



Course 2B – Life Insurance



Important Administration Information

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1. Course Overview

Welcome to the Part III Life Insurance Course 2B.

This course, along with Life Insurance Course 2B, makes up the equivalent of a specialist subject in the Part III actuarial education program.

The aim of the Part III actuarial education program is outlined below. You are required to demonstrate:

- ▶ **Environmental knowledge** – a strong knowledge of the nature, operations, legislation and current issues of the selected practice area(s)
- ▶ **Actuarial skills** – a detailed knowledge and understanding of the application of actuarial concepts and skills to the chosen practice area(s)
- ▶ **Judgement** – an ability to apply judgement to solve problems in the chosen practice area(s), which may be characterised by complexity, varying degree of clarity of definition and novel or unseen circumstances

This Course Guide contains basic information to assist in your preparation for the examination. However, it is expected that you will utilise other resources in addition to these notes and prescribed reading to facilitate your learning.

The aim of Part 2B of the Life Insurance Course is to provide the actuary with the knowledge, skills and judgement necessary to tackle a range of management related problems in the life insurance field relating to placing a value on liabilities, reporting and interpreting profit, capital management and distributions to participating policy owners.

Life insurance is one of the original applications of actuarial science. It combines the natural mathematical abilities of practitioners and a business focus with the specific areas related to life insurance. That is, the study of mortality and other health related risks and a long-term focus via long-term liabilities, for the ultimate purpose of the healthy management of life insurance entities. Key considerations of Part 2B of the subject are:

- ▶ Profitability and analysis
- ▶ Valuation techniques
- ▶ Capital management
- ▶ Reporting of results
- ▶ Distributions to participating policy owners
- ▶ Valuation of a company.

In addition, life insurance is increasingly part of the wider financial services landscape and life insurance companies are often part of a much larger group also covering banking, funds management and sometimes general insurance. The ability to understand the key issues involved in the management of life insurance entities and explain these to shareholders in a meaningful way is an important skill.

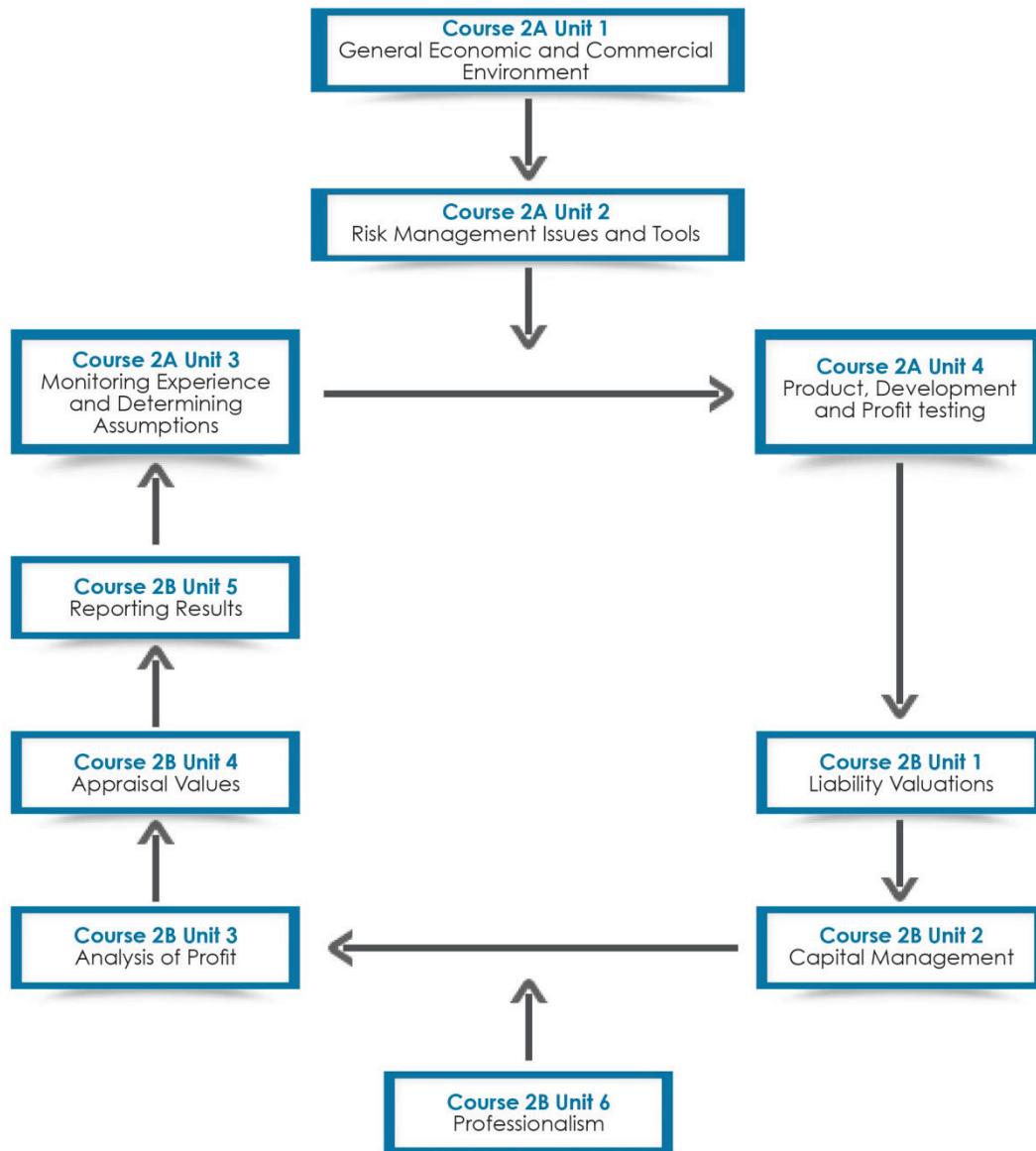


2. Course Structure

This Part III subject builds on the theme first developed in the Part II subject Actuarial Control Cycle (ACC). The Control Cycle principles are now applied specifically to Life Insurance.

The diagram below graphically represents the relationship of the Units as a Life Insurance Cycle.

Figure 1: Life Insurance Cycle





2.1. The Actuarial Control Cycle for Life Insurance

You should have a good grounding in the theory of the control cycle as a result of studying the Part II subject, Actuarial Control Cycle. The structure of the Life Insurance Course has been modelled on the control cycle format as has been illustrated on the previous page.

The amount of time you will need to spend on each unit will be directly related to your experience in the industry, and your practical knowledge of the various specific issues being covered in each unit. The time frames included in this material are a guide only, to assist you in the management of your time.

- ▶ **Course 2A Units 1 and 2** provide some background to the life insurance industry and to some of the risk management aspects particular to life insurance. Specifically, Unit 1 covers general background issues, sales and marketing aspects, the legislative environment, and the tax environment. Unit 2 outlines the key risk management tools of underwriting, reinsurance and the investment strategy. A good understanding of these is required in the ongoing management of a life insurance portfolio.
- ▶ **Course 2A Unit 3** looks at both the monitoring of the emerging experience, as well as the determination of assumptions. The main elements to consider are mortality and morbidity risks, expenses, discontinuances, investment returns, inflation and tax.
- ▶ **Course 2A Unit 4** considers the application of assumptions to product development, pricing including initial liability valuation requirements and capital requirements as well as surrender value bases.
- ▶ **Course 2B Units 1, 2 and 3** consider the application of the assumptions to policy liability valuations and capital calculations. Best estimate assumptions are required for policy liability valuations in accordance with accounting and prudential standards, whereas pricing and appraisal values may require a slightly different outlook to bear on the assumptions. Capital is determined in accordance with the prudential capital standards.
- ▶ **Course 2B Unit 4** introduces the concept of appraisal values and provides a detailed understanding of what these are, when they are used and how to determine one.
- ▶ **Course 2B Unit 5** then looks at the reporting of the results in the Australian context.
- ▶ **Course 2B Unit 6** completes the subject with a consideration of professional and equity issues, covering Professional Standard 200, plus the specifics of the Appointed Actuary role. The latter is a special role legislated under the Life Insurance Act, with certain obligations in relation to policyholders, the life insurance company, and the regulator.



In all these units, the feedback loop is an important element, so that emerging experience is analysed, assumptions are re-determined, and then fed through the various calculations so that impacts can be calculated and analysed. This enables management decisions to be formulated in full knowledge of the expected impacts.

3. Course 2B Life Insurance Syllabus

Having completed Course 2A, the student will have the skills necessary to progress into this course. This course takes the concepts from product pricing and applies them to the valuation of life insurance liabilities. The application of solvency and capital adequacy standards is then covered. This leads into analysis of profit and reporting, which also covers the application of reporting standards, as well as the use of appraisal values. The final part of this course covers professionalism, including the role of the appointed actuary as it relates to life insurance.

While Course 2B is studied, and examined as a stand-alone topic, due to the nature of the study of Life Insurance, items studied in Course 2A may be brought into and examined as part of, Course 2B.

These notes are structured around major areas of learning which are called Units. Within each Unit there are Key Performance Outcomes which describe what the student should know. Within each Key Performance Outcome there are a number of Learning Objectives which describe how the student should be able to demonstrate their knowledge. The Key Performance Objectives of each unit along with the corresponding learning objectives are provided below. The numbering convention used is

Unit Performance. Key Performance Objective. Learning Objective. Therefore: -

- 1 means Unit 1. Unit descriptions are in **black bold**
- 1.1 means Unit 1, Key Performance Objective 1. Please note however that Key Performance Objectives are sequential in number and are not restarted at 1 when the unit number changes. Descriptions of Key Performance Objectives are in **blue bold**
- 1.1.1 means Unit 1, Performance Objective 1, Learning Objective 1. Descriptions of Learning Objectives are in plain text.



When you see it in the notes it will look like this:

Item	Unit/Key Performance Objective/Learning Objective
1	Means Unit 1. Unit descriptions are in black bold
1.1	Means Unit 1, Key Performance Objective 1. Please note however that Key Performance Objectives are sequential in number and are not restarted at 1 when the unit number changes. Descriptions of Key Performance Objectives are in blue bold.
1.1.1	Means Unit 1, Performance Objective 1, Learning Objective 1. Descriptions of Learning Objectives are in plain text.

The full course syllabus is shown below:

Item	Unit/Key Performance Objective/Learning Objective
1	Liability Valuations
1.1	Value life insurance policy liabilities for the purpose of profit reporting under Australian standards.
1.1.1	Explain the need for establishing policy liabilities and the circumstances requiring the valuation of assets and liabilities
1.1.2	Explain the concept of best estimate liabilities
1.1.3	Develop a basis for determining policy liabilities for individual/group policies and active/lives on risk under the APRA Prudential Standard LPS 340 and AASB1038
1.1.4	Determine the requirements of valuations as they apply to participating business
1.1.5	Apply the valuation standard to the setting of profit margins, value of supportable assets (VSA's) and supportable bonuses.
1.2	Understand alternative methods of calculating policy liabilities
1.2.1	Identify the data needed to perform a valuation
1.2.2	Explain the use of grouped model points
1.2.3	Describe the different types of models that can be used for valuing liabilities
1.2.4	Explain the net premium method of valuation
1.2.5	Assess the suitability of a valuation basis



Item	Unit/Key Performance Objective/Learning Objective
2	Asset Valuations and Capital Management
2.3	Understand how life company assets are valued according to accounting and APRA standards
2.3.1	Identify the different values that may be placed on assets
2.3.2	Analyse the relationship between assets and liabilities
2.4	Identify and apply the requirements of the life insurance “Capital Adequacy Standards”
2.4.1	Explain the need for capital.
2.4.2	Describe the different types of capital that can be utilised by life companies and demonstrate how they impact APRA capital calculations
2.4.3	Calculate the capital base and the prescribed capital amount, using APRA standards
2.4.4	Describe the internal capital adequacy assessment process
3	Analysis of Profit and Distributions to Policy Owners
3.5	Design a process to determine the sources of profit
3.5.1	Explain the term “analysis of profit” and relate its uses to the financial reporting framework
3.5.2	Explain why an analysis may be undertaken
3.5.3	Prepare a practical analysis
3.6	Design a business planning process
3.6.1	Evaluate the relationship between profit results and the business planning process
3.6.2	Design a practical business planning process
3.7	Provide advice to a life company on the distribution of profits to participating policy owners
3.7.1	Explain the difference between allocation of profit and distribution of profit to participating policyholders
3.7.2	Consider the issues that need to be considered when providing advice to a life company on the distribution of profit to participating policyholders
3.7.3	Formulate methods that can be used to determine declared bonus rates and crediting rates



Item	Unit/Key Performance Objective/Learning Objective
4	Economic Valuations (Appraisal Values)
4.8	KPO 8 Plan the calculation of a life insurer or retail funds manager appraisal value
4.8.1	Determine the reasons for obtaining an appraisal value
4.8.2	Identify and determine the components of an appraisal value
4.8.3	Discuss the key issues involved in determining an appraisal value
4.8.4	Demonstrate the steps required to calculate an appraisal value
4.8.5	Compare and contrast the different methods available for arriving at an appraisal value
4.9	Design and apply a process to analyse the change in appraisal value
4.9.1	Prepare an analysis of the change in appraisal values
4.9.2	Explain why an analysis may be undertaken
4.9.3	Contrast the change in appraisal value with the reported profit
4.9.4	Identify and examine issues associated with the change in appraisal values
5	Reporting Results
5.10	Analyse and interpret the financial statements of a life insurer or funds management company
5.10.1	Compare the accounting treatment of insurance and investment contracts in APRA and company financial statements
5.10.2	Analyse and interpret the financial statements of a life insurer or funds management company
6	Professionalism
6.11.1	Explain the legal and professional responsibilities of the life insurer Appointed Actuary
6.11.2	Examine the role of the life insurer Appointed Actuary and contrast this with the role of the Auditor / Actuarial auditor / Directors
6.11.3	Prepare and examine the Financial Condition Report of a life insurance company prepared under the Institute of Actuaries of Australia's Professional Standards
6.11.4	Consider the ethical dilemmas of the actuary in balancing the interests of different stakeholders, generations and policy types
6.11.5	Choose the required professional behaviour for an actuary practising in life insurance and funds management organisations in Australia and overseas
6.11.6	Clearly and simply explain to each stakeholder, the relationship between assumptions and scope and the output and interpretation of professional work



4. Course Administration

4.1. Key Dates

Please see the Part III Key Dates section of the Institute website www.actuaries.asn.au for dates related to:

- ▶ Enrolment
- ▶ Tutorials
- ▶ The examination

4.2. Learning Management System (LMS)

Students will be given access to the Institute's online Learning Management System (LMS) for the course(s) that they have enrolled in.

To access the LMS go to: <http://elearning.actuaries.asn.au>.

Your username for the LMS will be your membership ID. You will receive an email from the Institute notifying you that you have access to the course(s) that you have enrolled in shortly after your enrolment. If you are a new Part III student, this email will also include your login details.

The LMS includes all the learning materials for the current semester: course materials, readings and tutorial materials (published before each tutorial and recordings after each tutorial).

The screenshot shows the LMS interface for the 'Life Insurance 2A' course. At the top right, it says 'You are logged in as [username] Logout' and 'Life Insurance 2A'. On the left is a sidebar with links for 'People', 'Search Forums', 'Activities', and 'Administration'. The main content area has a 'Topic outline' header. Under 'Course Overview', there are links to 'News Forum', 'Course Overview', and 'Reading List'. A 'Part III Orientation' section is present. Below it, 'C2A Exam Information Documents' are listed. The 'Unit 1: General Economic & Commercial Environment' section is expanded, showing 'Unit Forum', 'Unit Materials', and 'Unit Readings'. The 'Unit 2: Risk Management Issues and Tools' section is partially visible. On the right side, there are boxes for 'Latest News', 'Upcoming Events', and 'Recent Activity'.



The LMS also includes learning assets from past semesters: past tutorial presentations and audio recordings, past assignments and solutions, past exams and solutions and past discussion forums.

Depending on the course, there could also be other learning assets such as exercises.

4.3. Candidate Number

Students will receive an email from the Institute with their candidate number approximately 5 weeks into the semester. Candidate numbers are used as an anonymous identifier for the exam.

To view your candidate number in your user profile in the LMS:

- ▶ Click on your name in the top right corner of the screen,
- ▶ Click on the Edit Profile tab,
- ▶ Scroll down the page to the Optional section,
- ▶ Your candidate number appears in the Candidate Number field.

4.4. Tutorials

The Institute conducts tutorial sessions in Sydney and other centres with sufficient student numbers, at which you can obtain clarification on course topics from other students and the tutors. These sessions may provide an opportunity to assist those students who have no practical work experience in the subject area. If you are not located in Sydney, you can attend the tutorial via live webinar or access the webinar audio recording of the tutorial at your own convenience.

As tutorials are not lectures you are expected to have prepared yourself before attending, by ensuring that you have a basic understanding of the topic. This understanding is acquired by reading the course material.

The Institute will provide full details and arrangements for these tutorials to all students who enrol for this semester. You will obtain this information early in the semester via the LMS.

Formal and informal study and/or discussion groups organised by students are an excellent strategy to support your actuarial studies. Please do not hesitate to organise one by contacting the Institute, making an announcement at your tutorial, or posting a message on the Discussion Forum (see section below).



4.4.1. Tutorial Materials

Tutorial materials will be uploaded to the LMS before each tutorial. Prior to each tutorial, a webinar invitation, with access instructions, will be emailed to students. Webinar and audio recordings of each tutorial will be published in the LMS the day after the tutorial.

Forum	File	Description
2A Tutorial 1 Forum	2A Tutorial 1 Semester 2 2009 - Presentation	Download link
	2A_Tutorial1_Sem2_2009	Download link
	2A_Tutorial1_Sem2_2009	Download link
2A Tutorial 2 Forum	2A Tutorial 2 Semester 2 2009 - Presentation	Download link
	2A_Tutorial 2_Sem2_2009	Download link
	2A_Tutorial 2_Sem2_2009	Download link
2A Tutorial 3 Forum	2A Tutorial 3 Semester 2 2009 - Presentation	Download link
	2A_Tutorial_3_Sem_2_2009	Download link
	2A_Tutorial_3_Sem_2_2009	Download link

4.4.2. Tutorial Dates and Times (Course Calendar)

Tutorial dates and times also appear in the course calendar in the LMS. Upcoming tutorial dates and times will appear in the Upcoming Events panel on the right of the screen. To access the full Course Calendar, go to the **Upcoming Events** panel and click on **Go to calendar**.

Upcoming Events
There are no upcoming events
Go to calendar... New Event...

The LMS is set to AEST time by default. If you are located in another time zone, you can change your time zone in your user profile. This will mean that all dates and times in the Course Calendar will be converted to your time zone.

To change the time zone in your user profile:

- ▶ Click on your name in the top right corner of the screen,
- ▶ Click on the Edit Profile tab,
- ▶ Click on the drop down arrow next to the Time zone field
- ▶ You can select from a region/city or if your region is not listed the UTC number.

4.5. Assignments

Assignments will cover those parts of the syllabus which are either difficult to assess in an exam or historically, have been areas of the course where students have performed badly and where an in-depth exploration of the subject matter is warranted.



Students will be asked to complete one assignment for each Fellowship subject offered by the Actuaries Institute. An assignment should take between 10 and 15 hours for a student to complete. The assignments will be marked and performance on the assignment will form 10% of students' overall assessment for the course. Individual assignment marks and general feedback on the assignments will be provided to students no later than two weeks prior to the examinations.

4.6. Staff

4.6.1. Course Leaders

The LMS will inform you of the Course Leader(s) for your course.

4.6.2. Institute Staff

Please check the About Us section of the Institute's website www.actuaries.asn.au and click on Institute HQ for a list of Education staff, their areas of responsibility and contact details.

5. Assessment

The standards for determining whether a student should be granted the status of Fellow of the Institute of Actuaries of Australia are based on whether an individual demonstrates core capabilities required for an actuary practicing professionally in the specialty area/s, aligned to the learning objectives of the course.

You, as a student, are required to demonstrate:

- ▶ Environmental knowledge – a strong knowledge of the nature, operations, legislation and current issues of the selected practice area(s)
- ▶ Actuarial skills – a detailed knowledge and understanding of the application of actuarial concepts and techniques to the chosen practice area(s)
- ▶ Judgement – an ability to apply judgement to solve problems in the chosen practice area(s), which may be characterised by complexity, varying degree of clarity of definition and novel or unseen circumstances

You are not expected to demonstrate these capabilities at the level of an experienced and skilled practitioner. It is unreasonable to expect a student to demonstrate the degree of understanding of an actuary of some years' experience. Rather, the benchmark is whether you, as a student, can demonstrate proficiency to commence practicing professionally in this specialty area.

Please see the Course Details section of the Institute's website at <http://www.actuaries.asn.au> and the LMS for information on assessments for this course.

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Unit One – Liability Valuations

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6. Preface to Unit

This Unit is titled “Liability Valuations” and it deals with the applications of valuation techniques in a life insurance context.

6.1. Unit Performance Outcomes

By the end of this unit students should be able to achieve the following key performance outcomes:

Item	Unit/Key Performance Objective/Learning Objective
1	Liability Valuations
1.1	Value life insurance policy liabilities for the purpose of profit reporting under Australian standards.
1.2	Understand alternative methods of calculating policy liabilities

These key performance outcomes will be supported by subsidiary learning objectives that are set out in the following sections of this Unit.

6.2. Rational for Performance Outcomes

Policy liabilities must be valued for the purpose of producing general purpose financial statements under AASB 1038 and for reporting to APRA under LPS 340. The two standards are expressed differently but the outcomes are usually identical.

6.2.1. Learning resources

You will need the following:

- ▶ Prudential Standard LPS 340, Valuation of Policy Liabilities, issued by the Australian Prudential Regulation Authority (APRA)
- ▶ Accounting Standard AASB 1038, Life Insurance Contracts issued by the Australian Accounting Standards Board
- ▶ The Institute of Actuaries of Australia. *The Practice of Life Insurance in Australia*, (2014 ed.), Chapters 21 and 22
- ▶ The Life Insurance Act 1995.
- ▶ Information Note: Asymmetric Risks. Institute of Actuaries of Australia.



7. Australian Valuation Requirements

7.1. Introduction

This topic examines the Australian valuation standards. Key differences between the valuation of insurance contracts and investment contracts are highlighted. The learning objectives are:

Item	Unit/Key Performance Objective/Learning Objective
1	Liability Valuations
1.1	Value life insurance policy liabilities for the purpose of profit reporting under Australian standards.
1.1.1	Explain the need for establishing policy liabilities and the circumstances requiring the valuation of assets and liabilities
1.1.2	Explain the concept of best estimate liabilities
1.1.3	Develop a basis for determining policy liabilities for individual/group policies and active/lives on risk under the APRA Prudential Standard LPS 340 and AASB1038
1.1.4	Determine the requirements of valuations as they apply to participating business
1.1.5	Apply the valuation standard to the setting of profit margins, value of supportable assets (VSA's) and supportable bonuses.

7.1.1. Learning resources

You will need the following:

- ▶ Prudential Standard LPS 340, Valuation of Policy Liabilities, issued by APRA
- ▶ Accounting Standard AASB 1038, Life Insurance Contracts issued by the Australian Accounting Standards Board
- ▶ The Institute of Actuaries of Australia. The Practice of Life Insurance in Australia, (2014 ed.) Chapter 21
- ▶ Information Note: Asymmetric Risks. Institute of Actuaries of Australia.
- ▶ The Life Insurance Act 1995.



