that certain assets and liabilities falling within its scope are to be valued at "fair value", where fair value is defined in paragraph .09 as "the amount for which an asset could be exchanged, or a liability settled, between knowledgeable, willing parties in an arm's length transaction". The Financial Soundness Valuation method reflects current market conditions (being based on realistic, best estimate assumptions), and may thus constitute a "fair value" methodology in certain circumstances. There are, however, certain features of IAS 39 that need to be specifically catered for, which could make the Financial Soundness Valuation method as set out in Section 3 in the main body of SAP 104, inappropriate for complying with IAS 39.

2 CLASSIFICATION OF CONTRACTS

2.1 Categorisation of liabilities

2.1.1 IFRS 4 requires that policy contracts must be categorised as either:

i insurance contracts, or
ii investment contracts.

2.1.2 The classification decision will drive the valuation approach as well as the disclosure requirements.

2.1.3 In theory, for purposes of establishing how contracts are categorised, a policy-by-policy approach is required. In practice it would be acceptable to base the classification on classes of policies with similar characteristics. Moreover, contracts are not required to be unbundled into insurance contracts and investment contracts, unless the insurer's current accounting policies do not require it to recognise the full liability and provided that the insurer can measure the deposit component separately from the insurance component. Unbundling is permitted if the insurer is able to measure the deposit component separately.

For example, if a policy has a self-standing rider, the rider may be classified separately if desired.

2.1.4 Investment contracts with participation in profits on a discretionary basis (commonly referred to as smoothed bonus contracts in South Africa) present particular difficulties of treatment. These difficulties have been recognised in IFRS 4, which indicates that these discretionary participating contracts can continue to be valued according to local accounting practice but subject to 4.4.2 below. Because of this, it is important to identify investment contracts which can be classified as discretionary participating.

2.1.5 In deciding on the classification of contracts, one should consider the effect of any potential negative Market Value Adjuster (MVA).

i Where an MVA may be applied to a surrender value or a death benefit but not to a maturity benefit, such a contract is likely to be classified as insurance (i.e. provided that the MVA results in a significant difference between the benefits), because there is a survival risk.

ii Similarly, where an MVA may be applied to a surrender value or a maturity benefit but not to a death benefit, such a contract is likely to be classified as insurance (i.e. provided that the MVA results in a significant difference between the benefits).

iii However, where an MVA is applied to a surrender value but not to a death benefit nor to a maturity benefit, such a contract is likely to be classified as investment since the contract does not transfer insurance risk. It is certain that the policyholder will live or die. If it can be demonstrated that the benefits payable on death and maturity are significantly different after allowing for the time value of money, the contract is likely to be classified as insurance.

2.1.6 Contracts should be classified at inception or on subsequent amendment. For example, if life cover is added to a policy after inception, its classification can change from investment to insurance. However, once a contract is classified as an insurance contract it would then remain so classified until all rights and obligations are extinguished or expire.

2.1.7 Switching of an investment contract into a smoothed bonus portfolio is covered in 2.3.4 below.

2.2 Insurance contracts

2.2.1 The definition of an insurance contract in IFRS 4 is "a contract under which one party (the insurer) accepts significant insurance risk from another party (the policyholder) by agreeing to compensate the policyholder if a specified uncertain future event (the insured event) adversely affects the policyholder".

2.2.2 Insurance risk is significant if, and only if, an insured event could cause an insurer to pay significant additional benefits in any scenario (excluding events that lack commercial substance) that exceeds those that would be payable if no insured event occurred.

2.2.3 In order for a product to be classified as insurance, it is important for an insurer to be able to demonstrate that there is a plausible possibility of an event occurring (even if it has a small probability of occurrence) which can lead to significant insurance risk. Judgement will be required in assessing "significant" in this regard, and in practice this is something that should be resolved with the company's auditors if the position is unclear.

2.2.4 A key consideration in classifying a contract as insurance is whether there is a significant difference between the benefit payable on the occurrence of an insured event (such as death) and that paid on voluntary termination

(surrender) at various stages and under different market conditions during the term of a contract.

2.2.5 Charges taken into account on surrender (for example for recovery of outstanding initial expenses or as a discontinuance charge) may not be taken into account in comparing the benefit payable on surrender and death i.e. they are not relevant in assessing how much insurance risk is transferred by the contract.