7.2. The need for policy liabilities

Item	Unit/Key Performance Objective/Learning Objective
1	Liability Valuations
1.1	Value life insurance policy liabilities for the purpose of profit reporting under Australian standards.
1.1.1	Explain the need for establishing policy liabilities and the circumstances requiring the valuation of assets and liabilities

7.2.1. Introduction

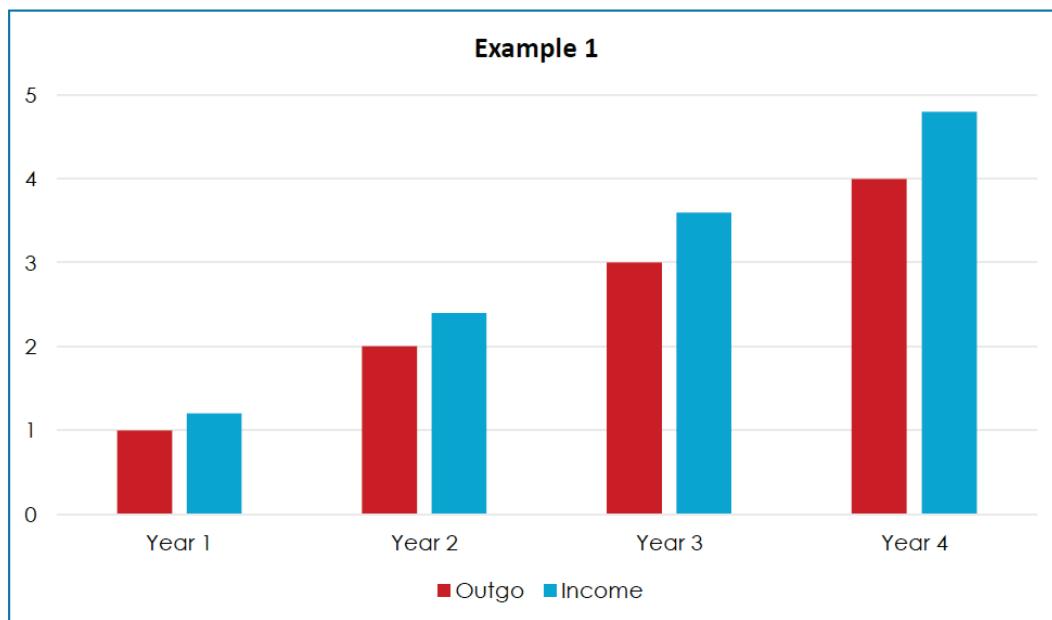
A life insurance contact consists of a series of cash inflows and outflows. For a life insurance company the cash outflows represent services (sales, claims, administration costs etc.) and the cash inflows represent the premiums or investment income.

The difference between the inflows and outflows represent the cash profit. As life insurance contracts are typically long term in nature, there may be a significant mismatch in the timing and amount of the cash inflows and outflows. This means the 'cash profit' may not be a suitable meaningful measure in reporting the profitability of a contract each period.

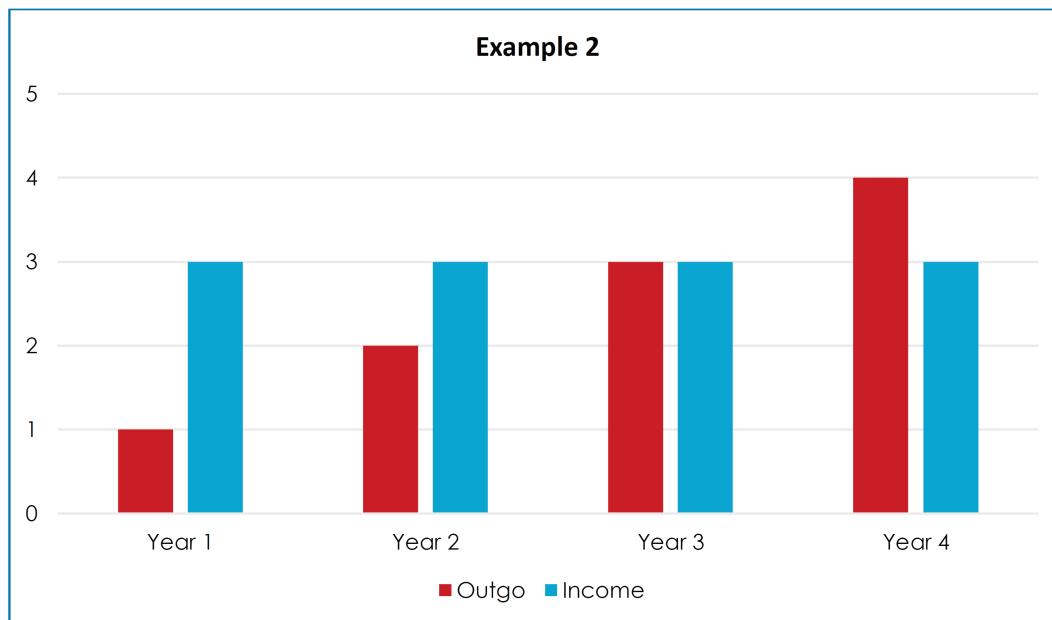
This is because typically for a life insurance contract the office incurs expenses (related to the sale of the contract) and upfront agent/advisor commissions (which may be up to 100% of the first year premiums) that exceed the premiums received in the first year. As a result if the profit was determined on a 'cash' basis it would report losses each time a policy is sold followed by profits in the following periods. This may not adequately capture the financial performance of the company where the determination of the amount and emergence of profit depends on the valuation basis of the policy liabilities.



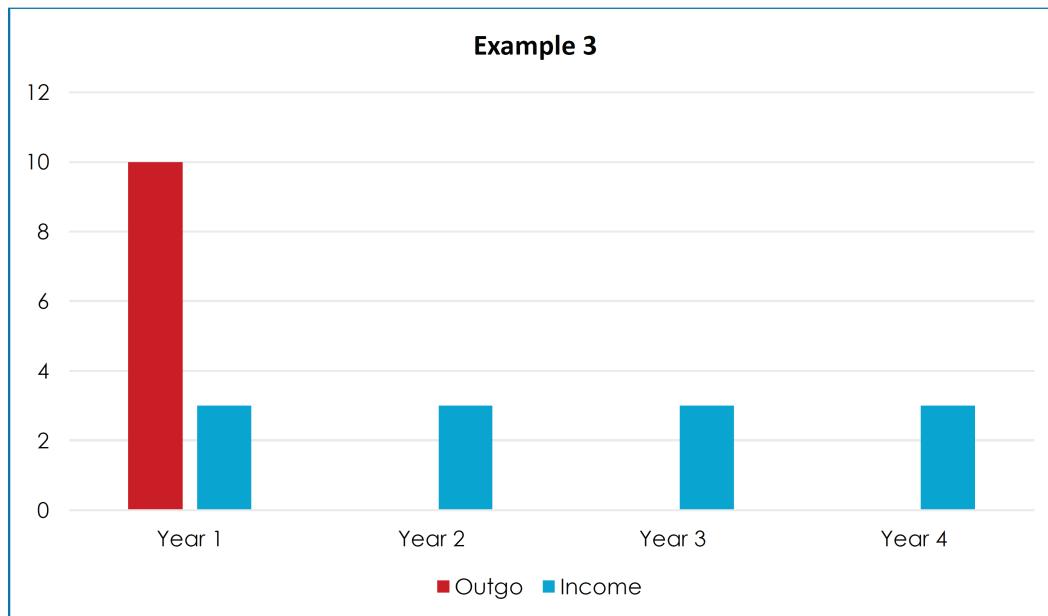
Consider the following three examples:



In Example 1 the timing of income and outgo are perfectly matched so there is no need for a liability.



In Example 2, level income is used to pay an increasing outgo. Liabilities are needed to set income aside to meet future outgo.



In Example 3, an initial outgo has been incurred to produce a future income. The initial outgo can be regarded as an asset or a negative liability.

Reflections

Consider how best estimate liabilities and net premium liabilities reflect the different shapes of income and outgo for each component of a policy.

Students should also prove that:

- ▶ the ultimate total profit realised by a policy (i.e. when it has expired or terminated) does not depend on the valuation basis of the policy liabilities as the valuation basis only affects the amount and timing of future profit, provided the amount of invested assets has not changed. The timing of the emergence of profit is however changed and this affects the present value of profit unless the discount rate is equal to the investment earnings rate.
- ▶ Furthermore, when the liability interest rate is equal to the earned interest rate then liabilities do not affect the present value of profit.



7.2.2. Policy Liabilities

The policy liabilities can be expressed as the difference between the present value of the expected future outflows and the expected future inflows. It represents the liabilities that have arisen from past events and liabilities that are yet to arise from future events which are not funded by future cash inflows. The liabilities are determined to:

- ▶ assess the ability to meet the underlying contractual obligations;
- ▶ assess the ability to meet constructive obligations arising from the insurance business; and
- ▶ assess profit outcomes for policy-owners and/or shareholders of the insurance business.

The future cash flows are re-measured at regular intervals to reflect the underlying uncertainty in respect of the timing and amount of the cash flows. The determination of the policy liabilities therefore involves re-evaluating a wide range of assumptions pertaining to future claim rates, premium rates, investment earning rates, management expense rates, tax rates, customer behaviour or lapse rates and rates of allocation of profits to policy-owners and shareholders.

There are number of considerations in setting the basis for the determination of the policy liabilities such as:

- ▶ the purpose of the valuation
- ▶ legislative environment
- ▶ professional standards and
- ▶ level at which reserves are set (i.e. using grouped policies or individual policies).

Purpose of Measurement

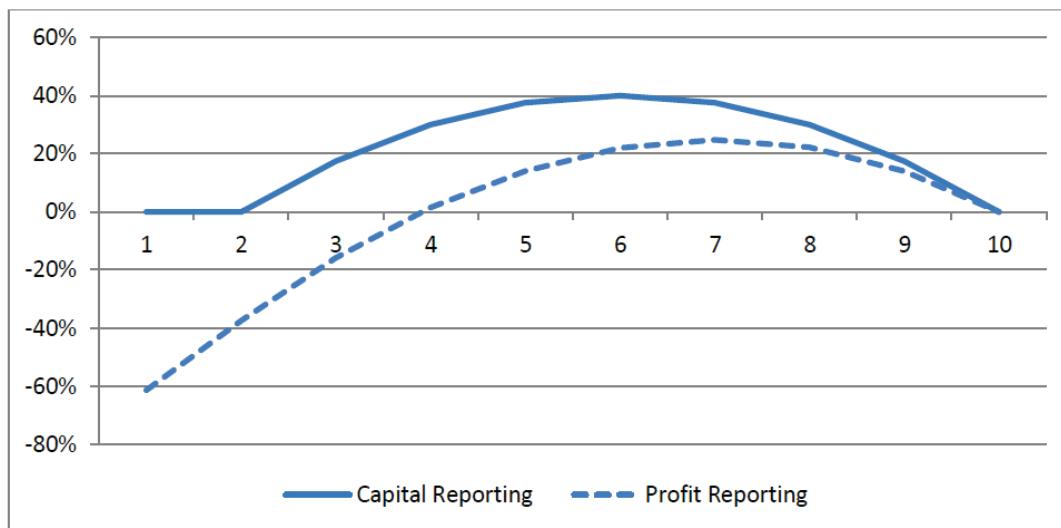
The policy liabilities need to reflect the purpose of measurement. The suitability and appropriateness of the assumptions underpinning the policy liabilities is dependent upon the purposes.

For example, if the aim is to assess the profits earned by the business, the change in the policy liabilities over the period since the last re-measurement is included in the determination of the profits for that period. In the Australian context, it would be expected that the assumptions underpinning the policy liabilities would reflect best estimate expectations.

If, on the other hand the aim is to assess the capital strength of the business, the policy liabilities could include significant margins to reflect adversity. Margins may also be held outside the policy liability. [solvency margins may be held outside PL?].



The assessment of liabilities may differ for tax assessment purposes if an office has policies in loss recognition. The chart shows the different patterns of policy reserves that may evolve over time of a portfolio of 10 year level premium term insurance contracts for profit reporting purposes and capital reporting purposes. The reserves for each year are shown as a proportion of the expected premium in that year.



7.2.3. Reading

The Institute of Actuaries of Australia. The Practice of Life Insurance in Australia, (2014 ed.) Chapter 21

7.3. Best Estimate Liabilities

Item	Unit/Key Performance Objective/Learning Objective
1.1	Value life insurance policy liabilities for the purpose of profit reporting under Australian standards.
1.1.2	Explain the concept of best estimate liabilities

Best estimate liabilities represent the difference between the present value of future cash outflows and cash inflows using best estimate assumptions. Where the possible liability outcomes for that assumption are symmetrical, the best estimate assumption reflects a best estimate of the likely experience i.e. there's a 50% chance that the outcome will be over or under the best estimate liability. Chapter 21 of the textbook provides a broad outline of determination of the best estimate liability.



The Appointed Actuary is responsible for recommending the best estimate assumptions to be used in calculating policy liabilities. In practice the board would accept these assumptions as APRA would need to be advised if other assumptions were used. Best estimate assumptions should be set in light of emerging experience and industry studies.

Where products have embedded derivatives such as a guarantee on the minimum account balance, the future outcomes may not be symmetric in nature. The liability would need to allow for any asymmetric risks. Asymmetric risks are typically determined using stochastic modelling (refer to the Information Note: Asymmetric Risks. Institute of Actuaries of Australia which gives a good background on some of techniques used to determine asymmetric liability outcomes).

7.4. Australian Standard

Item	Unit/Key Performance Objective/Learning Objective
1.1	Value life insurance policy liabilities for the purpose of profit reporting under Australian standards.
1.1.3	Develop a basis for determining policy liabilities for individual/group policies and active/lives on risk under the APRA Prudential Standard LPS 340 and AASB1038

7.4.1. The Legislative Environment

The Life Insurance Act and the regulatory standards promulgated by the Australian Prudential Regulation Authority (APRA) set the framework for financial reporting and capital reporting. The key standards to be observed are:

- ▶ The Role of the Actuary
 - CPS 320 Actuarial and Related Matters – The Appointed Actuary is required to advise the Board of the Company on methodology, assumptions and the quantum of capital and policy liabilities of the life insurance business;
- ▶ For profit reporting
 - LPS340 Valuation of Policy Liabilities;
- ▶ For capital reporting
 - LPS 100 Solvency Standard;
 - LPS110 Capital Adequacy; and
 - LPS 112; LPS 114; LPS 115; LPS 117 and LPS 118 for greater detail on capital margins.



The Actuaries Institute issues professional standards on a range of matters pertaining to actuarial advice. In particular, the Actuaries Institute's PS 201 (Professional Standard 201: Actuarial Advice to a Life Insurance Company or Friendly Society) and PS 102 (Professional Standard 102: Financial Condition Report) apply to actuaries providing advice as required by the regulatory regime.

Since the GFC there has been a sustained period of low interest rates globally which has presented new challenges for life insurers' profitability and capital adequacy.

Insurance companies are sensitive to interest rates because premium dollars that flow in from policyholders need to earn a sufficient return to help cover future claims. This is because of the long term nature of liabilities when compared with the term of invested assets. As a result of this mismatch, the increase in liability values is greater than the increase in asset values.

This mismatch can result in pressure to increase non-guaranteed premiums on existing products. For older guaranteed products, there is the possibility that products may become loss making and require loss recognition.

There may also be a temptation to invest in riskier assets.

7.5. Participating Business

Item	Unit/Key Performance Objective/Learning Objective
1.1	Value life insurance policy liabilities for the purpose of profit reporting under Australian standards.
1.1.4	Determine the requirements of valuations as they apply to participating business
1.1.5	Apply the valuation standard to the setting of profit margins, value of supportable assets (VSA's) and supportable bonuses.

The textbook covers the calculation of policy liabilities by using the VSA. Interim bonuses are bonuses paid on claims during the year. As such they are included in the actual claim payments used in the calculation of the VSA. Declared bonuses on the other hand are excluded from the calculation of the VSA and hence form part of profit. This is shown in Example 3 of the spreadsheets for Chapter 21.



It should be noted that the VSA is the accumulated policy income and outgo allowing for expected decrement experience but actual investment return. This means that the policy liability reflects actual investment income and the movement in the accounts reflects actual investment income so there is no investment income profit from movements in the policy liability. The implied assumption is investment profits or losses are reflected by a corresponding change in the value of future bonuses.

On the other hand, experience other than investment emerges as profit every year as movements in the accounts reflect actual income and outgo while policy liabilities change with expected decrements. Any difference is profit to be allocated to policyholders' and shareholders' retained profits

8. Alternative Methods

8.1. Introduction

This topic covers some of the practical issues involved in valuing policy liabilities, including preparation of data and the different types of models that can be used. Alternative methods of determining policy liabilities are described using a principles-based approach. The net premium method is examined in detail.

Item	Unit/Key Performance Objective/Learning Objective
1	Liability Valuations
1.2	Understand alternative methods of calculating policy liabilities
1.2.1	Identify the data needed to perform a valuation
1.2.2	Explain the use of grouped model points
1.2.3	Describe the different types of models that can be used for valuing liabilities
1.2.4	Explain the net premium method of valuation
1.2.5	Assess the suitability of a valuation basis

8.1.1. Learning resources

You will need the following:

The Institute of Actuaries of Australia. The Practice of Life Insurance in Australia, (2014 ed.), Chapter 22



8.2. Data and Modelling requirements

Item	Unit/Key Performance Objective/Learning Objective
1	Liability Valuations
1.2	Understand alternative methods of calculating policy liabilities
1.2.1	Identify the data needed to perform a valuation
1.2.2	Explain the use of grouped model points
1.2.3	Describe the different types of models that can be used for valuing liabilities

The accuracy of the value placed on a policy liability is affected by the:

- ▶ quality and availability of data;
- ▶ systems and processes in place; and
- ▶ types of models available.

Whilst commutation functions were once commonly used to value liabilities, the development of computing power and improved valuation techniques have meant that individual policy projections have become common. However due to the nature, size and complexity of the business or limitations on the speed of the computing power, grouped model points may be used instead (as long as it sufficiently captures the risk characteristics of the business) in setting a value for the policy liability. The level of model points may also depend on the assumption set, particularly those relating to customer behaviour and demographics.

The reliability of the valuation of the liabilities is highly dependent on the accuracy of data. It is therefore important that the actuary places a high value on the quality of data presented for valuation. It is the role of the actuary to ensure there are appropriate controls and processes in checking the reliability of the data. For example cross checking the premiums received recorded in the administration systems and ledger to the premiums calculated using the individual policyholder data should provide adequate reasonableness checks.

Projection based models have become increasingly important in determining policy liabilities, business planning, embedded values and capital requirements. It is critical there is consistency in the modelling when performing a valuation on the different reporting requirements and ensuring any differences are well documented and understood.



8.3. Net Premium Valuation

Item	Unit/Key Performance Objective/Learning Objective
1.2	Understand alternative methods of calculating policy liabilities
1.2.4	Explain the net premium method of valuation

The net premium valuation is really a subset of the gross premium valuation method but only a portion of the services are valued, and a premium for these services is calculated on the valuation basis. The remaining services are not valued because there are no serious timing issues or there are margins in the valuation basis which cover these.

Because there is no link between the gross and net premium there should always be a check that the gross premium is not less than the net premium and that sufficient margin exists to cover services that are not allowed for elsewhere in the valuation basis

8.4. Suitability of the Valuation Basis

Item	Unit/Key Performance Objective/Learning Objective
1.2	Understand alternative methods of calculating policy liabilities
1.2.5	Assess the suitability of a valuation basis

Suitable valuation bases produce a result that fits the purpose – reportable earnings on margin on services, conservative numbers for solvency or accurate value based measurement such as appraisal values.

Typically, companies need to follow a set of valuation bases for external reporting however may report on alternative valuation bases for managing the business internally. Alternative methods may also be used for minor lines of business. In both cases the actuary should ensure that the results fit the purpose of the valuation and, as a minimum, meet professional standards and legal requirements.

Generally, liabilities should be able to be financed from the assumed cash flows i.e. there should be no negative cash flows after year 1 (such as stepped premium policies [having inadequate premium rates at long durations?]). Actual assumed cash flows may not be able to finance the increase in liabilities when investment outcomes or other experience turn out worse than expected. In this case the value of liabilities needs to be increased.



Unit Two – Asset Valuations and Capital Management

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9. Preface to Unit

This unit discusses the issues of asset valuation and capital management for life companies.

9.1. Unit Performance Outcomes

By the end of this unit students should be able to achieve the following key performance outcomes:

Item	Unit/Key Performance Objective/Learning Objective
2	Asset Valuations and Capital Management
2.3	Understand how life company assets are valued according to accounting and APRA standards
2.4	Identify and apply the requirements of the life insurance “Capital Adequacy Standards”

These key performance outcomes will be supported by subsidiary learning objectives that are set out in the following sections of this Unit.

9.2. Rationale for the Performance Outcomes

Actuaries are generally not directly involved in valuing assets, but actuaries need to understand how a life company's assets have been valued in order to provide advice on capital management and investment policy.

Actuaries play a key role in providing advice on capital management. Central to this topic is compliance with APRA's prudential standards for capital adequacy.

9.2.1. Learning resources

You will need the following learning resources:

- ▶ Prudential Standards LPS 001, 110, 112, 114, 115, 117 and 118 issued by APRA
- ▶ Prudential Practice Guide CPG 110 issued by APRA
- ▶ Financial Services Council. FSC Standard No. 9 *Valuation of Scheme Assets and Liabilities*, available from www.fsc.org.au
- ▶ Unit Pricing Guide to Good Practice, published by ASIC and APRA
- ▶ The Institute of Actuaries of Australia. *The Practice of Life Insurance in Australia*, (2014 ed.) Chapter 23 & 24



10. Valuation of Assets

10.1. Introduction

In this topic we deal with the valuation of assets and the relationship between assets and liabilities. This is an important precursor to the next topic of capital management, where the asset/liability mismatches are one of the key risks for which capital must be held.

A life company must have sufficient assets to meet its liabilities, both now and in the future. An actuary will be keenly interested in issues such as:

- ▶ the maturity and liquidity profiles of the assets – are the assets readily available to meet the liabilities as they fall due?
- ▶ the effect of changes in the economic environment on the values of the assets and liabilities – do they behave in the same way?
- ▶ the values placed on the assets – how have they been determined and are they reliable?

The learning objectives are:

Item	Unit/Key Performance Objective/Learning Objective
2	Asset Valuations and Capital Management
2.3	Understand how life company assets are valued according to accounting and APRA standards
2.3.1	Identify the different values that may be placed on assets
2.3.2	Analyse the relationship between assets and liabilities

10.2. Methods of Valuation

Item	Unit/Key Performance Objective/Learning Objective
2.3	Understand how life company assets are valued according to accounting and APRA standards
2.3.1	Identify the different values that may be placed on assets

In this sub-topic, we will address the responsibility for valuing assets and the methods that can be employed in that valuation.



10.2.1. Reading

The Institute of Actuaries of Australia. The Practice of Life Insurance in Australia, (2014 ed.) Chapter 23

Financial Services Council. FSC Standard No. 9 Valuation of Scheme Assets and Liabilities, available from www.fsc.org.au

Unit Pricing Guide to Good Practice, published by ASIC and APRA, section 5.1

Students should be able to identify the different methodologies by which the value of an asset can be ascertained. Different methodologies may be used depending on whether the asset is held in a statutory fund or in the shareholders' fund. A key point to note is that the directors have primary responsibility for the values placed in assets, but generally rely on professional market pricing vendors and valuers.

For investment-linked policies and unit trusts, assets will also need to be valued to enable the calculation of unit prices. The FSC Standard and the ASIC/APRA Unit Pricing Guide to Good Practice set out the key principles and issues to consider when value assets for unit pricing purposes.

The actuary needs to understand how different kinds of assets are valued and be satisfied that the valuation methodology and its application are appropriate. The actuary may need to consider holding additional capital if there is uncertainty as to whether assets are being valued appropriately.

A particular challenge arises for assets where that are not actively traded, such as unlisted property, where valuations are only scheduled to occur a few times a year. For example, during the Global Financial Crisis (GFC), the value of actively traded securities was decreasing rapidly. The actuary may need to consider making a downwards adjustment to the value of a life company's unlisted property portfolio ahead of the scheduled valuation to reflect the significant decline in assets values across the market.