2.2.6 Survival risk meets the definition of insurance risk.

2.2.7 Examples of contracts which could be classified as insurance are given below:

i Whole life, endowment and term assurances;

ii Permanent health insurance;

iii Credit life insurance;

iv Group life insurance;

v Universal life policies incorporating life or disability cover;

vi Dread disease policies;

vii Funeral insurance;

viii Contracts with investment guarantees payable only on death (or other insured risk) or on survival to a predetermined date, but not on surrender;

ix Contracts with investment guarantees payable on both death and maturity (i.e. of the form of premiums plus growth of x% pa) are likely to be classified as insurance, provided that one can demonstrate that the discounted value of the maturity benefit (which allows for the time value of money) is significantly different to the discounted value of the death benefit;

x Market-related contracts with a minimum death benefit such as a return of premiums;

xi Life annuities.

2.2.8 The above examples do not cover every type of policy sold or every variation within such policies. When categorising a contract, particular attention should be paid to the specific terms and conditions of that contract and to the requirements of IFRS 4 and the accompanying implementation guidance.

2.3 Investment contracts

2.3.1 Investment contracts are deemed to be any policy contracts not falling within the definition of insurance contracts.

2.3.2 Examples of such contracts which could be classified as investment contracts are given below:

i Non-profit single premium guaranteed contracts;

ii Non-profit 'structured' single premium contracts;

iii Single premium contracts with all benefits directly linked to the performance of a specific asset portfolio;

iv Sinking fund 'investment only' business;

v Group smoothed bonus contracts;

vi Annuities-certain and market-related 'living annuities'.

2.3.3 The above examples do not cover every type of policy sold or every variation within such policies. When classifying a policy contract, it is important to consider the specific terms and conditions of that contract and the requirements of AC 141 and the accompanying implementation guidance.

2.3.4 Some investment contracts allow switching between investment funds. In particular, switching may be into or out of a smoothed bonus portfolio. The option to switch a pure investment policy into a smoothed bonus portfolio is not sufficient to classify the contract as investment with discretionary participation. One will need to review the switching history, and if a significant proportion of business has switched into a smoothed bonus portfolio at some stage, then this may be sufficient to enable all such contracts with such options to be classified as investment contracts with discretionary participation. Clearly, if and when an investment contract is switched to discretionary participation, then it can be reclassified as discretionary participating if not done so already.

3 VALUATION OF ASSETS

As per paragraph 45 of IAS 39 assets are required to be classified into four categories, viz. at fair value through profit or loss, held-to-maturity, loans and receivables, and available-for-sale. Ideally, the valuation approach of the assets should be consistent with the valuation approach of the liabilities. The approach used is subject to the requirement that one remains within the confines of IAS 39.

4 VALUATION OF LIABILITIES

4.1 The valuation of a contract depends on how a contract has been classified. This section considers the valuation of insurance contracts, the valuation of investment contracts without discretionary participating features (e.g. term certain annuities), the valuation of investment contracts with discretionary participation features (e.g. smoothed bonus pure savings contracts with no guarantees) and the valuation of investment management contracts (e.g. market-linked pure savings contracts with no guarantees).

4.2 Valuation of insurance contracts:

4.2.1 As per paragraph 4.2 in the main body of this SAP, local accounting practice should continue to be used for the valuation of insurance contracts, which is the Financial Soundness Valuation method as outlined in Section 3 of the main body of SAP 104.

4.2.2 In terms of IFRS 4, insurance contracts are subject to a liability adequacy test. The purpose of the test is to ensure that the liability held is sufficient to meet all expected future obligations under the contract, including guarantees and options, using current estimates of future cash flows. If the test shows that the liability is inadequate, the entire deficiency needs to be recognised in profit or loss. Because the Financial Soundness Valuation method complies with these minimum requirements as laid out in IFRS 4, no additional work is likely to be required.

4.3 Valuation of investment contracts without discretionary participation features:

4.3.1 Investment contracts (including the deposit component of investment management contracts) without discretionary participating features are to be valued in terms of IAS 39. To ensure consistency between the value of assets and the value of liabilities, where corresponding assets are valued at fair value, these investment contracts should also be valued using fair value. However, see 4.3.10 below.