10.3. Relationship between Assets and Liabilities

Item	Unit/Key Performance Objective/Learning Objective
2.3	Understand how life company assets are valued according to accounting and APRA standards
2.3.2	Analyse the relationship between assets and liabilities

In this sub-topic, we examine the relationship between assets and liabilities, and how the investment policy for a pool of assets is determined based on the nature of the liabilities which the pool backs.



10.3.1. Reading

The Institute of Actuaries of Australia. The Practice of Life Insurance in Australia, (2014 ed.) Chapter 23

As noted in the text, a life company typically divides its assets into different pools, based on the nature of the liabilities and other requirements, with different investment strategies formulated in each pool. It is important to note that the investment policy of a particular asset pool is typically chosen to match the characteristics of the liabilities, so that the value of assets and liabilities behave the same way in response to changes in market conditions.

You are not expected to be able to formulate investment policies at a detailed level. However, you should be able to analyse the characteristics of various liabilities from a market risk perspective, and the relationship these have on the assets which may be used to back these liabilities.

Extract from Prescience and Nescience. An essay by Frank Redington published in A Ramble through the Actuarial Countryside published by the Institute of Actuaries pp527 – 529

The extract from the Redington essay eloquently describes the problem of the mismatch between asset and liability flows for traditional life insurance policies. Whilst the original thoughts were around traditional life insurance products the graphic approach can be applied to any financial product or institution. Modern modelling software should facilitate the easy graphing of asset proceeds and liability outgo.

11. Capital Management

11.1. Introduction

In this topic, we deal with capital management.

Capital management is a key responsibility for an actuary in a life company. A life company must have sufficient capital to satisfy requirements prescribed by APRA capital adequacy standards at all times. Failure to comply with the capital adequacy standards can lead to severe consequences for the life company.

Therefore, the actuary must understand how different management actions (such as product, pricing, underwriting, retention and claims decisions) and external factors (such as investment markets, mortality and morbidity) would affect the capital position of a life company.



In addition, a life company would normally hold a capital buffer above regulatory requirements so that those requirements will not be breached under a range of adverse circumstances. This leads to a consideration of the internal capital adequacy assessment process (ICAAP), target surplus and economic capital.

The learning objectives are:

Item	Unit/Key Performance Objective/Learning Objective
2	Asset Valuations and Capital Management
2.4	Identify and apply the requirements of the life insurance “Capital Adequacy Standards”
2.4.1	Explain the need for capital.
2.4.2	Describe the different types of capital that can be utilised by life companies and demonstrate how they impact APRA capital calculations
2.4.3	Calculate the capital base and the prescribed capital amount, using APRA standards
2.4.4	Describe the internal capital adequacy assessment process

11.2. Need for Capital

In this sub-topic, we examine why capital is needed for a life company.

Item	Unit/Key Performance Objective/Learning Objective
2.4	Identify and apply the requirements of the life insurance “Capital Adequacy Standards”
2.4.1	Explain the need for capital.

11.2.1. Reading

The Institute of Actuaries of Australia. *The Practice of Life Insurance in Australia*, (2014 ed.) Chapter 24.

The opening section of this reading discusses the reasons why capital management is a key issue for life companies. It then explains the probabilistic concept of capital adequacy and the theory underlying the approach of determining the capital requirements as prescribed by the capital adequacy standards.



11.2.2. Risk-based capital

The purpose of capital is to reduce the risk of insolvency to a satisfactory level. Economic capital can be thought of as the buffer which must be held in addition to the best estimate of liabilities in order to reduce the risk of insolvency to a specific level over a specific time horizon. For example, a company may decide it needs to have sufficient capital in order to be 99% sure of being able to meet its liabilities over the following 12 months. The probability of failure is often set using the requirements of credit-rating agencies. For example, a AAA rating will only be awarded to a company if its probability of failure is very low. The term “risk-based capital” is often used interchangeably with “economic capital” because the process of determining economic capital involves measuring each type of risk a company is exposed to.

The balance sheet of a statutory fund as presented under the accounting standards does not contain sufficient information to enable the risk of insolvency to be assessed. Under LPS 340 and AASB 1038, the policy liability for insurance contracts is a best estimate liability plus profit margins. The profit margins are determined to allow an appropriate emergence of profit. In some circumstances the profit margins may be zero (if the business was sold with inadequate margins, or if assumption changes after commencement through the business into loss recognition). In other circumstances the profit margins may be large.

Another difficulty with trying to assess capital adequacy using a balance sheet is that not all the assets may be held at fair value.

Risks can be put into one of 3 broad categories

- ▶ Liability risks (mortality, morbidity, persistency, expenses)
- ▶ Asset risks (due to mismatches between assets and liabilities)
- ▶ Strategic and operational risks (poor business decisions, inadequate or failed internal processes, people and systems, or external events impacting on the business's operations)

Economic capital can be determined by considering each risk separately. The capital required for each risk is the change in net assets (i.e. assets less liabilities) after stressing the assets and/or liabilities by assuming an extreme event occurs. The size of the extreme event will depend on a number of factors including the probability of ruin, the time horizon over which the event could occur, and the assumed probability distribution of the risk factor.



The capital required for a statutory fund can be found by combining the capital for each risk after making allowance for the correlations between risks. Estimating the correlations is difficult as risks which may seem uncorrelated in normal conditions (e.g. mortality and property prices) could become correlated in extreme circumstances (e.g. a pandemic which causes an economic downturn).

Some risks are particularly difficult to quantify – for example strategic risks arising from poor management decisions (such as paying too much to take over another life insurance business, or selling a product at a loss in the hope that it will eventually become profitable).

The prescribed capital amount (APRA Prudential Standard LPS 110) is an example of a risk-based capital calculation. The prescribed capital amount attempts to measure all the readily quantifiable risks such as mortality, morbidity, persistency, expenses, asset prices and interest rates. There is an explicit allowance for correlations between different types of risks. The prescribed capital amount is intended to be sufficient to cover a combination of risks with probability of 99.5% over a 12 month period.

The standard method for calculating the prescribed capital amount attempts to fit all statutory funds. It may over-estimate the risk-based capital for some funds and under-estimate for others. It can be useful for companies to build their own internal models of economic capital, even if these models cannot be used for calculating the prescribed capital amount. The benefits of building internal models include being able to more accurately calculate capital requirements for a given level of risk tolerance, to gain a greater understanding of risks, to understand the benefits of diversification, and to assist in business decision making (e.g. determining whether a product provides sufficient return given its economic capital requirements).

For funds management companies in Australia there is no risk based regulatory capital requirement, so building an internal model is essential for understanding capital requirements. Foreign countries may not have a sophisticated regulatory capital regime, so again an internal model of economic capital is very useful.

Economic capital models can also be useful for determining target capital. These models can allow a company to determine the surplus they need to hold so that the probability of breaching the prescribed capital amount is at a specified level over a defined time horizon.



11.3. Types of Capital

Item	Unit/Key Performance Objective/Learning Objective
2.4	Identify and apply the requirements of the life insurance “Capital Adequacy Standards”
2.4.2	Describe the different types of capital that can be utilised by life companies and demonstrate how they impact APRA capital calculations

In this sub-topic, we examine the types of capital instruments available to a life company, and how they impact APRA capital calculations.

11.3.1. Reading

Prudential Standard LPS 112 issued by APRA

The Institute of Actuaries of Australia. *The Practice of Life Insurance in Australia, (2014 ed.) Chapter 24.*

Capital instruments are categorised into Common Equity Tier 1 (CET1) capital, Additional Tier 1 (AT1) capital and Tier 2 capital, depending on their ability to absorb losses. Students should note that there are different requirements for minimum CET1, Tier 1 and Capital Base.

It is also important to note the deductions required by the capital adequacy standards and the impacts they have on the different categories of capital. For example, some deductions can only be made against CET1 capital, whereas other deductions can be made against Tier 2 or AT1 capital. Furthermore, companies that are making losses are reducing CET1.

11.4. Prudential Standards for Capital Adequacy

Item	Unit/Key Performance Objective/Learning Objective
2.4	Identify and apply the requirements of the life insurance “Capital Adequacy Standards”
2.4.3	Calculate the capital base and the prescribed capital amount, using APRA standards

In this sub-topic, we examine the APRA capital adequacy standards, and the method for calculating two key values under those standards: the capital base and the prescribed capital amount (PCA).



11.4.1. Reading

Prudential Standards LPS 001, 110, 112, 114, 115, 117 and 118 issued by APRA

The Institute of Actuaries of Australia. *The Practice of Life Insurance in Australia*, (2014 ed.) Chapter 24.

Following the introductory section, this chapter provides a high level summary of the capital adequacy standards. These standards cover a number of related issues including minimum capital requirements, the internal capital adequacy assessment process, supervisory reviews and disclosure requirements.

The key steps to calculate the capital base for a statutory fund are:

1. Start off with the net assets of the statutory fund
2. Calculate the adjusted policy liabilities and adjust the net assets accordingly
3. Make any other adjustments to the net assets as required by Attachment B of LPS 112
4. Add Tier 2 capital issued by a statutory fund, less the fund's holding of Tier 2 instruments

The key steps to calculate the PCA for a statutory fund are:

1. Calculate the insurance risk charge, asset risk charge, asset concentration risk charge and the operational risk charge in accordance with the prudential standards
2. Calculate the aggregation benefit
3. Recalculate the reduction in capital base under the combined stress scenario for both asset and insurance risk, and allow for adjustments for tax and management actions. If the statutory fund contains participating business or business with discretionary additions, this needs to be compared against the single scenario of downwards movements in both real interest rates and expected inflation
4. Compare the standalone risk charges against the recalculated reduction in capital base to arrive at the combined stress scenario adjustment.
5. Combine the risk charges, the aggregation benefit and the combined stress scenario adjustment to arrive at the PCA.

The spreadsheet included in Chapter 24 of the textbook gives a worked example of the calculations required. You should examine the spreadsheet carefully to ensure you can apply the capital standards in calculating the capital base and the PCA and understand the difference between the two measures.



11.5. Internal Capital Adequacy Assessment Process

Item	Unit/Key Performance Objective/Learning Objective
2.4	Identify and apply the requirements of the life insurance “Capital Adequacy Standards”
2.4.4	Describe the internal capital adequacy assessment process

11.5.1. Reading

Prudential Standard LPS 110 issued by APRA

Prudential Practice Guide CPG 110 issued by APRA

The Institute of Actuaries of Australia. *The Practice of Life Insurance in Australia*, (2014 ed.) Chapter 24.

As part of its capital adequacy framework, APRA requires each life company to have in place an internal capital adequacy assessment process (ICAAP) and to report on its implementation to APRA on an annual basis. Prudential Standard LPS 110 sets out APRA's requirements in relation to ICAAP. Prudential Practice Guide CPG 110 provides APRA's guidance on how a life company may go about developing an ICAAP, and APRA's approach on the supervisory review process.

Two areas in a life company's ICAAP where actuaries would be heavily involved are the setting of capital targets and stress testing. The textbook contains further details on how a life company may determine its target capital, and the use of stress testing in capital management.



Unit Three – Analysis of Profit and Distributions to Policy Owners

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12. Analysis and Distribution of Profit

This Unit is titled “Analysis of Profit and Distributions to Policy Owners”.

Understanding the sources of profit is an important step in the ongoing management of life insurance business. The analysis of profit is a tool which can be used to understand why the profit has arisen.

For participating business, profit is allocated to policy owners as a group. The retained profits must then be distributed to the individual policy owners. There are a number of important considerations that must be taken into account in deciding the amount of profit to distribute and the method of distribution.

This unit also looks at the budgeting and planning processes used by life companies.

12.1. Unit Performance Outcomes

By the end of this unit students should be able to achieve the following key performance outcomes:

Item	Unit/Key Performance Objective/Learning Objective
3	Analysis of Profit and Distributions to Policy Owners
3.5	Design a process to determine the sources of profit
3.6	Design a business planning process
3.7	Provide advice to a life company on the distribution of profits to participating policy owners

These key performance outcomes will be supported by subsidiary learning objectives that are set out in the following sections of this Unit.

12.2. Rationale for Performance Outcomes

Calculating the profit of the business and analysing the sources of profit is a primary responsibility of the actuary. The analysis is a key step in the control cycle providing information for updating of assumptions for valuation and pricing. Analysing the profit also acts as a check on the financial results.



The actuary must also provide advice on how to distribute profit to participating policyholders which is an important component of policy benefits. In the shorter term, anticipating and planning future profitability (through budgeting) provides management with a benchmark against which to measure the performance of the life insurance company.

Over the longer term pricing and ultimate actual experience will dictate profit outcomes but in the shorter term business planning and budgeting provides a ready standard against which business performance can be monitored and measured.

12.2.1. Learning resources

You will need the following learning resources:

- ▶ Edwards, N., & Swinhoe, P. R. (1996). Managing Profits in a MoS Environment TIAA, Sections 4-5
- ▶ The Institute of Actuaries of Australia. The Practice of Life Insurance in Australia- Part B, (2012 ed.) Chapters 25 & 26
- ▶ APRA Prudential Standard LPS 340: Valuation of Policy Liabilities

12.3. Analysis of Profit

The key learning objectives for this unit are:

Item	Unit/Key Performance Objective/Learning Objective
3.5	Design a process to determine the sources of profit
3.5.1	Explain the term “analysis of profit” and relate its uses to the financial reporting framework
3.5.2	Explain why an analysis may be undertaken
3.5.3	Prepare a practical analysis

12.4. Introduction

Understanding the sources of profit is an important step in the ongoing management of life insurance business. The analysis of profit helps to explain how and why the profit has arisen.

This topic covers uses, methods and the analysis in practice. A basic analysis of earnings is required in the APRA Reporting Form LRF 430.0. Most Financial Condition Reports will attempt to provide a more detailed breakdown.



12.4.1. Reading

The Institute of Actuaries of Australia. The Practice of Life Insurance in Australia- Part B, (2016 ed.) Chapter 25

An analysis of profit is a key step in the Actuarial Control cycle. It enables the actuary to assess the accuracy of the valuation assumptions. These in turn feedback into pricing or alternatively lead to changes in the business strategy. This, as well as the reasons why an analysis may be undertaken is covered in Chapter 25.

It should always be remembered that the analysis relies on the correctness of the valuation routines. A balanced analysis of profit means that the valuation process has been consistently applied. It does not mean that they are correct!

There are two approaches to the analysis of profit analysed in the text.

- ▶ The Step Through Approach is based on successive valuation runs, differencing each result and is the approach that is usually used in Australia.
- ▶ The Algebraic approach is used where it is not possible to use the Step Through Approach. The algebraic derivation using the equation of value is demonstrated. The basis of the analysis is understanding the movement in assets and liabilities that comes from the roll-forward analysis (or equation of value). The aim is to explain each component of the movement from A_0 to A_1 and from V_0 to V_1 due to the unwinding of discount rates and expected experience and profit margins, compared to actual investment and decrement experience. As earnings are $(A_1 - A_0)$ less $(V_1 - V_0)$ the analysis is an allocation process done in such a way as to be most helpful in explaining the sources and causes of profit.

Spreadsheets have been included which work through the examples provided in the chapter.

12.4.2. Reading

Edwards, N., & Swinhoe, P. R. (1996). Managing Profits in a MoS Environment, TIAA, Sections 4-5

While the paper by Edwards and Swinhoe is worth reading in its entirety, the relevant sections for this topic are 4 and 5. To quote the authors: "In Sections 4 and 5 we have detailed how to calculate and present the analysis of profit in a way that does give the full information which management needs. We also stress that, while current year's MoS profits may give the wrong signals, MoS profits over the next two or three years will certainly present the right story."



The general approach described by Edwards and Swinhoe (successively differencing the results of each run as assumptions are changed one by one from expected to actual) is commonly used today, not only for MoS, but for other reporting systems. This has been called the Step Through Approach in the textbook.

There is also some very useful material on calculating the value of supporting assets for participating business in section 6.3 of this paper and Appendix B.

The derivation of the VSA and the treatment of interim and declared bonuses is covered in the text and is discussed in the notes on Unit 1.

The treatment of investment contracts in this paper is not consistent with current accounting and APRA standards and should be disregarded.

12.5. Budgeting/Planning Process

Item	Unit/Key Performance Objective/Learning Objective
3.6	Design a business planning process
3.6.1	Evaluate the relationship between profit results and the business planning process
3.6.2	Design a practical business planning process

The final part of chapter 25 of the textbook looks at the planning processes used by life companies.

In the shorter term, anticipating and planning future profitability (through budgeting) provides management with a benchmark against which to measure the performance of the life insurance company.

Over the longer term pricing and ultimate actual experience will dictate profit outcomes but in the shorter term business planning and budgeting provides a ready standard against which business performance can be monitored and measured.

Business planning can be a significant task involving consultation with different business divisions for assumptions on sales volumes, business mix and expenses. The timing of the annual assumption setting process will need to be coordinated with the business to ensure plan numbers are available when required.



Once the assumptions have been determined there will need to be a projection of forecast results over the business planning period which is normally three to five years. It is important that the model be verified against recent experience. Models that are suitable for long term projections may not be sufficiently accurate over the short term of a business planning period. Model adjustments may be needed.

Moreover, there will usually be a period of iterations as assumptions are changed to reflect the desired business performance. An understanding of the business drivers is important in this process but it is important to calibrate the model against actual results. A holistic approach is also needed. For example, changes in new business assumptions will require changes in administration and sales headcount.

After the plan has been agreed, actual results are compared with the "Plan" results through the year and this drives many business actions, interventions and decisions.

There will be differences in the variances observed in the Plan compared to the Analysis of Profit impacted by differing assumptions and by business volumes and mix. These differences should be used to refine the model for the next business plan. In particular, it should be remembered that the in force business will include business that has stopped paying premiums but is yet to be processed. This will lead to an overestimate of future premium payments.

12.5.1. Reading

The Institute of Actuaries of Australia. The Practice of Life Insurance in Australia -Part B, (2014 ed.) Chapter 25.

12.6. Distribution of Profit to Policy Owners

Item	Unit/Key Performance Objective/Learning Objective
3.7	Provide advice to a life company on the distribution of profits to participating policy owners
3.7.1	Explain the difference between allocation of profit and distribution of profit to participating policyholders
3.7.2	Consider the issues that need to be considered when providing advice to a life company on the distribution of profit to participating policyholders
3.7.3	Formulate methods that can be used to determine declared bonus rates and crediting rates



In a previous topic, we learned how to analyse the sources of profit. For non-participating business profits belong to the shareholders. However, for participating policies a decision must be made as to how profit should be distributed to policy owners. This topic looks at management of a portfolio of participating policies. We consider alternative bonus structures with an emphasis on achieving equity between different groups of participating policy owners.

The profit calculation will allocate profits to shareholders and policyholder retained earnings at the reporting date. The profits are then distributed to shareholders and policyholders after the reporting date but a provision for the cost of these distributions is included in the balance sheet. The distribution may be less than the allocation, in which case retained earnings increase or more than the allocation, in which case retained earnings decrease. Distributions often involve some form of smoothing to reduce the volatility of distributions to policyholders.

The text book often talks about equity and fairness but this is not the same as treating policyholders equally. Legal constraints as well as social constraints provide additional considerations for the actuarial definition of equity.

12.6.1. Reading

The Institute of Actuaries of Australia. The Practice of Life Insurance in Australia -Part B, (2014 ed.) Chapter 26.



Unit Four – Economic Valuations (Appraisal Values)

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13. Preface to Unit

This Unit is titled “Economic Valuations (Appraisal Values)”. It covers the uses of and methods of calculating appraisal values (AVs).

13.1. Performance Outcomes

By the end of this unit students should be able to achieve the following key performance outcomes:

Item	Unit/Key Performance Objective/Learning Objective
4	Economic Valuations (Appraisal Values)
4.8	Plan the calculation of a life insurer or retail funds manager appraisal value
4.9	Design and apply a process to analyse the change in appraisal value

These key performance outcomes will be supported by subsidiary learning objectives that are set out in the following sections of this Unit.

Not only are actuaries responsible for valuation and assessment of internal life insurance business, but often for that of other companies. External valuations can affect the internal profit and balance sheet of the company for which those valuations are being executed, and as such it is important that they are performed accurately.

13.1.1. Learning resources

You will need the following learning resources:

- ▶ The Institute of Actuaries of Australia Guidance Practice Guideline (PG) 199.03, “Economic Valuations” (see Institute website for latest version)
- ▶ The Institute of Actuaries of Australia. The Practice of Life Insurance in Australia, (2014 ed.) Chapter 27.



13.2. Economic Valuations

Item	Unit/Key Performance Objective/Learning Objective
4.8	Plan the calculation of a life insurer or retail funds manager appraisal value
4.8.1	Determine the reasons for obtaining an appraisal value
4.8.2	Identify and determine the components of an appraisal value

Economic valuations are used for a number of purposes. These include supplementary information in financial statements, internal management reporting, and mergers and acquisitions. An economic valuation can also be required for spreading the tax cost base in acquisitions.

An appraisal value is an economic (risk-adjusted) valuation of future shareholder profits, including profits from new business that will be sold in future. An appraisal value is an alternative method for analysing the balance sheet of a life company.

The purpose and context in obtaining an appraisal value will affect the method, model and assumptions used. This would also affect each of the components of an appraisal value. For example, discount rates used in mergers and acquisitions would typically be higher than those used in calculating appraisal values for financial reporting purposes to reflect transaction risk. This would result in both a lower value of in force business and a lower value of future new business.

13.2.1. Readings

PG 199.03, “Economic Valuations”

Sections 1.3 and 4.1-4.5 provide potential reasons for obtaining an appraisal value and the considerations undertaken (Learning Objective 4.8.1).

Section 9.5 provides some examples of components of an appraisal value (Learning Objective 4.8.2).



13.3. Key Considerations

Item	Unit/Key Performance Objective/Learning Objective
4.8	Plan the calculation of a life insurer or retail funds manager appraisal value
4.8.3	Discuss the key issues involved in determining an appraisal value
4.8.4	Demonstrate the steps required to calculate an appraisal value

13.3.1. Readings

PG 199.03, “Economic Valuations” sections 5.2- 5.4 and 7.1-9.4.

The Practice of Life Insurance in Australia, (2014 ed.) Chapter 27

Pages 125-130 set out the appraisal value methodology commonly used in Australia.

Example 1 in The Practice of Life Insurance in Australia, (2014 ed.) Chapter 27 sets out the steps in the appraisal value calculation commonly applied in Australia.

13.4. Alternative Economic Valuation Models

Item	Unit/Key Performance Objective/Learning Objective
4.8	Plan the calculation of a life insurer or retail funds manager appraisal value
4.8.5	Compare and contrast the different methods available for arriving at an appraisal value

The paper “The Determination of Life Office Appraisal Values (1987)” provides further background on “traditional” methods of calculating appraisal values. This paper was written at a time when appraisal values were a relatively new concept.

Also relevant, particularly for market-consistent valuations, is the paper “Current Developments in Embedded Value Reporting (2005)”. Both of these papers can be found on the www.actuaries.org.uk website.

For a practical example of an Australian embedded value analysis, try reading the AMP Investor Report. This is published twice yearly on www.amp.com.au. This report is also highly relevant as an example of how a life company (or its listed parent) reports profits and other information to investors.



The key items to focus on include:

- ▶ The various components in the change in embedded value, e.g. expected return, impact of economic and non-economic assumption changes, actual experience, addition of new business, and net shareholder transfers; and
- ▶ The sensitivity of the embedded value and the value of new business to various assumptions (e.g. increase in claims, investment returns, and lapses); and
- ▶ The differences in the underlying assumptions applied in the embedded value methodology compared with those in the policy liability calculation.

The AMP Annual Report also contains a description of the embedded value methodology used for the purpose of assessing goodwill impairment.

The European Embedded Value (EEV) and Market Consistent Embedded Value (MCEV) methods have become more prevalent in companies across the rest of the world – particularly in Europe and the United States. There are several good examples of both methodologies in various company reports published annually. Two of these are the Dai-ichi Life Insurance Company Limited “Disclosure of European Embedded Value” report (<http://www.dai-ichi-life.co.jp/english/>) and the Hannover Re Group MCEV Report (<http://www.hannover-re.com/>).

Pay particular attention to the similarities and differences between the different methodologies. For example, both the EEV and MCEV methods include an explicit valuation of financial options or guarantees. This allows for more transparency and ease of handling than in the Traditional Embedded Value (TEV) method that AMP uses where it is implicit in the risk discount rate applied. The MCEV method takes this one step further by discounting using the risk free rate with an explicit allowance for the cost of non-hedgeable risks.

13.4.1. Readings

PG 199.03, “Economic Valuations” Sections 5.5-6.6.

The Practice of Life Insurance in Australia, (2014 ed.) Chapter 27 pages 132-133, 142-143.



13.5. Change in Appraisal Values

Item	Unit/Key Performance Objective/Learning Objective
4.9	Design and apply a process to analyse the change in appraisal value
4.9.1	Prepare an analysis of the change in appraisal values
4.9.2	Explain why an analysis may be undertaken
4.9.3	Contrast the change in appraisal value with the reported profit
4.9.4	Identify and examine issues associated with the change in appraisal values

In life insurance, profit recognition is spread over the life of the product. This can make it difficult to understand the full impact of current actions by examining a company's annual profits. Conversely all impacts are capitalised when calculating appraisal values.

Hence an analysis of change in appraisal values can be used to track a company's performance over time. This information could then be used to inform management decisions, measure financial performance as part of a management incentive program, or for shareholder reporting.

One method for decomposing the performance of a company in an analysis of movement is as follows:

- ▶ Addition of embedded value arising from new business sold over the period;
- ▶ Performance of the inforce book;
- ▶ Variation in investment experience from expected;
- ▶ Economic assumption changes;
- ▶ Capital movements; and
- ▶ Other.

The performance of the inforce book is in turn comprised of:

- ▶ The unwinding of the risk discount rate;
- ▶ Deviation in the company's operating experience from expected; and
- ▶ Changes to operating assumptions.

The sum of the addition of new business value and performance of the inforce book is viewed by some as a measure of management's performance. This is because the other movement items (e.g. economic assumption changes and market investment returns) are typically viewed as outside of management control.



13.5.1. Readings

PG 199.03, "Economic Valuations" Section 9.6.

The Practice of Life Insurance in Australia, (2014 ed.) Chapter 27

Pages 130-132 set out the appraisal value methodology commonly used in Australia.

Examples 2 and 3 show practical applications of the appraisal value methodology and highlight the impacts of assumption changes and experience variations on the appraisal value.



Unit Five – Reporting Results

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14. Preface to Unit

This Unit is titled “Reporting Results”. It focuses on methods of profit reporting and analysing and interpreting financial statements.

14.1. Unit Performance Outcomes

By the end of this unit students should be able to achieve the following key performance outcome and learning objectives:

Item	Unit/Key Performance Objective/Learning Objective
5	Reporting Results
5.10	Understand the financial statements of a life insurer or funds management company
5.10.1	Compare the accounting treatment of insurance and investment contracts in APRA and company financial statements
5.10.2	Analyse and interpret the financial statements of a life insurer or funds management company

14.2. Rationale for Performance Outcome

Reporting is a critical interface between the actuary, other key personnel in the business, and external stakeholders. In order to provide a clear and consistent representation of performance, actuaries must possess the knowledge and skills to report appropriately. In addition, an understanding of financial statements enables the actuary to analyse the performance of competitors and the industry.

14.2.1. Learning Resources

You will need the following learning resources:

- ▶ The Institute of Actuaries of Australia. *The Practice of Life Insurance in Australia*, (2014 ed.) Chapter 28
- ▶ APRA Life Insurance Reporting Framework
- ▶ Accounting Standard AASB 1038 Life Insurance Contracts



14.3. Financial Statements

Financial statements are often difficult to interpret despite the good intentions of legislators and professional bodies. An actuary should be able to determine if this year's financial results for your company are better or worse than last year's and explain the reasons why.

Comparing company results is more difficult due to different presentations adopted by companies, especially financial groups. Actuaries often use standardised measures to compare companies. Embedded values can often be calculated from ratios applied to publicly available statistics. Whilst such values need to be validated before being used for financial decisions, the change in standardised values from one year to the next can be a useful tool in interpreting financial statements.

14.3.1. Readings

The Institute of Actuaries of Australia. *The Practice of Life Insurance in Australia*, (2014 ed), Chapter 28

APRA Life Insurance Reporting Framework, available on the APRA website

Accounting Standard AASB 1038 Life Insurance Contracts

These readings describe life insurance company financial statements and identify some of the notes to the accounts that are particularly relevant when reviewing these accounts.

A life company must prepare general purpose financial statements according to the accounting standards and the Corporations Act 2001. These include a profit and loss account (an alternative name for this is the income statement) and a balance sheet (or statement of financial position). The profit and loss account shows the income and outgo during a year, together with the net operating profit. The balance sheet is a snapshot of the assets and liabilities at the valuation date.

AASB 1038 requires the following actuarial information in the notes to the general purpose financial statements of a life company:

- ▶ if other than the end of the reporting period, the effective date of the actuarial report on policy liabilities and solvency reserves;
- ▶ the name and qualifications of the actuary;
- ▶ whether the amount of policy liabilities has been determined in accordance with the requirements of the Life Insurance Act; and
- ▶ whether the actuary is satisfied as to the accuracy of the data from which the amount of policy liabilities has been determined.



AASB 1038 specifies that, for reporting purposes, premiums and claims for insurance contracts must be split into insurance and deposit components:

insurance components of life insurance contract premiums are income and insurance components of life insurance contract claims are expenses and shall be recognised separately in the statement of comprehensive income;

deposit components of life insurance contract premiums are not income and deposit components of life insurance contract claims are not expenses and shall be recognised as changes in life insurance liabilities.

APRA requires life companies to submit reporting forms on a quarterly or annual basis. The most important forms are:

- ▶ Statement of Financial Position – LRF 300;
- ▶ Income Statement – LRF 310;
- ▶ Summary of Revenue and Expenses – LRF 330;
- ▶ Retained Profits – LRF 340;
- ▶ Statement of Policy Liabilities – LRF 400;
- ▶ Sources of Profit – LRF 430;
- ▶ Prescribed Capital Amount – LRF 110;
- ▶ Determination of Capital Base – LRF 112.

Some of the APRA forms require multiple submissions, with separate reporting required for each of the statutory funds separately as well as the life company as a consolidated entity.

It is useful to examine some practical examples of financial statements. Life company annual reports can be difficult to access as many life companies in Australia are wholly-owned subsidiaries of much larger groups. However, AMP is a good example of a group dominated by a life company (see www.amp.com.au and look for the annual report in the shareholders section).

The Half Yearly Life Insurance Bulletin published by APRA is another useful reference. This Bulletin includes summaries of some of the information reported to APRA, both at industry and entity level.

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Unit Six – Professionalism

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15. Professionalism

15.1. Preface to Unit

In the previous units, the student has learnt about the application of a range of technical skills and principles to the business of life insurance. This unit places those applications in a professional context by encouraging the student to understand the expectations of an actuary. Whilst much of the content of the unit is in the form of prescriptive papers, the student should consider the ethical challenges that may arise in practice

Although the very broad title of "Professionalism" is applied to this unit, you will note that the discussion primarily revolves around several key formal actuarial requirements in a life insurance company (e.g. the Appointed Actuary role, the Financial Condition Report, reports required by legislation). It is important to realise that the topic of "Professionalism" is far broader than the material covered in this unit guide and applies to every aspect of an actuary's work. The broader, more general concept of professionalism is covered in greater detail in the Professionalism Course. This topic deals with issues of professionalism specifically related to life insurance companies. The answers given in your examination will be expected to reflect a professional approach.

In order to provide some of this practical context, throughout this unit there are anonymous quotes from current and previous Australian Appointed Actuaries. The Institute of Actuaries of Australia would like to offer its thanks to those Appointed Actuaries for assisting in the preparation of this Unit.

15.2. Unit Performance Objectives

The reputation of the actuarial profession depends upon the quality with which members of the industry practice. The capacity for an actuary to conduct all dealings on a prudent and ethical basis signals the excellence of their service. In order to uphold the value of the profession and self, actuaries require an understanding of their requirements within different contexts and of best practice when confronted with ethical dilemmas.



By the end of this unit students should be able to achieve the following key performance outcomes and learning objectives:

Item	Unit/Key Performance Objective/Learning Objective
6	Professionalism
6.11	Understand the role of Appointed Actuary for a life insurance company in Australia
6.11.1	Explain the legal and professional responsibilities of the life insurer Appointed Actuary
6.11.2	Examine the role of the life insurer Appointed Actuary and contrast this with the role of the Auditor / Actuarial auditor / Directors
6.11.3	Prepare and examine the Financial Condition Report of a life insurance company prepared under the Institute of Actuaries of Australia's Professional Standards
6.12	Provide professional advice
6.12.1	Consider the ethical dilemmas of the actuary in balancing the interests of different stakeholders, generations and policy types
6.12.2	Choose the required professional behaviour for an actuary practising in life insurance and funds management organisations in Australia and overseas
6.12.3	Clearly and simply explain to each stakeholder, the relationship between assumptions and scope and the output and interpretation of professional work

15.2.1. Learning resources

You will need the following learning resources:

- ▶ Life Insurance Act 1995
- ▶ APRA Prudential Standard CPS 320: Actuarial and Related Matters
- ▶ The Institute of Actuaries of Australia's Professional Standard 201, Actuarial Advice to a Life Insurance Company or Friendly Society



15.3. The Role of Appointed Actuary

Item	Unit/Key Performance Objective/Learning Objective
6.11	Understand the role of Appointed Actuary for a life insurance company in Australia
6.11.1	Explain the legal and professional responsibilities of the life insurer Appointed Actuary

This learning objective is examined in two parts. Firstly the working role of the Actuary is explained and then legal requirements are examined.

The need for an Appointed Actuary

The concept of an “Appointed Actuary” is important for the sound financial management of a life insurance company.

The Appointed Actuary role is to ensure that a life company has unfettered access to expert and impartial actuarial advice and review, to assist with the sound and prudent management, including adequate consideration to the protection of policyholder interests. To be effective, the Appointed Actuary must have the necessary authority, seniority and adequate support to ensure their views are considered seriously by the board and they are able to make a significant contribution to the debate of strategic issues at the executive level.

Section 93 of the Life Insurance Act states each life company must have an Appointed Actuary. The Act and associated prudential standards also set out the various roles and responsibilities of the Appointed Actuary.

The Appointed Actuary is therefore a single person formally designated by the life company.

While seen as an expert, the Appointed Actuary is not the final decision maker. The Life Insurance Act 1995 makes it clear that the Directors have the responsibility for the prudent management of a life company. To support discharging their responsibility, the Directors can then rely on the “expert” and “impartial” advice from the Appointed Actuary.

While the role of the Appointed Actuary is enshrined in the regulations, a soundly managed life company would seek to have such a role regardless of whether it was a legislative requirement or not.



Who is suitable to be an Appointed Actuary?

Given the importance of the role, not just anyone can be the Appointed Actuary. APRA's Prudential Standard CPS 520 Fit and Proper sets out the general rules for any "fit and proper person", but also has additional criteria for an Appointed Actuary. These include:

- ▶ appropriate formal qualifications
- ▶ not being the CEO, a director or Appointed Auditor
- ▶ at least five years relevant experience in the provision of actuarial services to life companies

The points below raise some of the practical issues that can arise in the role of Appointed Actuary. This is followed by some final thoughts from Appointed Actuaries in relation to these and their overall role within an organization.

- ▶ **Internal vs External:** Appointed Actuaries may be either an employee of the life company itself, or a consultant external to the company. Different opinions exist as to whether one of these situations is "easier" than the other. An internal actuary is likely to be much closer to the ongoing operations of the company, and so may have a better grasp of the issues that are most relevant. In addition, an internal actuary may have a network of contacts and support within a company, making it easier to be involved in decisions. An internal actuary may find it harder, however, to deliver a difficult or negative opinion to the company, given that the company is also their employer. An external actuary may find it easier to deliver unpopular news if the company is just one of many clients – or could easily be just as dependent on a company as an internal actuary. An external actuary may also have a network of consulting peers with which to discuss difficult issues, whereas an internal actuary (especially in a smaller company) may not have easy access to such assistance. CPS 520 does not allow the CEO or a director of a life company to be the Appointed Actuary to avoid the possibility of the Appointed Actuary acting in two capacities and, in effect, having to give advice to themselves.
- ▶ **Breadth of Knowledge:** As an Appointed Actuary, you are required to provide advice and reports on almost every aspect of a life insurance company, from investment assets to mortality experience to the quality of the unit pricing processes. This implies a significant breadth of detailed knowledge, which any one individual is unlikely to possess. It becomes important, therefore, for the Appointed Actuary to be able to appropriately utilise experts in each field to gain an appropriate understanding of the relevant issues in each area.
- ▶ **Breadth of Interaction:** As well as needing to be conversant in all of these fields, the Appointed Actuary also needs to have a working relationship with people in all of the relevant areas of a life insurer, so that they are appropriately involved in and/or informed of decision-making as appropriate.



- ▶ **Conflict:** It is entirely possible that the Appointed Actuary's advice can be disregarded by management or the board, whether it is regarding policyholder equity, capital adequacy or some other issue. Resolution of such a conflict may take any number of paths, with the most extreme being notification to APRA and/or resignation from the position of Appointed Actuary. Conflict is considered again later in this Unit.

Some illuminating comments from Appointed Actuaries on what they have learnt include:

- ▶ "The Appointed Actuary role covers a very wide range of issues and in some respects requires someone who is an expert at "everything." This is not an easy skill set to suddenly acquire! There is an extra challenge in that my manager is no longer someone to go to with my hard questions. More than in any other actuarial role, I find myself drawing on the experience of "subject matter experts" around the company. Some of these people are also actuaries but at other times I am drawing on the expertise of accountants, lawyers, investment professionals, risk specialists ... and the list goes on. Rather than having one person to use for peer review and a sounding board, it is important to seek out review from someone who has a good grasp of the particular issue at hand. I take the approach that it is better to ask more questions than less questions, and to talk through an issue with more people than less people, in order to be exposed to a range of views and experience. I also draw on the experience of external contacts, both actuarial and non-actuarial, where appropriate."
- ▶ "I believe that the provision in the Life Act that the AA has the right to information is important. I have been in the situation of not being given the whole story about the nature of some assets. I trusted my superiors and only much later found that I had not been wholly informed."
- ▶ "Another aspect of the Appointed Actuary role that has taken some getting used to is the extent to which I am signing off work performed by other actuaries. Clearly it is not feasible to check every aspect of every piece of work that I sign off. How do I have the comfort to sign off this work given that I have not done it all myself? I educate my staff to make sure they understand the nature and importance of the statutory and internal advice I am required to give as Appointed Actuary. I ensure that I have some exposure to the procedures being followed, particularly the data and reasonableness checks performed along the way. I talk through with people the processes they have followed and am involved in any material revisions to methodologies employed. I often also perform my own high-level reasonableness checks."



- ▶ “The AA has important responsibilities. It can feel lonely. If I were to become an AA again, I would make sure that I had a mentor who was in a position to support me when I needed it. This would be someone outside the company with whom I could freely discuss the pressures I was under from time to time. I would certainly want a mentor for support if I were ever to consider having to use the whistle blowing responsibilities in the Act.”
- ▶ “It is apparent that the Appointed Actuary holds a lot of responsibility. The role carries significant legislative requirements, plays a key role in communicating with the regulator (APRA) and is guaranteed access to the Board of Directors. In practice, many issues arise in attempting to fulfil all of these requirements.”

15.4. Legal and professional requirements

Item	Unit/Key Performance Objective/Learning Objective
6.11	Understand the role of Appointed Actuary for a life insurance company in Australia
6.11.1	Explain the legal and professional responsibilities of the life insurer Appointed Actuary

The previous section examined the working role of the Appointed Actuary. This section provides an explanation of the legal and professional requirements of the role.

15.4.1. Reading

APRA Prudential Standard CPS 320: Actuarial and Related Matters

APRA Prudential Practice Guide LPG 260: Conflicts of Interest under Section 48.

Legal requirements

A number of sections of the Life Insurance Act relate to the role of the Appointed Actuary.

Sections 93-99 deal with the appointment, powers and obligations of the Appointed Actuary:

- ▶ S96 requires the Appointed Actuary to comply with the prudential standards made by APRA
- ▶ S97(1) requires the Appointed Actuary to perform the functions set out in prudential and reporting standards



- ▶ S97(2) provides for the Appointed Actuary to have access to any information or document necessary to perform his/her duties; to require any officer or employee to answer questions; to allow the Appointed Actuary to attend meetings; and to allow the Appointed Actuary to speak at meeting of the directors
- ▶ S98 deals with the Appointed Actuary's obligation to report certain matters to APRA
- ▶ S98(1) requires the Appointed Actuary to draw to the attention of the directors or an officer of the company any matter that requires action to avoid a contravention of the Act or to avoid prejudice to the interests of policy owners
- ▶ S98(2) requires the Appointed Actuary to inform APRA if there are reasonable grounds for believing that the company or a director may have contravened the Act or any other law and the contravention may significantly affect the interests of policy owners
- ▶ S98(3) requires the Appointed Actuary to inform APRA if the directors or an officer of the company have not taken action within a reasonable time in response to a matter raised under S98(1)
- ▶ S98A allows the Appointed Actuary (or former Appointed Actuary) to give information to APRA
- ▶ S98B allows APRA to require the Appointed Actuary (or former Appointed Actuary) to give it information

The Life Insurance Act sets out the following areas where the Appointed Actuary must provide advice to the directors of the company:

- ▶ the consequences of distributions of retained profits and shareholders' capital (S62 and S63);
- ▶ the basis of apportionment of income and outgoings (S80).

CPS 320 sets out:

- ▶ the requirements for a company's Actuarial Advice Framework
- ▶ the requirement for the Appointed Actuary to assess the financial condition of the company and report on the assessment in the Financial Condition Report
- ▶ the requirement for the Appointed Actuary to calculate the value of the insurance liabilities, the value of the capital base and the prescribed capital amounts for each of the funds of the life company, and to report on these in the Actuarial Valuation Report

Professional requirements

As well as legal requirements, the Actuaries Institute also requires a minimum level of professionalism for actuaries providing a range of formal advice to life insurance companies, particularly Appointed Actuaries and those that support the Appointed Actuary in providing advice.



These requirements are set out in Professional Standard 201: Actuarial Advice to a Life Insurance Company or Friendly Society (“PS201”) and PS202: Actuarial Valuations for Life Insurance Companies (including Friendly Societies and Eligible Foreign Life Insurance Companies). PS201 and PS202 are the successors to PS200, which had a long history and it was, in fact, the first Professional Standard of the Institute of Actuaries of Australia.

PS 201 and PS 202 cover a wide range of topics and should be well understood by anyone seeking a deep understanding of actuarial advice to life companies. It puts into practice many of the issues covered in this course.

PS 201 sets out the general principles the Actuary should follow in providing formal written advice to a life company, along with more specific guidance around the requirements for:

- ▶ product pricing and reinsurance advice as required by APRA (Prudential Standard CPS 320)
- ▶ advice on the basis of apportionment for income and expenses (as required by Section 80 of the Life Insurance Act 1995)
- ▶ advice on the consequences of distributions of profit (as required by Sections 62 and 63 of the Life Insurance Act 1995)

PS 202 sets out the general principles the Actuary should follow in relation to the valuation of policy liabilities and capital requirements.

15.5. Working with Auditors and Directors

Item	Unit/Key Performance Objective/Learning Objective
6.11	Understand the role of Appointed Actuary for a life insurance company in Australia
6.11.2	Examine the role of the life insurer Appointed Actuary and contrast this with the role of the Auditor / Actuarial auditor / Directors

As mentioned in the previous section, the Actuary is an advisor to the board. The Appointed Actuary does however give an opinion on the value of liabilities used in the company accounts. These accounts in turn include an opinion from the Auditor that the accounts are “true and fair”. In forming this opinion, the Auditor needs to rely on the work of the Appointed Actuary, but cannot accept that work without some investigation. The Actuarial Auditor is often used by Accounting Firms to provide advice to the auditor on the work of the Appointed Actuary.



The Appointed Actuary is also responsible for apportionments which will also need to be reviewed by the Auditor.

Directors have the final responsibility for managing the company. In that role, they receive advice from the Appointed Actuary and whilst they are not obliged to take this advice, they generally do so, or at least get alternative actuarial advice.

Both the Appointed Actuary and the Auditor have the right to inform APRA if an offence has occurred under the Life Act or if they believe an offence will occur. This is referred to as “whistle blowing? In a well-managed company, events should be dealt with long before such a need arises.

Some relevant comments from Appointed Actuaries are included below.

- ▶ “Communication with the board of directors is important as an Appointed Actuary. I found that it helped to get to know the directors through discussions with them on a regular basis. It helped me form a relationship with them, so that they trusted and listened to what I had to say. It also helped them become more comfortable with asking me questions during board meetings, and relying on my expertise as an actuary.”
- ▶ “Keeping ‘in the loop’ on decisions and other activities around the company is crucial. I once only found out about a change to the investment policy well after the event – it seemed that nobody had deemed it important that the Appointed Actuary found out about the change! You need to ensure that people in roles such as investment management know who you are, and know when to involve you in their work.”

15.6. Financial Condition Report

Item	Unit/Key Performance Objective/Learning Objective
6.11	Understand the role of Appointed Actuary for a life insurance company in Australia
6.11.3	Prepare and examine the Financial Condition Report of a life insurance company prepared under the Institute of Actuaries of Australia's Professional Standards



One of the most important advice the Appointed Actuary produces is set out in APRA's Prudential Standard CPS 320, which requires the Appointed Actuary to investigate and report on the financial condition of the company every 12 months. APRA requires the Financial Condition Report to be lodged with the company's annual financial statements. CPS 320 also requires the Appointed Actuary to prepare an Actuarial Valuation Report to report on the valuation of the company's insurance liabilities, capital base and prescribed capital amounts.

The purpose of the Financial Condition Report, supplemented by the Actuarial Valuation Report, is to provide a comprehensive insight into the financial condition of the company. As such it is intended to provide information on factors that have affected, and/or are likely to affect in the future, the financial progress of the company. The Appointed Actuary must not only consider the current impacts of these factors, but must consider how these affect the ongoing financial viability of the entity.

The Institute of Actuaries of Australia's PS 102, Section 6 sets out the minimum requirements of a Financial Condition Report. These are minimum requirements and the Appointed Actuary has a legal and professional responsibility to ensure the Financial Condition Report clearly articulates the current and future financial condition to the Board, management and APRA.

This report is a private and confidential document prepared for the company's board of directors. A copy is sent to APRA and is regarded as a document not available to enquirers under Freedom of Information legislation.

Many of the matters with which the Appointed Actuary is concerned are not capable of precise assessment but are rather matters of judgment. The Financial Condition Report therefore contains a mixture of factual reporting and professional / personal judgment.

The Board of Directors uses the FCR as input into their management decisions. As such, the FCR has the potential to shape the direction of the company. It is apparent from reading PS 102 that a Financial Condition Report could turn into quite a large document, full of lots of technical information about the life company that is the subject of the report. In many cases, however, this report will be the Appointed Actuary's key opportunity to communicate important issues to management and the board of directors of a company. To that end, significant consideration needs to be given to how best to present the information so that the Appointed Actuary's points are effectively made.

APRA uses the FCR to assist them in their regulatory role. The information contained in the FCR may lead to APRA intervention in the affairs of the company, or even to seek the appointment of a judicial manager. APRA also uses the FCR as an early warning mechanism, i.e. the document provides them with an indication of those companies that they should keep a close eye on.