4.3.2 In broad terms, some may regard the Financial Soundness Valuation method as an appropriate approach to fair value accounting. There are, however, certain features of IAS 39 that need to be specifically catered for, which could make the Financial Soundness Valuation method as set out in Section 3, inappropriate for complying with IAS 39.

4.3.3 Under IAS 39, there is a hierarchy of ways to determine the fair value of a liability. The first way is to use the market price as quoted in an active market on an arm's length basis. For contracts where no quoted markets exist, valuation techniques include a discounted cash flow valuation, an option pricing valuation, replicating portfolio techniques and the use of recent arm's length transactions.

4.3.4 According to paragraph AG74 of IAS 39, in the absence of any quoted price, a valuation approach must be used which can be demonstrated to provide reliable estimates of market prices. The technique should be chosen such that it includes all relevant factors that market participants would consider in setting a price. Assumptions should be consistent with market observable data wherever possible. Economic assumptions such as interest rates will typically have observable market data to use. A discount rate should be used equal to the prevailing rates of return for financial instruments having substantially the same terms and characteristics, including the credit quality of the instrument. Paragraph AG 82 states that the fair value of a financial instrument will be based on one or more factors, including interest at the risk-free rate, and the effect on fair value of credit risk of the financial instrument.

4.3.5 There is unlikely to be observable market data for assumptions such as persistency and mortality. One will need to estimate what these assumptions are likely to be in an arm's length transaction. These assumptions should be based on best estimates of future experience with a margin to cover the risk that actual experience may differ. The compulsory margins may not be contrary to these requirements. Discretionary margins, unless they are covering specific identified risks not covered by compulsory margins, are not likely to be appropriate. However, it should be noted that, as per 4.3.6 below, additional margins may be required to be set up to eliminate gains at inception.

4.3.6 For investment contracts with a quoted price no profit is recognised at point of sale since the fair value is equal to the bid price quoted in the market. According to paragraph AG76 of IAS 39, a gain or loss may only be recognised at inception if fair value is evidenced by comparison with other observable current market transactions in the same instrument, or is based on a valuation technique incorporating only market observable data. For investment contracts written by life offices, the valuation technique frequently uses assumptions other than market observable data. Given this, it will be difficult to demonstrate that any profit may be recognised at inception. This is recognised in paragraph AG76A, which states that the application of paragraph AG76 may result in no gain or loss being recognised at inception. Furthermore, a gain or loss shall be recognised after inception only to the extent that it arises from a change in a factor (including time) that market participants would consider in setting a price.

4.3.7 In terms of the requirements of paragraph AG75 of IAS 39, the account balance is an appropriate reserve for a unit-linked type contract. Any Rand reserves which are currently held in the current Financial Soundness Valuation method should be eliminated under IAS 39. Where actuarial funding may have been used and the funded value of units held, either the unfunded (i.e. total) liability should be held, or the difference between the unfunded and funded liability should be treated as a DRL (Deferred Revenue Liability) and released as the service is provided in accordance with IAS 18.

4.3.8 A company issuing an investment contract needs to recognise a minimum liability equal to the demand deposit. The demand deposit is the amount payable on demand, which is in effect the surrender value. Any DAC (Deferred Acquisition Cost) set up in respect of the attaching investment management

contract should not be netted off against the liability held when comparing against the demand deposit floor.

4.3.9 For purposes of deriving fair value, where embedded derivatives (e.g. financial guarantees) exist within a product line and are classified as investment contracts, these must be fair valued. It is likely that a real world stochastic approach as currently envisaged in APN 110 would be an acceptable method to use, provided that the results are not materially different to those calculated on a market-consistent basis.

4.3.10 IAS 39 does allow an amortised cost approach to be used to value liabilities. Whilst this is inconsistent with valuing assets at fair value and is contrary to the Financial Soundness Valuation method, some life offices in South Africa may still prefer to adopt this approach for valuing investment contracts without discretionary participation. This is particularly so for any South African life offices whose parents are listed in Europe, in view of the fact that the European Commission has voted to endorse a carved-out version of IAS 39. Specifically, the EC has not endorsed the option to fair value liabilities. The result of this is that an amortised cost approach may have to be used for the valuation of liabilities for investment contracts. For practical reasons, such South African life offices may choose to report these same results when reporting in South Africa as well. It should be noted that this is not an issue for companies that only operate within South Africa, since South Africa has adopted the full IAS 39 standard for IAS 39.