Comments from Appointed Actuaries are provided below.

- ▶ “I always regarded the Financial Condition Report as my big opportunity of the year. I could provide the board and management with really useful information about how the business was tracking and what they could do to improve it. While I had been contributing monthly management information, I could take a less immediate focus in the FCR.”
- ▶ “I found that the best approach was to make the annual profit the centrepiece of the FCR because that was what most interested the board. Putting the analyses of experience into the context of the impact on the year's profit made it relevant to board members.”
- ▶ “The second most important part of the FCR dealt with capital adequacy. I used the concept of “buffer capital” to provide a cushion against the risk of needing more capital in the event of poor experience. The board understood that buffer capital was not distributable.”
- ▶ “Of greatest impact was the presentation I made at the board meeting and the discussion that ensued. If I wrote it in the FCR but did not mention it at the board meeting then it got little attention, if that.”
- ▶ “Typically the FCR had a 2 page executive summary, was a 20 page report and had another 80 pages of appendices. The executive summary and report were avidly read and contained all the messages I wanted to deliver. The appendices contained the details required of the FCR and were a reference source in the following year. Unfortunately, users of the appendices were usually only the actuaries.”
- ▶ “Consider a Financial Condition Report. It is unusual to read such a report without finding references to the need for the company to reduce its expenditure (and/or lapse or claim rates) and the fact that this need has been raised before. If you feel that you are repeatedly telling the company to do something important and it is not doing it, what should this tell you? Perhaps you need to find a more effective way to get your message across, or perhaps you need to accept that this is the way in which the business is going to operate and adjust your assumptions and other actions accordingly.”
- ▶ “Communicating to the directors through the FCR can be a challenging process. You might spend weeks putting together a comprehensive, detailed report – but unless you also put a shorter, summarised version of your messages in an executive summary or other presentation, it's quite possible that your issues will get lost. It can be very frustrating, because if I'm going to spend many hours putting together an actuarial report especially for the board, I'd like them to read it!”
- ▶ “It's also increasingly likely that the directors or managers receiving the report will not have much background in, or understanding of, actuarial work. The requirements for greater numbers of independent directors with no previous association with the company may also mean that the audience also has very little understanding of this particular entity. The need to tailor the message so that it is understood is becoming more and more important.”



15.6.1. Reflection

A very wide range of matters needs to be addressed in the FCR. How should the Actuary present the report in a way that emphasises the most important issues?

There is an increasing demand for disclosure of information about companies. Do you think Financial Condition Reports might become public documents? If they did, how do you think the content of the FCR might change?

15.7. Professional Appointed Actuary advice

Item	Unit/Key Performance Objective/Learning Objective
6	Professionalism
6.12	Provide professional advice
6.12.1	Consider the ethical dilemmas of the actuary in balancing the interests of different stakeholders, generations and policy types
6.12.2	Choose the required professional behaviour for an actuary practising in life insurance and funds management organisations in Australia and overseas
6.12.3	Clearly and simply explain to each stakeholder, the relationship between assumptions and scope and the output and interpretation of professional work

15.7.1. Reading

APRA Prudential Practice Guide LPG 260: Conflicts of Interest under Section 48

Appointed Actuary advice

As a key role of the Appointed Actuary is to provide expert and impartial advice, it should be clear when any report to the Board must be considered as Appointed Actuary advice and the reason for the advice.

In many cases, advice may involve personal judgement and assumptions regarding unknown future outcomes. To manage this uncertainty, peer review by an appropriate third party can an important role in ensuring quality advice.



PS201 and PS102 address many of the technical requirements of different Appointed Actuary advice, but this is not the Appointed Actuary's only consideration. In a corporate environment, there are many factors that must be considered when preparing actuarial advice. These could include:

- ▶ Audience: Who is going to be reading the report? In some cases, the board is the audience. The nature of the audience should affect the way the Appointed Actuary chooses to present the information.
- ▶ Message: Exactly what does the Appointed Actuary want to communicate with this report? Sometimes the actuary may have to provide advice that is contrary to what management or the board expect or want to hear. It is important that the actuary carefully considers how best to clearly communicate the issue.

Some illuminating comments from Appointed Actuaries are provided below.

- ▶ “More so than in previous roles, I am dealing with people who are not actuaries. It would be unusual for the general management team or the Board of Directors to contain more than one or two actuaries. Yet these people are a key audience for the Appointed Actuary.”
- ▶ “It is important for me to be able to communicate concepts, often with an actuarial flavour, without using (much!) actuarial jargon. It is often a challenge to balance getting the full point across with not complicating matters beyond the understanding of my audience. The reality is that as actuaries we deal with some very complex issues yet we need to communicate these effectively to people from non-actuarial backgrounds.”
- ▶ “On more than one occasion I've seen companies' price products on a very optimistic basis (possibly almost wishful thinking!). It's important that management understand the implications of such an optimistic outlook. This is particularly true when some financial reporting methodologies can disguise the unprofitable nature of particular products. For example, MoS can allow losses from unprofitable new products to be simply offset against an in-force profitable portfolio. As the losses don't hit the current year profit and loss, the product profitability issue may not hit management's 'radar'.

Where this has happened, I've found it useful to highlight any failure to meet optimistic pricing assumptions in future Financial Condition Reports. This way, any concerns in a pricing report don't just get forgotten after the product is launched.”



- ▶ “An issue commonly faced by Appointed Actuaries is that the Appointed Actuary role involves responsibilities relating to a particular legal entity – the life insurance company – which is usually one of several legal entities operating within a conglomerate. The conglomerate may include some or all of a funds management company, a bank, a distribution company and a general insurance company. The question sometimes arises “Why do you need to provide advice on this aspect of the abc product but not the xyz product?” I explain, “Well, abc product is written by the life company and is therefore subject to APRA prudential standards which require that the Appointed Actuary of the life insurance company provide advice on this aspect of the product.” The response to this question is often “Why does a life insurance company have an Appointed Actuary but a funds management company doesn’t?” Good question!

15.7.2. Reflection

Many senior managers and directors of life companies are unlikely to have actuarial knowledge or understanding. How does this impact the preparation of advice by the Appointed Actuary?

In most instances today a life insurance company is part of a wider financial services group. What role can (or should) the Appointed Actuary play in providing advice on issues relating to the broader group of companies?

Managing conflict

Often, Appointed Actuary advice needs to manage conflicts between different stakeholders. Indeed, many of the regulatory areas require actuarial advice because such a conflict could exist.

Types of conflicts include:

- ▶ Between shareholders and policyholders when allocating expenses and investment income. This is particularly relevant for participating policyholders, whose profits are impacted by the allocation.
- ▶ Between shareholders and participating policyholders when determining the timing and form of distributing retained profits.
- ▶ Between different groups of participating policyholders when determining how to distribute retained profits. The Actuary should consider to what extent the distribution of profit should reflect how each group of policyholders contribute to that profit pool and how any cross-subsidies should be reasonably managed.



Section 48 of the Life Insurance Act has stringent requirements for directors. In particular directors have a duty to policyholders and in the event of conflict between the interests of policyholders and shareholders “a director’s duty is to take reasonable care, and use due diligence, to see that the company gives priority to the interests of owners and prospective owners of those policies over the interests of shareholders.” LPG 260 provides additional guidance on managing this conflict.

The duties and liabilities of directors are such that no board will lightly disregard the advice of its Appointed Actuary. Should an issue arise where the Appointed Actuary's advice is disregarded and policy owners' interests are threatened, then S97 and S98 provide the Appointed Actuary with sufficient means to ensure the matter is raised with APRA. If matters reach this stage, S99 gives the Appointed Actuary legal privilege in respect of statements made in carrying out the functions of the Appointed Actuary even if he or she is no longer the Appointed Actuary. This means that the company cannot silence the Appointed Actuary by dismissal. On the other hand, S98B means that the Appointed Actuary cannot escape their obligation to report to APRA by resigning.

The Appointed Actuary needs to be aware of potential personal conflicts that may cause ethical dilemmas:

- ▶ The conflict between the Appointed Actuary as an impartial expert and the Actuary that is ultimately remunerated by the life company. Conflicts could include providing advice that the company would prefer not to hear.
- ▶ Also, the Appointed Actuary could well be part of the management team that the FCR is then reviewing.

The way the Appointed Actuary advice is presented pays a crucial role in managing conflicts. To provision of advice is more fully covered in the Professionalism Course, but some particular aspects that relate to Appointed Actuary advice are:

- ▶ It should be clear when any advice is “Appointed Actuary advice”.
- ▶ The requirements of the Life Insurance Act or other prudential requirements should be clear, especially any requirements under Section 48 of the Life Insurance Act on conflicts between policyholders and shareholders.
- ▶ Any conflicts between different stakeholders are clearly identified, together with the basis for addressing those conflicts.



Some comments from experienced Appointed Actuaries

- ▶ “I expect that the course and the textbook warns students that they can expect to be under great pressure to agree to things, and that it is an actuary's professional duty not to bow to such pressure. This is true, and such situations are genuinely stressful and scary.”
- ▶ “The problem is that the fact that your line is unpopular and you are under pressure doesn't actually make your actions professional. You may genuinely be overreacting to a situation or you may be ignoring a less confrontational and more effective alternative approach. You develop a reputation for the way in which you deal with issues, so beware!”
- ▶ “It is worth considering the strategies adopted by other actuaries, which include:
 - always waiting, preferably overnight, before sending that letter or email that you may later regret. Indeed, some actuaries deliberately write the first version just to get the hot emotion off their chest;
 - consultation with other actuaries (and any other relevant people) in an informal manner. This allows you to discuss your concerns so you can better understand the context and to sanity-check your intended response to a particular issue;
 - frequent informal discussion with key members of the company's management team and board (a tactic which may not be available to all); and
 - consistent descriptions and explanations of actuarial and financial concepts and issues and of the financial position of the company, so that your messages about a new issue have clear context and are readily understood by your target audience.”
- ▶ “Although my previous jobs have involved a reasonable amount of decision making, there has been much more in the Appointed Actuary role. Often this takes the form of “approving or disapproving” a proposed course of action in a particular part of the business. Where possible I try to approach the “disapproving” side positively from an “approving, but subject to x, y and z” point of view. Of course, this is not always possible. Sometimes the request requiring a decision is in writing or by e-mail which allows time for reflection. At other times the request is made face to face or by telephone and I need to decide whether to respond immediately or give myself time to dwell on it. I prefer to have quick turn around on small issues, to encourage people to seek the Appointed Actuary's views on issues even when this might not be strictly necessary.
- ▶ “The AA has to be prepared to give up the job for what he or she believes in.”
- ▶ “It's common to describe a professional decision as being one which you would be prepared to defend if it was splashed on the front page of the newspapers. I think it's more personal and local than that. You need to be able to live with yourself.”



15.8. Working Overseas

The Institute of Actuaries of Australia's Life Insurance course primarily focuses on the legislation and standards of the Australian life insurance environment. Increasingly actuaries trained in Australia subsequently end up working in other countries, where the legislative requirements, product range, valuation methods and inherent risks may be significantly different. This is particularly true in countries where the financial services market is still developing.

In these situations, an actuary must adapt to many aspects of the local working environment. The professional considerations discussed in this Unit and in guidance from the Institute of Actuaries of Australia should still be applied when working overseas and can help to provide guidance when no local guidance is available.

A range of subjects is discussed below where the actuary may find significant differences overseas from the Australian environment. The potential issues presented are simply examples and will not cover all of the potential issues that an actuary working overseas may encounter. However, consideration of these issues will demonstrate how an actuary may need to adapt to new environments.

Product Range and Design

The financial services market in Australia has significant differences from overseas markets:

- ▶ Many countries have a product range focused around traditional, participating products, which may require a different skill set compared to working in Australia.
- ▶ Developing markets may have a greater degree of product innovation, resulting from a desire to capture market share. The desire for innovation means that care may need to be taken that these new features do not introduce undesirable risks to the portfolio.
- ▶ An example of this is around the provision of guarantees. These may create significant asset/liability mismatch risk, the cost of which may not be well measured or understood. Knowledge of option or derivative pricing can be very useful in this sort of work.
- ▶ Not all markets will have legislative requirements for actuaries to provide advice before a product is released. This may result in challenges in getting actuarial concerns with regards to pricing or risks understood prior to launch of the product.
- ▶ Conversely, other markets may require that premium rates are lodged and/or approved by a market regulator. This process, however, may not be an indication of premium or price adequacy.



Experience Analysis and Assumption Setting

Some of the considerations when working overseas include:

- ▶ Data (such as mortality and morbidity statistics) from the local market or for a particular company may be limited or not credible. In this situation, the actuary may need to rely on overseas experience (such as from the USA, UK or Australia) in order to set assumptions.
- ▶ When using overseas data, care must be taken to consider the adjustments that might be appropriate in order to allow for local conditions.
- ▶ Advice from reinsurers may be invaluable in helping to set appropriate assumptions.
- ▶ There may still be circumstances where the actuary will need to set assumptions based on little information. In these situations, the actuary may want to undertake sensitivity analysis around the assumption to highlight any potentially volatile outcomes.
- ▶ The environment may change more rapidly in developing nations than in Australia. The effect of AIDS on mortality rates in countries such as South Africa is a recent example.

Underwriting

Australian underwriting practices are generally comprehensive and structured, providing the actuary with comfort that the mortality or morbidity risk is being managed appropriately. In other markets:

- ▶ There may be a need for greater flexibility in underwriting processes to meet market needs.
- ▶ Consideration may need to be given to other factors that may impact the underwriting process. This might be anything from cultural limitations to the information that can be collected for underwriting purposes, to the potential for corruption in the underwriting process.

Financial Reporting and Valuation

There are many considerations when working on financial reporting or valuation work in other markets. These include:

- ▶ When undertaking valuations in other markets, the actuary will need to be familiar with the valuation requirements of the relevant jurisdiction. It is quite likely (especially if the company has an overseas parent) that multiple reporting bases will be in use, requiring knowledge of the local statutory reporting as well as USGAAP, UKGAAP and others.
- ▶ Using multiple reporting bases means that the actuary must be able to translate concepts and theory from one methodology to another. It also means that management actions may have different impacts under different reporting regimes, all of which need to be considered.



- ▶ In many markets, more traditional valuation methodologies (such as net premium valuations) are still in regular use, so the need to understand these approaches shouldn't be dismissed.
- ▶ In Australia, there are detailed, formal standards regarding valuation methodologies and capital requirements. The standards may not be as comprehensive in other markets, leaving the actuary with judgements to make about appropriate approaches. In contrast, a standard may not capture a risk or liability that the actuary believes should be represented in the liability or financial reporting. In these situations, the actuary may need to determine an appropriate course of action with respect to that liability.
- ▶ The further development of International Financial Reporting Standards will eventually improve the alignment of the liability valuations and financial reporting across international markets.

Investments

When considering the appropriateness of the assets backing liabilities in other countries, the actuary may need to be aware of risks and approaches that may differ to the Australian environment:

- ▶ Australia generally uses the fair value of assets in its financial reporting. Other reporting regimes may use the cost value of assets, which the actuary will need consider when judging the risk of mismatch in a portfolio.
- ▶ There may be limitations on the quality or availability of assets, or poor liquidity for some types of local asset classes.
- ▶ Care may be required when investing overseas, if the local market's exchange rate is particularly volatile or where there is government intervention in the foreign exchange market.

The security/reliability of the stock exchange itself needs to be kept in mind when investing in some jurisdictions.

15.8.1. Reflection

Working overseas can be challenging and rewarding. Data is often limited, financial markets may be underdeveloped, customer behaviour is changing rapidly. It is important that the overseas actuary understand the local market. In gaining that understanding it is important to seek out the advice and support of local professional bodies, fellow actuaries, experience personnel both inside and outside the company as well as regulators and reinsurers.

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Reading List

**Items marked with this bullet are not included in the Reading Materials

Unit 1 – Liability Valuations

Prudential Standard LPS 340, Valuation of Policy Liabilities, issued by the Australian Prudential Regulation Authority (APRA)

Accounting Standard AASB 1038, Life Insurance Contracts issued by the Australian Accounting Standards Board

Information Note: Asymmetric Risks. Institute of Actuaries of Australia.

**The Institute of Actuaries of Australia. The Practice of Life Insurance in Australia, (2014 ed.), Chapters 21 and 22

**The Life Insurance Act 1995.

Unit 2 – Asset Valuations and Capital Management

Prudential Practice Guide CPG 110 issued by APRA

**Prudential Standards LPS 001, 110, 112, 114, 115, 117 and 118 issued by APRA

**Financial Services Council. FSC Standard No. 9 Valuation of Scheme Assets and Liabilities, available from www.fsc.org.au

**Unit Pricing Guide to Good Practice, published by ASIC and APRA

**The Institute of Actuaries of Australia. The Practice of Life Insurance in Australia, (2014 ed.) Chapter 23 & 24

Unit 3 – Analysis of Profit and Distributions to Policy Owners

Edwards, N., & Swinhoe, P. R. (1996). Managing Profits in a MoS Environment TIAA, Sections 4-5

**The Institute of Actuaries of Australia. The Practice of Life Insurance in Australia- Part B, (2012 ed.) Chapters 25 & 26

**APRA Prudential Standard LPS 340: Valuation of Policy Liabilities



Unit 4 – Economic Valuations (Appraisal Values)

The Institute of Actuaries of Australia Guidance Practice Guideline 199.03,
“Economic Valuations”

**The Institute of Actuaries of Australia. The Practice of Life Insurance in Australia,
(2014 ed.) Chapter 27.

Unit 5 – Reporting Results

Accounting Standard AASB 1038 Life Insurance Contracts issued by the Australian Accounting Standards Board

**APRA Life Insurance Reporting Framework (available at www.apra.gov.au)

**The Institute of Actuaries of Australia. The Practice of Life Insurance in Australia,
(2014 ed.) Chapter 28

Unit 6 – Professionalism

The Institute of Actuaries of Australia's Professional Standard 201, Actuarial Advice to a Life Insurance Company or Friendly Society; and Professional Standard 202, Actuarial Valuations for Life Insurance Companies (including Friendly Societies and Eligible Foreign Life Insurance Companies)

APRA Prudential Standard CPS 320: Actuarial and Related Matters

Prudential Practice Guide LPG 260: Conflicts of Interest under Section 48, issued by APRA

**Life Insurance Act 1995



Prudential Standard LPS 340

Valuation of Policy Liabilities

Objective and key requirements of this Prudential Standard

The ultimate responsibility for the value of a life company's policy liabilities rests with the Board of a life company.

This Prudential Standard requires that a life company's policy liabilities in respect of life investment contracts are determined in accordance with the requirements of relevant accounting standards to the extent appropriate for the purposes of the *Life Insurance Act 1995*.

This Prudential Standard establishes a set of principles and practices for the consistent measurement and reporting of policy liabilities for life insurance contracts. The policy liabilities must provide for both a best estimate value of the liabilities and the timely release of profit over the life of the business.

The key requirements of this Prudential Standard are that a life company must:

- generally classify contracts into life investment contracts and life insurance contracts in accordance with relevant accounting standards, except where this Prudential Standard states otherwise;
- in respect of life investment contracts, generally comply with the requirements of the relevant accounting standards in the valuation of the policy liabilities; and
- in respect of life insurance contracts, value the policy liabilities in accordance with the principles and methodology set out in this Prudential Standard.

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Authority

1. This Prudential Standard is made under paragraph 230A(1)(a) of the *Life Insurance Act 1995* (**the Act**).

Application

2. This Prudential Standard applies to all life companies including **friendly societies** (together referred to as **life companies**) registered under the Act¹, except where expressly noted otherwise.
3. This Prudential Standard only applies to the business of an **Eligible Foreign Life Insurance Company** which is carried on through its Australian statutory funds but not otherwise.²
4. This Prudential Standard applies to life companies from 1 January 2013.

Interpretation

5. Terms that are defined in *Prudential Standard LPS 001 Definitions* (LPS 001) appear in bold the first time they are used in this Prudential Standard.
6. This Prudential Standard is written in the context of Australian legislation and bases of taxation. Appropriate adjustment should be made, for example to allow for different bases of taxation, where this Prudential Standard is being applied to overseas business.

Part A – Contract classification and application

Contract classification and application

7. For the purposes of this Prudential Standard, policies issued by a life company must be classified as either life investment contracts or life insurance contracts. The classification of a policy under this Prudential Standard may differ from its classification under *Australian Accounting Standard AASB 1038 Life Insurance Contracts* (AASB 1038).
8. For the purposes of this Prudential Standard, a contract that includes a **participating benefit** or a **discretionary participation feature** is deemed to satisfy the definition of a life insurance contract, even if it is classified as a life investment contract under **Australian Accounting Standards**. If a contract includes a participating benefit but does not include a discretionary participation feature and it is classified as a life investment contract under Australian Accounting Standards a life company may, under subsection 15(4) of the Act, request that APRA declare the benefit to be non-participating, to allow the treatment under this Prudential Standard and the treatment under Australian Accounting Standards to be aligned.

¹ Refer to subsection 21(1) of the Act.

² Refer to section 16ZD of the Act.

9. Some life insurance contracts contain both an insurance component and a deposit component.³ AASB 1038 permits contracts to be unbundled into separate insurance and deposit components if (and only if) the deposit component can be measured separately. To unbundle a life insurance contract, the insurance component must be treated as a life insurance contract. The deposit component must be treated as a separate life insurance contract if it includes a discretionary participation feature. Otherwise, the deposit component must be treated as a life investment contract. However, a life company is not required to unbundle, and may therefore treat the entire contract as a life insurance contract if it so wishes.
10. For the purposes of this Prudential Standard, the following contracts must not be unbundled:
 - (a) reinsurance contracts; and
 - (b) participating contracts with insurance riders, where the profits on the riders are deemed to be in respect of participating business and so allocated between policyholders and shareholders.
11. For the purposes of this Prudential Standard, an unbundled component of a policy is to be treated as if it were a stand-alone policy. After allowing for unbundling, life insurance contracts (including contracts with discretionary participation features) and any associated life investment contracts must be dealt with in separate **related product groups**.
12. If not in conflict with paragraph 9, a contract must be unbundled if it can be split for the purpose of recognising premium revenue and claims expense under AASB 1038.
13. If not in conflict with paragraph 9, where a contract contains both investment-linked and non-investment-linked benefit options, they must be unbundled as separate deposit components, with the associated service components apportioned between them.
14. If not in conflict with paragraph 9, an option to make future investments into a discretionary investment benefit option must be unbundled and, if necessary, separately valued.
15. After allowing for any unbundling, the policy liability in respect of a life investment contract must be determined in accordance with the requirements of Part B.
16. After allowing for any unbundling, the policy liability in respect of a life insurance contract (including a contract with discretionary participation features) must be determined in accordance with the requirements of Parts C and D.
17. Part E applies to all of the life insurance business issued by the company for the purposes of the Act.

³ Deposit component is defined in AASB 1038.

Part B – Policy liabilities in respect of life investment contracts

18. For the purposes of this Prudential Standard, policy liabilities in respect of life investment contracts are to be determined in accordance with the relevant accounting standards, subject to any available options being restricted to the fair value based options.
19. Life investment contracts consist of at least one **financial instrument element**, being the element that gives rise to a financial asset or financial liability. They may also contain additional elements in respect of management services, embedded derivatives or participation features.
20. The net contractual obligations under a life investment contract which arise under the financial instrument element of the contract (and any associated management services that are not unbundled) is referred to as the **life investment contract liability**, consistent with the terminology adopted under AASB 1038.
21. Embedded derivatives within a life investment contract are financial instruments and must be allowed for within the financial instrument element for the purpose of this Prudential Standard.
22. The policy liability in respect of a life investment contract is determined as:

$$\text{Policy liability} = \text{LICL} + \text{MSE}$$

where:

- (a) LICL is the life investment contract liability, being the liability arising in respect of the financial instrument element; and
- (b) MSE is the net liability (asset) in respect of the management services element.
23. The life investment contract liability, being the component of the policy liability that arises under a life investment contract that relates to the financial instrument element (and any associated management services that are not unbundled), is to be determined in accordance with the fair value through profit and loss provisions of the Australian Accounting Standards (whether or not the financial instrument element is measured on that basis under the Australian Accounting Standards).
24. The policy liability that arises under a life investment contract is to include the net amount of all liabilities and assets arising in respect of the management services element of the contract. These liabilities or assets include, but need not be limited to, the value of deferred fee revenue and deferred acquisition costs. The measurement of these liabilities and assets is to be in accordance with the Australian Accounting Standards.

25. The policy liability is determined gross of **reinsurance** (as defined for the purposes of the Act). The recognition and measurement of outwards reinsurance that does not involve the transfer of insurance risk are to be undertaken separately in accordance with the fair value through profit and loss provisions of the Australian Accounting Standards (whether or not they are reported on that basis under the Australian Accounting Standards).

Part C - Principles for the valuation of policy liabilities in respect of life insurance contracts

The principles of the valuation

26. This Prudential Standard does not prescribe a single methodology for the valuation of policy liabilities in respect of life insurance contracts. The principles of the Prudential Standard will normally be achieved by adopting a projection methodology. However, it is recognised that alternative approaches - such as an accumulation methodology - may in some cases be appropriate in achieving the principles.
27. The principles are paramount in determining the policy liability; methodology is incidental to the principles. Projection or accumulation methodologies may be appropriate provided the life company can demonstrate that the principles have been met.
28. The policy liability must provide for both:
 - (a) a best estimate value of the liability of the company in respect of obligations under life insurance contracts; and
 - (b) a uniform emergence of profit in respect of life insurance contracts relative to one or more appropriate **profit carriers**.
29. While profit carriers are an explicit component of the valuation where a projection approach is used, the profit carriers are implicit where an accumulation approach is appropriately used.
30. The profit emerging in the reporting period must recognise both:
 - (a) the expected profits for the period; and
 - (b) the experience profit for the period.
31. The valuation method must provide for the emergence of profit when it is earned. The emergence of earned profit must not be deferred; nor must unearned profit be prematurely recognised.
32. Profits are earned on the later of:
 - (a) the provision of a service to the policy owner; and
 - (b) the receipt (or recognition) of income relating to that service.

33. When the valuation results in expected future profits for a related product group that are below the **adequacy threshold** for that product group, the value of the shortfall must be recognised immediately as a loss.
34. Subject to circumstances covered by paragraph 33, profit for the period must not otherwise be affected by a change in the **best estimate assumptions** in respect of future periods, except that:
 - (a) where previously recognised losses exist for a related product group and that change in best estimate assumptions results in expected future profits emerging, the present value of those profits must be released to the extent necessary to offset those previously recognised losses; or
 - (b) where that change is in the best estimate assumption for the discount rate (and future investment earnings and related economic assumptions, where relevant) due to market changes only, and the benefit has no discretionary entitlement to share in investment experience, the present value of the expected future profits which are generated by the change must be released.

Where the change in best estimate assumptions would result in a release of expected future profits otherwise than as above, the present value of those profits must not be released, but respread to emerge as a uniform proportion of the appropriate profit carrier(s).

35. In determining the **best estimate liability** and best estimate assumptions, the life company must have regard to the impact on the liability of the distribution of potential future outcomes. Where the benefits being valued contain options that may potentially be exercised against the company, or the potential liability outcomes have an adverse asymmetrical distribution, then the best estimate liability must include an appropriate value in respect of those options and/or asymmetries.
36. Approximate methods may be used in determining the policy liability of the company where the result so produced is not material or not materially different from that which would result from a full valuation process. In particular, the special circumstances of reinsurers are recognised as warranting approximate methods.

The valuation of policy liabilities

37. The policy liability is equal to the sum of:
 - (a) the best estimate liability;
 - (b) the value of future **best estimate bonuses**; and
 - (c) the value of future **best estimate shareholder profits**.

38. Where **non-participating benefits** are provided, profit is entirely the entitlement of the shareholder. In that case, the policy liability is equal to the sum of:
 - (a) the best estimate liability; and
 - (b) the value of future best estimate shareholder profits.
39. The contractual arrangements in respect of the non-participating benefits may entitle the policy owner to additions to the benefit, at the discretion of the company, reflecting the investment experience of the assets backing the benefit. While this is not a distribution of profit, the determination of the additions may involve similar management processes to the distribution of **bonus** for participating benefits. Accordingly, similar valuation methods may be appropriate.

Friendly society benefits

40. Friendly society benefits are neither participating nor non-participating. For the purpose of applying this Prudential Standard, benefits provided under benefit funds where there is a provision for distribution of unallocated surpluses to policy owners are to be valued as if they were participating. Benefits provided under benefit funds where there is no provision for distribution of unallocated surpluses to policy owners are to be valued as if they were non-participating.

Participating benefits

41. In respect of participating benefits, profit must include the policy owners' share of profits. The valuation of the policy liabilities must, therefore, make allowance for the best estimate at the reporting date of:
 - (a) the value of expected future **policy owner profit share**; and
 - (b) the value of expected future **shareholder profit share**.
42. Declarations of bonus are an appropriation of profit for participating business. Accordingly, current year best estimate bonuses are excluded from the policy liability, allowing the emergence of this amount as operating profit in the period.
43. The relationship between the assumed allocation of profit to policy owners and shareholders respectively must, in respect of each future year, be consistent with:
 - (a) the policy conditions; and
 - (b) the company's practice or stated philosophy.

Non-participating benefits

44. In respect of non-participating benefits, the valuation of policy liabilities must make allowance for the best estimate at the reporting date of the value of expected future shareholder profit share.
45. Where a non-participating benefit includes an entitlement, at the discretion of the company, to share in the investment experience of the assets backing the benefits, the valuation of the policy liabilities must make allowance for the best estimate at the reporting date of the present value of current year and expected future **discretionary additions**.

Consistency with asset values

46. Where the basis of asset valuation used for the regulatory financial statements is not consistent with the basis of asset valuation implicit in the valuation of the liabilities, the life company must make appropriate adjustments to the policy liability.

Reinsurance of life insurance contracts

47. The policy liability is determined gross of reinsurance (as defined for the purposes of the Act), although the gross policy liability may be calculated by first determining the necessary components on a net of reinsurance basis and then adjusting the result by the amounts of the corresponding components of the **reinsured policy liability**.

The best estimate liability

48. The best estimate liability is determined as the value of the expected future payments and receipts under the policy, gross of reinsurance, based on obligations at the reporting date. This best estimate liability is equal to:
 - (a) the value of expected future benefit payments; plus
 - (b) the value of expected future expenses; less
 - (c) the value of expected future receipts.
49. Note that the benefit obligations projected include all contractual benefits. In particular, in the case of participating benefits they include bonuses declared prior to (but not on, or after) the date of valuation.
50. In projecting the expected future cash flows, the life company makes assumptions about the expected future experience, taking into account all factors which are considered to be material to the calculation, including:
 - (a) investment earnings;
 - (b) inflation;
 - (c) taxation;

- (d) expenses;
- (e) mortality and morbidity; and
- (f) policy discontinuance.

The assumptions must reflect a best estimate of the likely experience.

51. In establishing best estimate assumptions, due regard must be had for the materiality of:
 - (a) the benefits being considered; and
 - (b) the effect of particular assumptions on the determined result.

Valuing liability options

52. The best estimate liability and best estimate assumptions must have regard to any options or asymmetrical distribution of liability outcomes.
53. Where the distribution of potential liability outcomes is equally likely to result in a gain or loss, then it will normally be sufficient to adopt the mean of the assessed distributions of future experience for the best estimate assumptions and calculate the best estimate liability accordingly.
54. However, the life company needs to consider and assess the extent that variations in the assumptions may be correlated, and/or may compound one another, in adverse circumstances. In such cases the best estimate assumptions must be adjusted so that the best estimate liability is representative of the mean of the distribution of the potential liability outcomes.
55. Where the benefits contain options that may be exercised against the company, then either the value of those options must be determined (via a suitable option pricing method) and added to the best estimate liability, or the best estimate assumptions adjusted so as to appropriately capture the value of the options as part of the best estimate liability.
56. The requirements throughout this Prudential Standard in respect of best estimate assumptions and best estimate liabilities are to be interpreted in this context.

Investment earnings

57. Where the cash flows to be valued depend on future investment earnings, the best estimate assumption for investment earnings must reflect the expected investment earnings applicable to the actual assets on which the cash flows depend.

The discount rate

58. The gross rate used to discount expected future cash flows must, to the extent the benefits under the policy are contractually linked to the performance of the assets held, reflect the expected investment earnings applicable to the assets

backing the benefit being valued. Otherwise, a discount rate (or rates) that the life company considers to be risk-free, based on the current observable, objective rates that relate to the nature, structure and term of the future liability cash flows is to be used. The discount rate does not need to satisfy the definition of **risk-free discount rate** given in LPS 001.

59. This does not preclude the use of discount rates that make allowance for assumptions that are expressed as a percentage of the value of assets, rather than allowing for those assumptions explicitly in the projection. This practice may apply in respect of certain expenses, taxes or **profit margins**.

Taxation

60. For business where tax is based only on profits, liabilities may be determined gross of tax. Otherwise, appropriate allowance must be made for the effect of taxation.
61. Where allowance for tax on investment earnings is required, it must be made in accordance with best estimate assumptions, but based on an asset profile which would be expected to yield a return equal to the discount rate assumption in paragraph 58.

Servicing expenses

62. The best estimate assumption for **maintenance expenses** must be sufficient to cover the expected maintenance cost of servicing each policy, in respect of in force business, in the year following the reporting date. The expected maintenance cost of servicing each policy is the expected maintenance expenses appropriately adjusted for one-off expenses.
63. The best estimate assumption for **investment management expenses** must be sufficient to cover the cost of managing an asset profile which would be expected to yield a return equal to the discount rate assumption in paragraph 58.
64. Where servicing expense assumptions are expressed in monetary amounts, the assumptions beyond the coming year must be adjusted in line with best estimate inflation assumptions.

Acquisition expenses

65. The best estimate assumption for **acquisition expenses** at **commencement** must be the greater of:
 - (a) ‘establishment fees’ received at commencement; and
 - (b) actual acquisition expenses incurred, less expenses which the life company considers to be ‘one-off’ in nature.

Both must be consistently adjusted for tax in accordance with paragraphs 60 to 61.

Other assumptions

66. The best estimate assumptions in respect of all other assumptions used in the valuation of policy liabilities, must be assumptions about future experience which:
 - (a) are made having regard to the advice of the Appointed Actuary;
 - (b) are made having regard to reasonably available statistics and other information; and
 - (c) are neither deliberately overstated nor deliberately understated.

Profit carriers and profit margins

67. Profit carriers are selected and profit margins determined when a policy commences to enable the appropriate emergence of the expected shareholder profit over the term of the benefits. This is achieved by setting the profit margin as:
 - (a) the value of the future best estimate shareholder profits;
 - (b) divided by the value of the profit carrier(s)where the profit carrier is a financially measurable indicator of either:
 - (c) the expected cost of the services provided to the policy owner; or
 - (d) the expected income item relating to the services.
68. The range of services which may be provided to the policy owner, includes:
 - (a) insurance of mortality, morbidity (or similar risks);
 - (b) generation of investment income;
 - (c) setting up the policy (selling or acquisition);
 - (d) ongoing administration;
 - (e) investment management; and
 - (f) provision of bonuses.

Profit margins

69. In accordance with the principles of paragraphs 26 to 36, the appropriate release of expected future shareholder profits is provided for in valuing the policy liabilities, either explicitly or implicitly, through the incorporation of profit margins.
70. A profit margin must be expressed, explicitly or implicitly, as a uniform proportion of one or more appropriate profit carrier(s).

Profit carriers

71. The appropriate profit carrier(s) must be related to the services provided to policy owners by the company. The life company, in selecting the appropriate profit carrier(s), must consider:
 - (a) the services and income items applicable to the benefit;
 - (b) the relative risks of services, or of costs, to the company; and
 - (c) the relative timing of the provision of the services and the receipt or recognition of income for those services.
72. Provision of capital to meet the requirements of *Prudential Standard LPS 110 Capital Adequacy* is not a service for this purpose.
73. Acquisition is a service for this purpose only when explicit establishment fees are received.
74. Profit carrier(s), once chosen, must be used consistently for a related product group unless in the life company's judgement the profit carrier(s) are no longer appropriate.
75. Where profit carrier(s) are changed this must not result in a release of profit at the date of change. This is achieved by equating the values of best estimate shareholder profits before and after the change in determining the new profit margins.

Acquisition expenses

76. The principles for the allocation of expenses to acquisition expenses are set out in Part E. Acquisition expenses are defined in terms of the activities related to the acquiring of new business. The acquisition of new business can generally be considered to include activities of the company such as product marketing, sales, underwriting and administration, undertaken prior to and at the point of issuing the policy and establishing it in the policy records of the company.
77. The new business expected to derive from a particular expense may not necessarily be acquired in the same period in which the expense occurs. The new business must, however, be expected to arise as a result of that expenditure. To the extent the expenditure has only a tenuous link with the acquisition of new business - for example, general growth and development expenses – it is not considered to be an acquisition expense.
78. To the extent that acquisition expenses are not recovered by the establishment fees, they must be charged against expected future profits, provided that these profits are sufficient to recover them. Any acquisition expenses which cannot be recovered from establishment fees or expected future profit will emerge as a loss at issue.
79. Appropriate allowance must be made in this process for tax on both establishment fees and acquisition expenses.

80. Where expected future profits for a related product group are insufficient to recover unrecouped acquisition expenses, the loss must be recognised in accordance with the processes of paragraphs 115 to 121.
81. Where a projection approach is used to calculate the policy liability, the expected income which is used to recover acquisition expenses is incorporated as a reduction in the best estimate liability calculation. Accordingly, acquisition expense recovery components are an implicit component of the valuation.
82. Where an accumulation approach is used to calculate the policy liability, the value of the unrecouped portion of acquisition expenses, which is to be recovered from future income, must be explicitly allowed for as a reduction in the liability by using acquisition expense recovery component(s).

Part D – Methodologies for determining policy liabilities in respect of life insurance contracts

83. In this Part, discussions of the detail of the methodologies for calculating policy liabilities will typically be in terms of a benefit. A policy may incorporate multiple benefits. Further, certain processes described in this Part may be performed at a related product group level, which incorporates multiple (like) policies.
84. While recalculation processes described in this Part will normally be considered for a related product group, the life company may group benefits at a lower level where this is supported by company practice or stated philosophy and is done consistently over time.

New business - calculation of profit margins and acquisition expense recovery components

Profit margins

85. Where explicit profit margins are required, they are determined by dividing:
 - (a) the value at commencement of the expected future profits from the benefit; by
 - (b) the value at that date of the appropriate profit carrier(s).
86. The value at commencement of expected future profits must be determined on the basis of best estimate assumptions.
87. The best estimate assumptions, with the exception of the acquisition expense assumption, must be determined as at a single date, but that date may be:
 - (a) the beginning of the reporting period; or
 - (b) the date of commencement of the business; or
 - (c) the end of the reporting period.

88. The acquisition expense assumption is determined at the end of the reporting period.

Treatment of losses

89. If the projection reveals a value of expected future profits at commencement for new business in a related product group that is below the adequacy threshold, then that loss must either be recognised, or dealt with in accordance with the provisions of paragraph 90. Any losses at commencement so recognised must be accumulated. If the related product group subsequently generates profits above the adequacy threshold, the cumulative losses must be offset (see paragraphs 115 to 121).
90. Alternatively, new business may be grouped with existing in-force business for the same related product group for the purpose of calculating profit margins. Where new business is so grouped, any losses at commencement for that new business cannot be accumulated or subsequently offset.
91. The approach used by the life company for treatment of losses on new business must be applied consistently over time.

Acquisition expense recovery components

92. Where explicit acquisition expense recovery components are required, they are determined at commencement by dividing:
 - (a) the best estimate assumption for acquisition expenses at commencement (to the extent not recovered by establishment fees); by
 - (b) the present value at that date of the appropriate acquisition expense recovery carrier(s).
93. The acquisition expense recovery carrier(s) must reflect the element of the premium or other income item, including surrender penalties, designed or intended to recover acquisition expenses.
94. Appropriate adjustment to acquisition expenses and acquisition expense recovery components will be needed where acquisition expenses are expected to be incurred in a year other than the year of issue. Any adjustment must have regard to acquisition expenses accrued or deferred in the accounts.

Reporting date recalculations - benefits providing no discretionary entitlement to share in the investment experience of assets backing them.

Recalculation of profit margins

95. Where profit margins are determined at commencement, the principles of this Prudential Standard require a recalculation of those profit margins at each subsequent reporting date to ensure that future expected profits are neither released prematurely nor deferred inappropriately.

96. The methodology detailed below produces results in accordance with the principles of this Prudential Standard. Other methods may be appropriate where the life company can demonstrate that the principles have been met.
97. A recalculation of profit margins at the reporting date may be carried out as follows:
 - (a) derive the value of expected future profits at the reporting date as:
 - (i) the best estimate liability (on basis 1); plus
 - (ii) the value of expected future profits (on basis 1); less
 - (iii) the best estimate liability (on basis 2); and
 - (b) recalculate the profit margins as:
 - (i) the value of expected future profits (from (a));
 - (ii) divided by the value of the profit carrier(s) (on basis 2)
 - (c) where:
 - (i) basis 1 uses the best estimate assumptions and profit margins at the previous reporting date, except for the discount rate and related economic assumptions - see paragraph 98 and 99 below; and
 - (ii) basis 2 uses the best estimate assumptions at the current reporting date.

Discount rate

98. The discount rate (and related economic assumptions) used for calculations on basis 1 is determined as that used at the previous reporting date adjusted only to the extent that there have been changes in market conditions.
99. A consistent approach is to be used in respect of economic assumptions related to the discount rate; for example, the investment earnings and inflation assumptions.

Recalculation of acquisition expense recovery components

100. Where acquisition expense recovery components are determined at commencement the principles of this Prudential Standard require a recalculation of those components at each subsequent reporting date to ensure that future expected profits are neither released prematurely nor deferred inappropriately.
101. The methodology detailed below produces results in accordance with the principles. Other methods may be appropriate where the life company can demonstrate that the principles have been met.

102. A recalculation of acquisition expense recovery components at the reporting date may be carried out as follows:

- (a) derive the value of the expected future acquisition expense recoveries at the reporting date as:
 - (i) the acquisition expense recovery components;
 - (ii) multiplied by the value of the acquisition expense recovery carrier(s) (on basis 1); and
- (b) recalculate the acquisition expense recovery components as:
 - (i) the value of the expected future acquisition expense recoveries (from (a));
 - (ii) divided by the value of the acquisition expense recovery carrier(s) (on basis 2)
- (c) where:
 - (i) basis 1 uses the best estimate assumptions at the previous reporting date, except for the discount rate and related economic assumptions - see paragraphs 98 and 99; and
 - (ii) basis 2 uses the best estimate assumptions at the current reporting date.

Reporting date recalculations - benefits providing a discretionary entitlement to share in the investment experience of assets backing them

103. The recalculation methodology described in this section establishes how the policy liability changes and, hence, how profit emerges over the period for discretionary business. The objective of the methodology is to determine operating profit in accordance with the framework of the Act.

104. For a participating benefit (including a friendly society benefit under a benefit fund where there is a provision for distribution of unallocated surpluses to policy owners), two important aspects of this framework are;

- (a) the allocation of **operating profit** is a distinct process from the distribution of retained profits. It is the value of declared bonuses and shareholder transfers out of the fund which are distributions of retained profits (inclusive of the operating profit allocated in the period). It is the operating profit which is the amount allocated between policy owners retained profits (or unallocated surplus in the case of friendly societies) and shareholders' retained profits; and

- (b) operating profit includes shareholder profit and policy owner profit. It comprises:
- (i) the value of current period best estimate bonuses (including best estimate interim and terminal bonuses and the value of best estimate reversionary bonuses) and best estimate shareholder profits; and
 - (ii) non-investment experience profit.
105. For non-participating benefits which have an entitlement to discretionary additions, the approaches described in this section may be applied for recalculating discretionary additions and profit margins. This section is to be interpreted by substituting ‘discretionary addition’ for ‘bonus’. It must be recognised that the ‘discretionary addition’ is not a ‘bonus’, and consequently the cost of any ‘discretionary addition’ in the current period forms part of the policy liability at the reporting date, while the cost of any ‘bonus’ in the current period is an allocation and distribution of current period operating profit and does not form part of the policy liability at the reporting date.
106. It is noted that for participating benefits (but not non-participating benefits which have an entitlement to discretionary additions), the recalculation methodology means a change in assumptions (predominantly non-investment assumptions) may affect current year profit, through changes in the rate of best estimate bonus. In these specific circumstances, this result is considered appropriate and in compliance with the intent of the principles of this Prudential Standard.

Recalculation of profit margins

107. Where profit margins are determined at commencement, the principles of this Prudential Standard require a recalculation of those profit margins at each subsequent reporting date to ensure that future expected profits are neither released prematurely nor deferred inappropriately.
108. The methodology detailed below is deemed to produce results in accordance with the principles of this Prudential Standard. Other methods may be appropriate where the life company can demonstrate that the principles have been met.
109. A recalculation of profit margins at the reporting date may be carried out as follows:
- (a) derive the value of expected future policy owner and shareholder profits at the reporting date as:
 - (i) the value of supporting assets;
 - (ii) less the best estimate liability (on basis 2);
 - (iii) less the value of current period bonuses and shareholder profits (on basis 2); and

- (b) recalculate the profit margins as:
 - (i) the value of future profits (from (a)) less the value of future best estimate bonuses (on basis 2);
 - (ii) divided by the value of the profit carrier(s) (on basis 2);
- (c) where:
 - (i) value of supporting assets is calculated according to paragraphs 110 to 111;
 - (ii) basis 2 uses the best estimate assumptions at the current reporting date;
 - (iii) value of current period bonuses is determined as the cost of bonus according to paragraphs 112 to 114; and
 - (iv) the relationship between bonuses and shareholder profits must be in accordance with paragraph 43.

Value of supporting assets

110. The value of supporting assets is determined as:

- (a) the policy liability at the end of the previous reporting period;
- (b) plus the cost of declared bonuses at the end of the previous period;
- (c) plus the actual policy related cash flows and investment experience as reported in the regulatory financial statements;
- (d) less the expected shareholder profits emerging over the period (in respect of interim and terminal bonuses) and the non-investment experience profit.

111. The value of supporting assets must be calculated so as to attribute no value of assets to terminated benefits.

Cost of bonus

- 112. The cost of bonus at the reporting date (whether best estimate or declared) must reflect the cash value to the policy owners of those bonuses at the reporting date.
- 113. Where bonus at the reporting date does not acquire an immediate cash value, but rather value vests in the policy owner over some defined period of time, the life company, in determining the cost of bonus, must allow an appropriate value for that unvested bonus.
- 114. Terminal bonus is included in the calculation of cost of bonus to the extent it is immediately vested in the policy owner and is guaranteed.