4.4 Valuation of investment contracts with discretionary participation features:

4.4.1 As per paragraph 4.3 in the main body of SAP 104, investment contracts with participation in profits on a discretionary basis present particular difficulties of accounting treatment. These difficulties have been recognised by the IASB and the concomitant IFRS 4, which has indicated that these contracts can continue to be valued under local accounting practice. The Financial Soundness Valuation method as outlined in Section 3 of the SAP will continue to be applicable.

4.4.2 According to IFRS 4, a company issuing such a contract needs to recognise a liability of not less than the measurement that would be required for the guaranteed element of the contract. In the South African context, the guaranteed element includes vested bonuses that have been declared to date. If, however, the full bonus stabilisation reserve is held as a liability, as is the practice in South Africa, then IFRS 4 states that this requirement does not apply. In calculating the value of the guaranteed element (if applicable) it is appropriate to use a prospective discounted cash flow approach rather than the face value of the current guaranteed portion.

4.4.3 It should be noted that IFRS 4 permits premiums, claims and other cash flows on such contracts to be recognised as revenue.

4.5 Valuation of investment management contracts (where the host contract is an investment contract without discretionary participating features):

4.5.1 An investment management contract is an investment contract as part of which investment management services are provided. IAS 18 paragraph 14(b)(iii) in the Appendix (brought about by a consequential amendment to IFRS 4) requires the deposit (or financial liability) component to be separated from the investment management services component.

4.5.2 The deposit component is valued in terms of IAS 39, and is covered in 4.3 above.

4.5.3 The investment management services component is subject to IAS 18 dealing with revenue recognition. Excess initial fees (i.e. the excess of initial fees over recurring fees) are not to be recognised up-front but are required to be

recognised as revenue as the services are provided. In the same way, incremental costs are to be deferred and amortised as the entity recognises the related revenue. Incremental costs are those that are directly attributable to securing an additional investment management contract. It is likely that commission (including VAT) and additional incentives paid on the attainment of a specific sales target are the only types of costs that meet the definition of an incremental cost.

4.5.4 Although one may feel that there is some discretion in attributing initial fees and incremental costs between the financial liability and investment management services components, the accounting firms have concluded that the full amount of the initial fees and incremental costs relates to the investment management service component (since any amounts relating to origination of the financial liability are likely to be immaterial), and thus requires deferral. The Actuarial Society of South Africa supports this approach, since it will ensure consistency between life offices, both locally and internationally.

4.5.5 One can perform the amortisation calculations on a policy-per-policy basis or on a portfolio basis. If a policy-per-policy approach is followed, then the DAC (Deferred Acquisition Cost) and/or DRL (Deferred Revenue Liability) will be amortised over the actual term of the policy, and will be released when the policy goes off books. On the other hand, if a portfolio approach is followed, then allowance should be made for expected decrements in selecting the expected term over which to amortise the DAC and DRL. The expected term should be amended over time in line with significant changes in the decrement experience.

4.5.6 In choosing the amortisation pattern, one can adopt any recognised approach (e.g. straight line approach, or amortise the amounts via a carrier such as the expected profits or fees of the contracts in question).

4.5.7 The amortisation pattern of the DAC must be consistent with the amortisation pattern of the DRL.

4.5.8 A DAC can only be held to the extent that it is likely to be recovered in future. Recoverability can be assessed on a portfolio basis.

5 DISCLOSURE REQUIREMENTS

5.1 Whilst this SAP is not intended to cover disclosure requirements, it is important to note that IAS 32 requires certain disclosures for investment contracts. Discretionary participating investment contracts are not exempt from these disclosure requirements, although it should be noted that all flows on such contracts may be recognised as revenue. IFRS 4 requires certain disclosures for insurance contracts.

5.2 IFRS 4 requires revenues (in the profit and loss account) and insurance liabilities (in the balance sheet) to be shown gross and net of reassurance.