Loss recognition

115. Where at a reporting date the value of future profits for a related product group falls below the adequacy threshold for that related product group, the resulting shortfall is not spread over the benefit term (as are expected future profits above the adequacy threshold) but is recognised as an immediate loss at that date. This is in accordance with the principles of this Prudential Standard and is achieved by setting the relevant profit margins to an amount such that the value of future profits is equal to the adequacy threshold at the reporting date. This process is carried out for each related product group.
116. A record of cumulative losses is kept for each related product group. Before a related product group can have a value of future profits in excess of the adequacy threshold, cumulative losses must have been offset. Once cumulative losses have been eliminated for the related product group it will return to a position of adequate future profits.
117. Cumulative losses may be run-off in accordance with the run-off of the business of the relevant related product group.
118. If at a reporting date it is established, in respect of a related product group which has cumulative losses recorded, that future profits are now expected the present value of that profit must be utilised:
 - (a) firstly, in offsetting the cumulative losses; and
 - (b) then to the extent available, in producing profit margins in excess of the adequacy threshold.
119. There must be no release of profit as a consequence of the combining of related product groups. Where there is grouping of previously separate related product groups, the policy liability of the combined related product group must equal the sum of the policy liability of the separate groups immediately prior to the grouping. Cumulative losses that previously existed in respect of the separate groups must be extinguished, except in the case where cumulative losses existed for all separate related product groups.
120. The adequacy threshold for the value of future best estimate bonuses and shareholder profits under related product groups in respect of benefits that are contractually linked to the performance of the assets held is equal to the difference between:
 - (a) the best estimate liability on basis 2 (either in accordance with paragraph 97 or paragraph 109, whichever is applicable), but using the discount rate (or rates) that the life company considers to be risk free as described in paragraph 58); and
 - (b) the best estimate liability on basis 2.
121. For all other related product groups the adequacy threshold is zero.

Reinsurance

122. Outwards reinsurance that meets the definition of a life insurance contract is to be measured as if it were a negative liability, even though the measurement result may be recognised as an asset in the company's financial statements. For this purpose the reinsured policy liability will therefore consist of both a reinsured best estimate liability and the value of reinsured profit margins. For the purpose of this Prudential Standard, inwards reinsurance is to be treated the same as direct insurance business.
123. The principles of this Prudential Standard apply to both the calculation of the gross policy liability and the reinsured policy liability. In particular, where future profits are expected to arise in respect of a reinsurance arrangement (looked at from the reinsurer's perspective) the present value of those future profits is to be included in the reinsured policy liability as value of reinsured profit margins. However, where losses are expected, these are to be recognised, except as allowed under paragraph 126.
124. If the reinsurance relates directly and solely to the direct insurance business of a single related product group then the reinsurance may be included within that same related product group for the purposes of paragraphs 115 to 121. If the reinsurance does not relate directly and solely to the direct insurance business of a single related product group then the reinsurance must be appropriately allocated to related product groups for the purposes of paragraphs 115 to 121. That allocation must reflect:
 - (a) the insurance and financial risks to which the reinsurance relates; and
 - (b) an appropriate relationship between those risks and the related product groups.
125. In undertaking the allocation described in paragraph 124, regard must be had for a diligent assessment of:
 - (a) the purpose of the company in entering the reinsurance; and
 - (b) the contribution of that reinsurance to the business of the companywhile retaining the integrity of the principles of this Prudential Standard.
126. As a result of the allocation of reinsurance business to related product groups, losses expected in relation to the reinsurance business need only be recognised if they exceed the value of expected future profits in respect of the associated direct insurance business in the related product group, and vice versa. However, the profit margins in respect of the reinsurance must continue to be determined separately from the profit margins in relation to the associated direct insurance business.

Part E – General requirements for all forms of policy and the Appointed Actuaries statement

Allocation of expenses

127. The allocation of certain expenses to **expense categories** or particular products will require greater judgement than others. Allocation of such expenses must be based on a considered analysis of the particular circumstances of the company – the objective in incurring that expense and the outcome achieved. If at the end of this process there remains doubt as to the appropriate expense category, the expense must be allocated to maintenance expenses.
128. There will be circumstances in which an expense derives from an activity outside the normal business activities of the company and is not recurrent in nature. It is appropriate to recognise the one-off nature of such expenses in undertaking the allocation for the purposes of this Prudential Standard.
129. The principles described in this Prudential Standard are equally applicable to the circumstances of allocation of the actual expenses and the expected expenses of the company.
130. In respect of life investment contracts, acquisition expenses will need to be further split between those that may be deferred in accordance with relevant accounting standards, and those that are to be treated as overheads.
131. Expenses for each related product group are to be allocated to the following expense categories:
 - (a) acquisition expenses;
 - (b) maintenance expenses;
 - (c) investment expenses; and
 - (d) one-off expenses.
132. Each expense category must include all relevant expenses whether direct or indirect and in aggregate the expense categories must include the total expenses of the company (including acquisition overheads in respect of life investment contracts) other than one-off expenses determined in accordance with paragraphs 141 to 142. Total expenses for this purpose are total operating expenses as disclosed in the financial statements.
133. Each related product group must include all relevant expenses whether direct or indirect and in aggregate the related product groups must include the total expenses of the company. It is considered appropriate for this purpose to treat the shareholders' retained profits and capital as if it were a notional related product group.
134. To the extent that an expense is directly attributable to a particular expense category or a particular related product group, it must be so allocated.

135. It is recognised that there are circumstances where arrangements (internal or external) provide for the limitation of the expenses borne by a particular product group. Such arrangements, to the extent substantiated as *bona fide* by the life company, may be reflected in the final allocation of expenses provided transparency of the allocation process is retained.
136. An expense which is not directly attributable to a particular expense category or related product group must be appropriately allocated. That allocation must reflect:
 - (a) the functional activities to which the expense relates; and
 - (b) an appropriate relationship between those functional activities and both the expense categories and the related product groups.
137. In undertaking the allocation described in paragraph 136 regard must be had for a diligent assessment of:
 - (a) the purpose of the company in incurring a particular expense; and
 - (b) the contribution of that expense to the business of the companywhile retaining the integrity of the principles of this Prudential Standard.

Apportionment process

138. Processes of apportionment will be required, to a greater or lesser extent, in undertaking the allocation of expenses. These processes must be based on recent analyses of the operations of the life business and the identification of appropriate expense drivers and related expense apportionment ratios.

Service agreements

139. Where activities of the company are being provided externally, through a service agreement or other contractual arrangement, the allocation of the company's expenses relating to those activities must be reasonably consistent with the principles of this section. Where the service company fees are unreasonable as a basis for the allocation, the life company must determine an alternative allocation applying the principles of this section on a 'look-through' basis.
140. The information required to undertake this allocation should be sought from the service provider. Where practical difficulties arise in accessing the required information other methods, such as reference to appropriate industry benchmarks, may be employed.

One-off expenses

141. It is appropriate, in the context of expense allocation undertaken for the purposes of this Prudential Standard, to recognise one-off expenses. To achieve such recognition an expense must be, of itself:
 - (a) material in accordance with the provisions of paragraphs 147 to 148; and
 - (b) not incurred as part of the normal ongoing operations of the company; and
 - (c) not regularly recurring in nature.
142. One-off expenses, while allocated to expense categories for financial reporting purposes, need not be explicitly allocated (to expense categories or related product groups) for the purposes of this Prudential Standard.

Friendly societies

143. For expense allocation purposes a friendly society is to be regarded as two separate companies, namely:
 - (a) the management fund in isolation; and
 - (b) the sum of all the benefit funds.
144. All the expenses of the society are to be allocated to the management fund, except in certain cases when some direct costs are allocated to a benefit fund where that benefit fund rules allow this.
145. The expenses of the benefit funds (other than certain direct costs) are represented by the fees payable to the management fund under the benefit fund rules. For the purpose of allocating those expenses to the relevant expense categories in accordance with paragraph 131, the provisions under paragraphs 139 to 140 in relation to service agreements are applicable.
146. Where an allocation of the expenses of the management fund relating to life insurance activities into expense categories is not undertaken, acquisition expenses must be taken as 50 per cent of the total expenses related to the life insurance business.

Materiality

147. A life company may take into account materiality when valuing its policy liabilities. Particular values or components are considered material to the overall result of a calculation if misstating or omitting them would produce results likely to be misleading to the users of the information.
148. The policy liability determined in accordance with this Prudential Standard is subject to materiality standards applied at a statutory fund level.

Adjustments and exclusions

149. APRA may, by notice in writing to a life company, adjust or exclude a specific requirement in this Prudential Standard in relation to that life company.

Determinations made under previous prudential standards

150. An exercise of APRA's discretion (such as an approval, waiver or direction) under a previous version of this Prudential Standard continues to have effect as though exercised pursuant to a corresponding power (if any) exercisable by APRA under this Prudential Standard. *Prudential Standard LPS 1.04 Valuation of Policy Liabilities* may be regarded as a previous version of this Prudential Standard.

Compiled AASB Standard

AASB 1038

Life Insurance Contracts

This compiled Standard applies to annual reporting periods beginning on or after 1 January 2011 but before 1 January 2013. Early application is permitted. It incorporates relevant amendments made up to and including 27 October 2010.

Prepared on 26 November 2010 by the staff of the Australian Accounting Standards Board.



Australian Government

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Australian Accounting Standard AASB 1038 *Life Insurance Contracts* (as amended) is set out in paragraphs 1.1 – 20.2 and the Appendix. All the paragraphs have equal authority. Paragraphs in **bold type** state the main principles. Terms defined in this Standard are in *italics* the first time they appear in the Standard. AASB 1038 is to be read in the context of other Australian Accounting Standards including AASB 1048 *Interpretation of Standards*, which identifies the Australian Accounting Interpretations. In the absence of explicit guidance, AASB 108 *Accounting Policies, Changes in Accounting Estimates and Errors* provides a basis for selecting and applying accounting policies.

COMPIILATION DETAILS

Accounting Standard AASB 1038 *Life Insurance Contracts* as amended

This compiled Standard applies to annual reporting periods beginning on or after 1 January 2011 but before 1 January 2013. It takes into account amendments up to and including 27 October 2010 and was prepared on 26 November 2010 by the staff of the Australian Accounting Standards Board (AASB).

This compilation is not a separate Accounting Standard made by the AASB. Instead, it is a representation of AASB 1038 (July 2004) as amended by other Accounting Standards, which are listed in the Table below.

Table of Standards

Standard	Date made	Application date <i>(annual reporting periods ... on or after ...)</i>	Application, saving or transitional provisions
AASB 1038	15 Jul 2004	<i>(beginning) 1 Jan 2005</i>	
AASB 2005-4	9 Jun 2005	<i>(beginning) 1 Jan 2006</i>	see (a) below
AASB 2005-10	5 Sep 2005	<i>(beginning) 1 Jan 2007</i>	see (b) below
AASB 2005-12	8 Dec 2005	<i>(ending) 31 Dec 2005</i>	see (c) below
AASB 2007-3	26 Feb 2007	<i>(beginning) 1 Jan 2009</i>	see (d) below
AASB 2007-4	30 Apr 2007	<i>(beginning) 1 Jul 2007</i>	see (e) below
AASB 2007-8	24 Sep 2007	<i>(beginning) 1 Jan 2009</i>	see (f) below
AASB 2007-10	13 Dec 2007	<i>(beginning) 1 Jan 2009</i>	see (f) below
AASB 2008-5	24 Jul 2008	<i>(beginning) 1 Jan 2009</i>	see (g) below
AASB 2009-2	22 Apr 2009	<i>(beginning) 1 Jan 2009 and (ending) 30 Apr 2009</i>	see (h) below
AASB 2009-6	25 Jun 2009	<i>(beginning) 1 Jan 2009 and (ending) 30 Jun 2009</i>	see (i) below
AASB 2009-11	7 Dec 2009	<i>(beginning) 1 Jan 2013</i>	not compiled*
Erratum	5 Oct 2009	<i>(beginning) 1 Jan 2009 and (ending) 30 Jun 2009</i>	see (j) below
AASB 2010-5	27 Oct 2010	<i>(beginning) 1 Jan 2011</i>	see (k) below

* The amendments made by this Standard are not included in this compilation, which presents the principal Standard as applicable to annual reporting periods beginning on or after 1 January 2011 but before 1 January 2013.

- (a) Entities may elect to apply this Standard to annual reporting periods beginning on or after 1 January 2005 but before 1 January 2006.
- (b) Entities may elect to apply this Standard to annual reporting periods beginning on or after 1 January 2005 but before 1 January 2007.
- (c) Entities may elect to apply this Standard to annual reporting periods beginning on or after 1 January 2005 that end before 31 December 2005.
- (d) Entities may elect to apply this Standard to annual reporting periods beginning on or after 1 January 2005 but before 1 January 2009, provided that AASB 8 *Operating Segments* is also applied to such periods.
- (e) Entities may elect to apply this Standard to annual reporting periods beginning on or after 1 January 2005 but before 1 July 2007.
- (f) Entities may elect to apply this Standard to annual reporting periods beginning on or after 1 January 2005 but before 1 January 2009, provided that AASB 101 *Presentation of Financial Statements* (September 2007) is also applied to such periods.
- (g) Entities may elect to apply this Standard, or its amendments to individual Standards, to annual reporting periods beginning on or after 1 January 2005 but before 1 January 2009.
- (h) Entities may elect to apply this Standard to annual reporting periods beginning on or after 1 January 2005 but before 1 January 2009 and to annual reporting periods beginning on or after 1 January 2009 that end before 30 April 2009.
- (i) Entities may elect to apply this Standard to annual reporting periods beginning on or after 1 January 2005 but before 1 January 2009, provided that AASB 101 *Presentation of Financial Statements* (September 2007) is also applied to such periods, and to annual reporting periods beginning on or after 1 January 2009 that end before 30 June 2009.
- (j) Entities may elect to apply this Erratum to annual reporting periods beginning on or after 1 January 2005, provided that AASB 2009-6 *Amendments to Australian Accounting Standards* is also applied to such periods.
- (k) Entities may elect to apply this Standard to annual reporting periods beginning on or after 1 January 2005 but before 1 January 2011.

Table of Amendments

Paragraph affected	How affected	By ... [paragraph]
1.1	amended amended	AASB 2007-4 [105] AASB 2007-10 [99]
2.1.6	amended	AASB 2005-10 [46]
4.1.2	amended	AASB 2005-12 [5]
5.2.4	deleted	Erratum, Oct 2009 [7]
8.4.2	amended	Erratum, Oct 2009 [8]
9.2.2	amended	AASB 2005-12 [6]
10.1.1	amended	AASB 2009-6 [101]
10.2	amended amended	AASB 2005-4 [26] AASB 2007-4 [109]

Paragraph affected	How affected	By ... [paragraph]
10.2.1	amended	AASB 2005-4 [26]
10.2.2	amended	AASB 2005-4 [27]
10.3	amended	AASB 2007-4 [109]
10.5	amended amended	AASB 2005-4 [28] AASB 2005-12 [7]
10.6	amended amended	AASB 2005-4 [29] AASB 2005-12 [8]
10.7	amended amended	AASB 2005-4 [30] AASB 2008-5 [80]
10.7.2	amended amended	AASB 2005-4 [31] AASB 2008-5 [80]
10.7.3	deleted	AASB 2005-12 [9]
12.1	amended	AASB 2005-4 [32]
12.1.1	renumbered as 12.1.2 added	AASB 2005-4 [33]
12.1.2	amended amended	AASB 2007-4 [109] AASB 2010-5 [64]
14.1.4	amended	AASB 2007-4 [109]
14.1.5	amended	AASB 2007-4 [109]
15.1 (and preceding heading)	amended amended	AASB 2005-10 [47] AASB 2007-4 [109]
15.1.1	amended amended amended	AASB 2005-10 [47] AASB 2007-4 [109] AASB 2009-2 [14]
15.1.2	amended	AASB 2005-10 [49]
15.1.3 (and preceding heading)	added amended	AASB 2005-10 [48] AASB 2007-4 [109]
17.5.2	amended	AASB 2005-12 [10]
17.5.3	amended	AASB 2005-12 [11]
17.5.4	amended	AASB 2005-12 [12]
17.5.5	amended amended amended	AASB 2005-10 [50, 51] AASB 2005-12 [13] AASB 2007-4 [106, 107, 109]
17.13.1	amended	AASB 2005-10 [52]
18.2.1	amended	AASB 2007-4 [109]
18.2.2 (and preceding heading)	deleted	AASB 2007-3 [18]
19.3	amended	AASB 2005-10 [53]
20.1	amended amended	AASB 2007-4 [108] AASB 2010-5 [65]
20.2	added	AASB 2010-5 [66]
Appendix, 16	amended	AASB 2007-4 [109]

General Terminology Amendments

The following amendments are not shown in the above Table of Amendments:

References to ‘financial report(s)’ were amended to ‘financial statements’ by AASB 2007-8 and AASB 2007-10, except in relation to specific Corporations Act references and interim financial reports.

References to ‘income statement’ and ‘balance sheet’ were amended to ‘statement of comprehensive income’ and ‘statement of financial position’ respectively by AASB 2007-8.

References to ‘reporting date’ and ‘each reporting date’ were amended to ‘end of the reporting period’ and ‘the end of each reporting period’ respectively by AASB 2007-8.

COMPARISON WITH IFRS 4

AASB 1038 and IFRS 4

AASB 1038 *Life Insurance Contracts* as amended incorporates the limited improvements to accounting for insurance contracts required by IFRS 4 *Insurance Contracts*.

Life insurers applying this Standard and Australian equivalents to other IFRSs will therefore be compliant with IFRSs.

IFRS 4 is being implemented in Australia using three Accounting Standards:

- (a) AASB 4 *Insurance Contracts* (the Australian equivalent to IFRS 4), which applies to fixed-fee service contracts that meet the definition of an insurance contract;
- (b) AASB 1023 *General Insurance Contracts*, which applies to general insurance contracts; and
- (c) AASB 1038, which applies to life insurance contracts.

IFRS 4 applies to all insurance contracts and financial instruments with discretionary participation features, whereas AASB 1038 applies to life insurance contracts and financial instruments with discretionary participation features, certain aspects of accounting for life investment contracts as well as certain aspects of accounting for assets that back life insurance liabilities or life investment contract liabilities.

Whereas IFRS 4 only includes limited improvements to accounting for insurance contracts and disclosure requirements, AASB 1038 addresses all aspects of the recognition, measurement and disclosure of life insurance contracts.

IFRS 4 allows insurers to use a practice described as “shadow accounting”. The revised AASB 1038 does not allow shadow accounting.

ACCOUNTING STANDARD AASB 1038

The Australian Accounting Standards Board made Accounting Standard AASB 1038 *Life Insurance Contracts* under section 334 of the *Corporations Act 2001* on 15 July 2004.

This compiled version of AASB 1038 applies to annual reporting periods beginning on or after 1 January 2011 but before 1 January 2013. It incorporates relevant amendments contained in other AASB Standards made by the AASB and other decisions of the AASB up to and including 27 October 2010 (see Compilation Details).

ACCOUNTING STANDARD AASB 1038

LIFE INSURANCE CONTRACTS

1 Application

1.1 This Standard applies to each entity that is:

- (a) a *life insurer*; or
 - (b) the parent in a group that includes a life insurer;
- when the entity:**
- (c) is a reporting entity that is required to prepare financial reports in accordance with Part 2M.3 of the Corporations Act;
 - (d) is an other reporting entity and prepares general purpose financial statements; or
 - (e) prepares financial statements that are, or are held out to be, general purpose financial statements.

1.1.1 This Standard applies to the consolidated financial statements of a group in relation to a life insurer subsidiary. Paragraph 4.2 is of particular relevance in this case.

- 1.2 This Standard applies to annual reporting periods beginning on or after 1 January 2005.**
[Note: For application dates of paragraphs changed or added by an amending Standard, see Compilation Details.]
- 1.3 This Standard shall not be applied to annual reporting periods beginning before 1 January 2005.**
- 1.4 The requirements specified in this Standard apply to the financial statements where information resulting from their application is material in accordance with AASB 1031 *Materiality*.**
- 1.4.1 The requirements specified in this Standard apply to the financial statements where information resulting from their application is material, in accordance with AASB 1031. An example of the application of materiality is that disclosures about *life insurance contracts* in the context of a group that includes a life insurer are required where the *life insurance business* is material in the context of the group.
- 1.4.2 For the purposes of AASB 134 *Interim Financial Reporting*, the determination of *policy liabilities* does not necessarily require a full actuarial valuation. In accordance with AASB 134, policy liabilities would need to be determined on a reliable basis, would be based on reasonable estimates, would include a full review of all assumptions, and would not be materially different from the policy liabilities determined by a full actuarial valuation.
- 1.5 When operative, this Standard supersedes AASB 1038 *Life Insurance Business* as approved by public notice in the Commonwealth of Australia Gazette No 546, 19 November 1998.**
- 1.6 AASB 1038 (issued in November 1998) remains applicable until superseded by this Standard.
- 1.7 Notice of this Standard was published in the *Commonwealth of Australia Gazette* No S 294, 22 July 2004.

2 Scope

Life Insurance Contracts

- 2.1 This Standard applies to:**

- (a) life insurance contracts (including *life reinsurance contracts*) that a life insurer issues and to life reinsurance contracts that it holds;
- (b) certain aspects of accounting for *life investment contracts* that a life insurer issues, or, in the case of a life investment contract that is reinsured, that it holds; and
- (c) certain assets backing *life insurance liabilities* or *life investment contract liabilities*.

- 2.1.1 A life insurance contract is:
- (a) an *insurance contract*, as defined by this Standard, regulated under the *Life Insurance Act 1995*, or similar contracts issued by entities operating outside Australia; or
 - (b) a *financial instrument* with a *discretionary participation feature*, which is regulated under the Life Insurance Act, or similar contracts issued by entities operating outside Australia.
- 2.1.2 All other insurance contracts are *general insurance contracts* and are treated under AASB 1023 *General Insurance Contracts* or AASB 4 *Insurance Contracts*.
- 2.1.3 A life insurer is defined as an *insurer* or *reinsurer*, registered under the Life Insurance Act, who issues life insurance contracts or life investment contracts, or a similar entity operating outside Australia.
- 2.1.4 This Standard applies to life insurance contracts issued by friendly societies registered under the Life Insurance Act. Private health insurance contracts that are issued under the *National Health Act 1953* by friendly societies registered under the Life Insurance Act are excluded from the scope of this Standard. Private health insurance contracts issued under the National Health Act are treated under AASB 1023.
- 2.1.5 Life insurers often sell contracts that do not meet the definition of a life insurance contract in this Standard. These contracts are referred to as life investment contracts for the purposes of this Standard. Section 12 addresses the requirements in relation to life investment contracts.
- 2.1.6 A financial instrument with a discretionary participation feature, issued by a life insurer, is defined as a life insurance contract for the purposes of this Standard and in measuring the life insurance

liability, issuers of such instruments would apply paragraph 8.9. AASB 7 *Financial Instruments: Disclosures* addresses additional disclosure in relation to these financial instruments.

Embedded Derivatives

- 2.2.1 AASB 139 *Financial Instruments: Recognition and Measurement* requires an entity to separate some embedded derivatives from their host contract, measure them at *fair value* and include changes in their fair value in the statement of comprehensive income. AASB 139 applies to derivatives embedded in a life insurance contract unless the embedded derivative is itself a life insurance contract.
- 2.2.2 As an exception to the requirement in AASB 139, an insurer need not separate, and measure at fair value, a *policyholder's* option to surrender an insurance contract for a fixed amount (or for an amount based on a fixed amount and an interest rate) even if the exercise price differs from the carrying amount of the host *insurance liability*. However, the requirement in AASB 139 applies to a put option or cash surrender option embedded in an insurance contract if the surrender value varies in response to the change in a financial variable (such as an equity or commodity price or index), or a non-financial variable that is not specific to a party to the contract. Furthermore, that requirement also applies if the holder's ability to exercise a put option or cash surrender option is triggered by a change in such a variable (for example, a put option that can be exercised if a stock market index reaches a specified level).
- 2.2.3 Paragraph 2.2.2 applies equally to options to surrender a financial instrument containing a discretionary participation feature.

Deposit Components

- 2.3.1 Some life insurance contracts contain both an insurance component and a *deposit component*. In some cases, an insurer is permitted to *unbundle* those components.
- 2.3.2 Unbundling is permitted if the insurer can measure the deposit component separately.
- 2.3.3 If a life insurer cannot measure the deposit component separately, an insurer shall not unbundle the deposit component.

- 2.3.4 To unbundle a life insurance contract, a life insurer:
- (a) treats the life insurance component as a life insurance contract in accordance with this Standard;
 - (b) subject to (c), treats the deposit component as a life investment contract in accordance with this Standard; and
 - (c) where the deposit component includes a discretionary participation feature, treats this component as a separate life insurance contract in accordance with this Standard.

3 Purpose of Standard

3.1 The purpose of this Standard is to:

- (a) prescribe the accounting methods to be used for reporting on life insurance contracts consistent with AASB 4 *Insurance Contracts*, and the accounting methods to be used for certain aspects of life investment contracts;
- (b) prescribe the accounting methods to be used in accounting for assets backing life insurance liabilities or life investment contract liabilities; and
- (c) require disclosures about life insurance contracts and disclosures about certain aspects of life investment contracts.

4 Entity and Consolidation Issues

The Life Insurer Entity

4.1 A life insurer shall recognise in its financial statements the assets, liabilities, income, expenses and equity of the entity, whether they are designated as relating to policyholders or to shareholders.

4.1.1 Life insurers may have both policyholders and shareholders with a financial interest in the entity. It is sometimes argued that the interests of policyholders and the interests of shareholders form the bases of separate entities that should prepare separate primary financial statements. However, the view adopted in this Standard is that the interests of policyholders and shareholders are intertwined and form the basis of a single entity. The boundaries of this entity

are defined by control. The directors of the life insurer, in pursuing its objectives, govern the decision-making in relation to the financial and operating policies of the life insurer, which includes the assets of the entity, whether they are designated as relating to policyholders or to shareholders.

- 4.1.2 Equity in a shareholder-owned life insurer will generally comprise only shareholder equity. Although participants in the industry commonly refer to “policyholder retained profits”, in relation to Australian business such amounts are unvested policyholder benefits liabilities. Under Australian legislation, “policyholder retained profits” relating to Australian life insurance business are paid to policyholders, although the timing of the payment is at the discretion of the life insurer. A life insurer may have unallocated surplus that is in the nature of “policyholder equity” if it is a friendly society or has foreign life insurance operations in a jurisdiction that permits retained profits to remain unallocated between policyholders and shareholders, and the policyholders’ component has yet to be determined. A key factor in evaluating the classification as liability or equity of retained profits in a friendly society is the benefit fund rules of each particular benefit fund. If the rules of a benefit fund were such that all retained profits by default are for the benefit of policyholders, such retained profits would be classed as policyholder benefit liabilities.

Financial Statements of Groups that Include a Life Insurer Subsidiary

- 4.2 The consolidated financial statements of a group that includes a life insurer subsidiary shall recognise all of the assets, liabilities, income and expenses of that subsidiary, whether they are designated as relating to the policyholders or to the shareholders of that life insurer. The life insurance contracts, life investment contracts and assets of a life insurer subsidiary and its group recognised in the consolidated financial statements of a group shall be measured in accordance with this Standard.
- 4.2.1 For the same reasons that a life insurer entity is considered to comprise both policyholder and shareholder interests, the view adopted in this Standard is that the parent controls the interests of both policyholders and shareholders and, accordingly, the consolidated financial statements of the group include all of those interests. The parent of a life insurer effectively uses all of the resources of shareholders and policyholders in achieving its objectives and effectively controls policyholder interests for the benefit of both policyholders and shareholders.

4.2.2 Some life insurers are subsidiaries of entities other than life insurers, such as banks, and some are subsidiaries of other life insurers. The character of the parent of a life insurer has no bearing on whether consolidated financial statements, prepared in accordance with paragraph 4.2, are required.

5 Premiums and Claims

5.1 Subject to paragraph 5.2, insurance components of life insurance contract premiums are income and insurance components of life insurance contract claims are expenses and shall be recognised separately in the statement of comprehensive income. Deposit components of life insurance contract premiums are not income and deposit components of life insurance contract claims are not expenses and shall be recognised as changes in life insurance liabilities.

5.2 For life insurance contracts where unbundling of the deposit component is prohibited under paragraph 2.3.3, premiums shall be recognised as income and claims shall be recognised as expenses.

5.2.1 A wide variety of products are offered by life insurers – risk or insurance products, investment products and numerous hybrids of these two products. There will be hybrid products that fall within the scope of this Standard that have both deposit and insurance components.

5.2.2 Premiums may comprise amounts that give rise to:

- (a) income that is earned by providing services, including the bearing of risks; and
- (b) amounts that are akin to deposits and which qualify for recognition as liabilities.

5.2.3 Similarly, claims may comprise amounts that give rise to:

- (a) expenses that are incurred in providing services, including the bearing of risks; and
- (b) amounts that are akin to withdrawals from deposits and which qualify for recognition as reductions in liabilities.

6 Reinsurance

Reporting by Cedants

6.1 A cedant shall recognise:

- (a) premiums ceded to reinsurers as reinsurance expenses;**
- (b) claim recoveries and commissions from reinsurers as income; and**
- (c) claim recoveries and other inflows not yet received from a reinsurer as an asset.**

6.1.1 Life insurers may reinsure some of their business. The cedant remains responsible for the total amount of successful claims of policyholders and, through reinsurance arrangements, may be entitled to recover amounts relating to some of those claims.

6.1.2 *Reinsurance contracts* are considered to be separate transactions from the original life insurance contracts and therefore give rise to separately recognisable amounts. The cedant recognises the gross amount of premiums received in accordance with paragraphs 5.1 and 5.2 and, where portions of the policies are reinsured, the ceded premiums are recognised as expenses (except where they would otherwise be recognised as deposits, if not reinsured). Any recoveries from reinsurers are recognised as income by the cedant (except for any amounts representing the return of deposits). Consistent with this approach, the gross amount of life insurance liabilities is recognised as a liability and claim recoveries not yet received from a reinsurer are recognised as a receivable by the cedant.

Reporting by Reinsurers

6.2 Inwards reinsurance premiums and outwards reinsurance claims shall be recognised by the accepting reinsurer as for premiums and claims in accordance with paragraphs 5.1 and 5.2. Life insurance liabilities assumed shall be recognised as a liability by the accepting reinsurer in accordance with section 8.

6.2.1 From the perspective of the reinsurer, reinsurance premiums accepted are recognised in the same way as the cedant treats the acceptance of premiums under a *direct insurance contract*. Correspondingly, claims paid and payable to direct insurers are

recognised as expenses by the reinsurer. Consistent with these treatments, life insurance liabilities assumed are recognised as a liability by the accepting reinsurer.

7 Impairment of Reinsurance Assets

7.1.1 If a cedant's *reinsurance asset* is impaired, the cedant shall reduce its carrying amount accordingly and recognise that impairment in the statement of comprehensive income. A reinsurance asset is impaired if, and only if:

- (a) there is objective evidence, as a result of an event that occurred after initial recognition of the reinsurance asset, that the cedant may not receive amounts due to it under the terms of the contract; and
- (b) that event has a reliably measurable impact on the amounts that the cedant will receive from the reinsurer.

8 Life Insurance Liabilities

Present Value and Best Estimates

8.1 Obligations arising from life insurance contracts (life insurance liabilities) shall be recognised as liabilities and shall be measured at the end of each reporting period as:

- (a) the net present value of future receipts from and payments to policyholders, including participating benefits, allowing for the possibility of discontinuance before the end of insurance contract periods, plus planned margins of revenues over expenses relating to services yet to be provided to policyholders, on the basis of assumptions that are best estimates and using a discount rate determined in accordance with paragraphs 8.7 or 8.8; or
- (b) the accumulated benefits to policyholders after allowing for the portion of *acquisition costs* expected to be recouped where the result would not be materially different from the application of paragraph 8.1(a).

8.1.1 The participating benefits component of life insurance liabilities includes previously vested benefits and future supportable bonuses. In addition to life insurance liabilities, there may be other liabilities that relate to participating policyholders. Insurance contract benefits

attributable to participating policyholders that are not yet vested with specific policyholders are recognised as liabilities. These are further discussed in section 9.

- 8.1.2 Premiums are generally received in advance of the provision of services to policyholders, including the payment of claims. In return for premiums, life insurers provide services sometimes over long periods. Entering into a life insurance contract is considered to be the event that gives rise to future benefits and present obligations under a policy.
- 8.1.3 Where there are a number of variables relating to future uncertainties, a net present value approach to measuring life insurance liabilities is likely to provide the most appropriate measurement basis. The obligations under these more complex contracts are generally measured as the present value of the expected inflows, such as premiums and fees, and outflows, such as claims and other expenses, based on assumptions relating to whole populations of policyholders, and taking into account applicable taxation.
- 8.1.4 An accumulation approach involves accruing the entitlements in policyholders' records at the end of the reporting period. If the fees expected to be charged by the life insurer to the policyholder in each future reporting period are expected to equal or exceed any expenses incurred by the life insurer, the life insurance liability calculated under the accumulation approach would not be materially different from that obtained using the approach in paragraph 8.1(a).
- 8.1.5 The ultimate cost of meeting claims under many life insurance contracts depends on the frequency of occurrence of particular future events such as death and surrender and in some cases may depend upon other factors such as the future levels of investment returns. Assumptions need to be made about these future events. In order to ensure that life insurance liabilities are measured reliably, such assumptions need to be "best estimates".
- 8.1.6 Best estimate assumptions used in determining the present value of life insurance liabilities, such as the best estimate of the bonus rate, are made on the basis of the assets available to the life insurer at the end of the reporting period and do not include any allowance for future contributions by owners and other funds which may be provided in the future to support the business.

Acquisition Costs

- 8.1.7 Life insurance contracts written in one reporting period often give rise to benefits to the life insurer in subsequent reporting periods, such as future management fees and surrender penalties. Therefore, there are future benefits associated with the costs of acquiring life insurance contracts, and such costs are often substantial.
- 8.1.8 In the life insurance industry, acquisition costs are usually recognised as expenses in the reporting period in which they are incurred. This is generally offset by identifying a portion of the planned margins included in life insurance liabilities as relating to the recovery of acquisition costs. The most useful and reliable information available about the acquisition costs that will give rise to future economic benefits is the amount of future charges for acquisition costs identified as part of the process of determining life insurance liabilities.

Recognition of Planned Margins as Revenues

- 8.2** **Planned margins of revenues over expenses for life insurance contracts shall be recognised in the statement of comprehensive income over the reporting periods during which the services, to which those margins relate, are provided to policyholders, and the revenues, relating to those services, are received.**
- 8.2.1 In setting premium rates, life insurers will include planned margins of revenues over expenses. As noted in paragraph 8.1.2, premiums are generally received in advance of the provision of services to policyholders.
- 8.2.2 In this Standard, planned margins are recognised in the statement of comprehensive income when, and only when, the life insurer has performed the services necessary to establish a valid claim to those margins and has received the revenues relating to those services. To ensure that planned margins are recognised during the reporting period in which the relevant services are provided, life insurance liabilities include a component relating to those margins. These margins are then “released” based on one or more factors or “profit carriers” which correspond to the performance of services and the earning of the margins. In relation to many products, the profit carrier might be premiums or claims.

Differences between Actual and Assumed Experience

- 8.3** Except in relation to investment earnings rate assumptions for participating business, the effect of changes in life insurance liabilities resulting from a difference between actual and assumed experience determined during the reporting period shall be recognised in the statement of comprehensive income as income or expenses in the reporting period in which the changes occur.
- 8.3.1 The assumed patterns and frequencies of events used in determining life insurance liabilities are compared with actual events in each reporting period to assess their accuracy. The effects of differences between actual and assumed experience represents decreases or increases in the expected payments to policyholders and are income or expenses of the reporting period in which the differences occur. For example, where the assumed costs of death claims under a renewable term life product line are greater than the actual costs for a reporting period, income equal to the difference is recognised in the statement of comprehensive income for the current reporting period.
- 8.3.2 The recognition of the net amount of changes in life insurance liabilities resulting from a difference between actual and assumed experience identified during the reporting period as income or an expense is consistent with the use of assumptions that are best estimates as at the end of each reporting period.

Changes to Underlying Assumptions

- 8.4** Assumptions used for measuring life insurance liabilities shall be reviewed for each reporting period. Where the review leads to changes in assumptions, with the exception of new business, the changes shall be deemed to occur at the end of the reporting period.
- 8.4.1 Assumptions used for measuring new business may be deemed to have occurred at the beginning of the reporting period, or at the date of commencement of the new business or at the end of the reporting period.
- 8.4.2 In preparing interim financial reports, the end of the reporting period is the end of the interim reporting period. Accordingly, changes in assumptions are deemed to occur at the end of the interim reporting period.

- 8.5** The financial effects of changes to the assumptions underlying the measurement of life insurance liabilities made during the reporting period shall be recognised in the statement of comprehensive income over the future reporting periods during which services are provided to policyholders, except that:
- (a) any estimated excess of the present value of future expenses over the present value of future revenues for a group of related products arising during the reporting period shall be recognised as an expense of the reporting period;
 - (b) the reversal of an expense previously recognised in accordance with paragraph 8.5(a) shall be recognised as income of the reporting period in which the reversal of the loss is recognised;
 - (c) the effects of a change to adopted discount rates and related economic assumptions caused by changes in investment market and general economic conditions shall be recognised as income or expense of the reporting period in which the change occurs; and
 - (d) material calculation errors and similar errors shall be treated in accordance with AASB 108 *Accounting Policies, Changes in Accounting Estimates and Errors*.
- 8.5.1 The assumptions underlying the measurement of life insurance liabilities are reviewed at the end of each reporting period. Based on past experience and revised expectations about the future, it may become apparent that particular assumptions are not consistent with likely future experience and need to be changed. Such changes are effectively a reassessment of the likely patterns and frequencies of future events. The normal revision of assumptions is not considered to be an error.
- 8.5.2 Apart from the circumstances identified in paragraph 8.5, changes to underlying assumptions are effectively recognised over future reporting periods by adjusting the planned margins included in life insurance liabilities. If the effect of a changed assumption is a decrease in the present value of present obligations to policyholders, the planned margin is increased. If the effect is an increase in the present value of obligations to policyholders, the planned margin is reduced. The overall amount of life insurance liabilities is not affected by these changes to underlying assumptions, as long as the planned margin of revenues over expenses is not eliminated.

- 8.5.3 Material calculation errors and similar errors are treated in accordance with AASB 108. Under AASB 108, except to the extent that it is impracticable to determine either the period-specific effects or the cumulative effect of the error, an entity corrects material prior period errors retrospectively in the first financial statements authorised for issue after their discovery by:
- (a) restating the comparative amounts for the prior period(s) presented in which the error occurred; or
 - (b) if the error occurred before the earliest prior period presented, restating the opening balances of assets, liabilities and equity for the earliest prior period presented.

Changes to Discount Rates and Related Economic Assumptions

- 8.5.4 As with other assumptions, the discount rates and related economic assumptions used in determining life insurance liabilities are reviewed at the end of each reporting period. The effects of a change to adopted discount rates and related economic assumptions caused by changes in investment market and economic conditions are recognised in the reporting period in which the change is made. For a life insurer with a typical spread of investments, if market yields fall, investment values generally rise and the resulting increases in investment values are recognised as income in the reporting period in which they occur. Where the discount rates are adjusted in line with such falls in market rates, life insurance liabilities for such contracts will increase and an expense will be recognised, having an offsetting (but not usually matching) effect on the increased investment values.
- 8.5.5 In relation to participating business (which is discussed in section 9), the effect of a change to the assumptions about discount rates, explained in paragraph 8.5.4, is a result of adjusting the best estimate of life insurance liabilities, including future participating benefits. For example, if market rates of return rise, investment values generally fall and the resulting decreases in investment values are recognised as an expense in the reporting period in which they occur. The fall in investment values will clearly impact on the ability of the life insurer to support future participating benefits. These are likely to be reduced, with an offsetting effect on the reduced investment values.

Liability Adequacy Test

- 8.6** **Life insurers shall perform a *liability adequacy test*.**
- 8.6.1 Situations may arise where the present value of the planned margin of revenues over expenses for a group of related products will be adjusted as a result of changing underlying assumptions to the extent that the planned margin is eliminated and becomes a planned loss. That is, a review of expected future cash flows indicates that the present value of estimated future expenses for a group of related products exceeds the present value of estimated future revenues. In such circumstances, the excess of the present value of expenses over revenues arising during the reporting period is recognised in the statement of comprehensive income in the reporting period in which the assessment is made. The loss reflects a higher present obligation due to adverse future experience, which is now expected in future years. Whilst the future cash flows giving rise to the loss are yet to occur, this treatment is justified on the basis that entering into life insurance contracts is an event that gives rise to a present obligation to meet the expected future claims.
- 8.6.2 A group of related products, for the purpose of calculating the planned margin, performing the liability adequacy test and for disclosure, would be products that have substantially the same contractual terms and were priced on the basis of substantially the same assumptions.
- 8.6.3 In reviewing expected future cash flows, the insurer takes into account both future cash flows under insurance contracts it has issued and the related reinsurance contracts.
- 8.6.4 Where an intangible asset has arisen under paragraph 13.1.1(b), a loss arises when the present value of planned margins of revenues over expenses is less than the related intangible asset. This test is to be performed for groups of related products and the intangible asset is allocated, on a reasonable basis, across these groups. Any loss is recognised as an expense in the statement of comprehensive income. In recognising the loss in the statement of comprehensive income, the life insurer first writes down the related intangible asset and then reflects any additional liability in the life insurance liabilities.

Discount Rates

- 8.7** **To the extent that the benefits under life insurance contracts are not contractually linked to the performance of the assets held, the life insurance liabilities shall be discounted for the time**

value of money using risk-free discount rates based on current observable, objective rates that relate to the nature, structure and term of the future obligations.

- 8.8** **To the extent that the benefits under life insurance contracts are contractually linked to the performance of the assets held, the life insurance liabilities shall be discounted using discount rates based on the market returns on assets backing life insurance liabilities.**
- 8.8.1 In applying paragraph 8.7, the discount rates adopted are not intended to reflect risks inherent in the liability cash flows, which might be allowed for by a reduction in the discount rate in a fair value measurement, nor are they intended to reflect the insurance and other non-financial risks and uncertainties reflected in the life insurance liabilities. The discount rates are not intended to include allowance for the cost of any options or guarantees that are separately measured as part of the life insurance liabilities.
- 8.8.2 In applying paragraph 8.7, typically, government bond rates may be appropriate discount rates for the purposes of this Standard, or they may be an appropriate starting point in determining such discount rates.

Financial Instruments with Discretionary Participation Features

- 8.9** **Financial instruments with discretionary participation features are life insurance contracts for the purposes of this Standard and shall be treated in accordance with paragraphs 8.1 to 8.8 and section 9.**

9 Participating Benefits

- 9.1** Except for transfers from unvested policyholder benefits liabilities, participating benefits vested in policyholders in relation to the reporting period shall be recognised in the statement of comprehensive income as expenses for the reporting period. Such benefits which remain payable as at the end of the reporting period shall be recognised as a component of life insurance liabilities.
- 9.2** Participating benefits that have been allocated in relation to the reporting period to participating policyholders generally, but that have not yet vested in specific policyholders, shall be recognised as expenses for the reporting period. Amounts that

have been allocated to participating policyholders generally, but that have not vested in specific policyholders as at the end of the reporting period, shall be recognised as unvested policyholder benefits liabilities.

- 9.2.1 Some life insurers sell participating business. Participating policyholders are generally eligible to receive the same types of benefits as other policyholders and, in addition, are entitled to participate in the profits relating to participating business. For example, a participating policyholder may receive a low contractually determined rate of return on savings together with term life cover and, in addition, receive benefits that depend on the investment performance of the pool of assets associated with participating policies and on the risk experience of participating policyholders. These additional benefits are often called bonuses and are at the discretion of the life insurer. In some reporting periods the life insurer may withhold a portion of the “profits” from the pool of participating business and recognise these “profits” as unvested policyholder benefits liabilities. In other reporting periods the life insurer may “top up” the vested benefits to participating policyholders. Such vesting of benefits is often done to provide a reasonably level vesting of benefits over time, despite volatility in periodic profits from participating business.
- 9.2.2 It is sometimes argued that the discretionary nature of participating benefits means that they should be treated as appropriations of profit in the same way as dividends to shareholders. Because life insurance liabilities relating to all types of policyholders are recognised as liabilities under the Life Insurance Act (excluding some contracts issued by friendly societies), it is appropriate for the participating benefits vested in relation to the reporting period, other than transfers from unvested policyholder benefits liabilities, to be recognised as expenses of the reporting period.
- 9.2.3 Mutual life insurers are effectively owned by their policyholder members. Nevertheless, the mutual life insurer also has obligations to its policyholders. These obligations are classified as policy liabilities. Benefits vested in a mutual life insurer’s policyholders, other than transfers from unvested policyholder benefits liabilities, are also to be recognised as expenses in the reporting period in which they are vested.
- 9.2.4 For financial reporting purposes, participating benefits vested in policyholders in a reporting period but not yet paid are included in life insurance liabilities and are measured at net present values. In the case of investment account participating business this may be approximately the same as the amount actually allocated to

policyholder accounts. In the case of traditional participating business, there may be a significant difference between the net present value and the face value of the amount vested in policyholders. The net present value is relevant for financial reporting purposes because it is the best estimate of the net present value of the amount that the life insurer expects to pay out in the future using information based on experience up to the end of the reporting period.

- 9.2.5 Where a life insurer “tops up” the vested benefits from previously recognised unvested policyholder benefits liabilities, a transfer between liabilities is recognised. If a life insurer tops up the vested benefits for participating policyholders other than from unvested policyholder benefits liabilities, the amount of the “top up” is recognised as an expense of the reporting period in which the additional benefits are vested.

10 Assets Backing Life Insurance Liabilities or Life Investment Contract Liabilities

Fair Value Approach

- 10.1.1 Paragraphs 10.2 to 10.7.2 address the measurement of certain assets backing life insurance liabilities or life investment contract liabilities. The fair value approach to the measurement of assets backing life insurance liabilities or life investment contract liabilities is consistent with the present value measurement approach for life insurance liabilities required by this Standard and the fair value measurement approach for life investment contract liabilities required by this Standard. Where assets are not backing life insurance liabilities or life investment contract liabilities life insurers apply the applicable accounting standards making use of any measurement choices available.

Measurement

10.2 Financial assets that:

- (a) are within the scope of AASB 139;**
- (b) back life insurance liabilities or life investment contract liabilities; and**
- (c) are permitted to be designated as “at fair value through profit or loss” under AASB 139;**

shall be designated as “at fair value through profit or loss” under AASB 139 on first application of this Standard, or on initial recognition.

- 10.2.1 An insurer applies AASB 139 to its financial assets. Under AASB 139 a financial asset at fair value through profit or loss is a financial asset that meets either of the following conditions:
- (a) it is classified as held for trading; or
 - (b) it is designated as “at fair value through profit or loss” upon initial recognition. An entity may use this designation when it is a contract with an embedded derivative and paragraph 11A of AASB 139 allows the entity to measure the contract as “at fair value through profit or loss”; or when doing so results in more relevant information, because either:
 - (i) it eliminates or significantly reduces a measurement or recognition inconsistency (sometimes referred to as ‘an accounting mismatch’) that would otherwise arise from measuring assets or liabilities or recognising the gains and losses on them on different bases; or
 - (ii) a group of financial assets, *financial liabilities* or both is managed and its performance is evaluated on a fair value basis, in accordance with a documented risk management or investment strategy, and information about the group is provided internally on that basis to the entity’s key management personnel (as defined in AASB 124 *Related Party Disclosures*), for example the entity’s board of directors and chief executive officer.

AASB 1 *First-time Adoption of Australian Accounting Standards* permits entities to designate financial assets as “at fair value through profit or loss” on first application of the Standard.

- 10.2.2 The view adopted in this Standard is that, in all but rare cases, financial assets within the scope of AASB 139 that back life insurance liabilities or life investment contract liabilities are permitted to be measured at fair value through profit or loss under AASB 139. This is because the measurement of life insurance liabilities under this Standard incorporates current information and measuring the financial assets backing these life insurance liabilities

at fair value eliminates or significantly reduces a potential measurement inconsistency which would arise if the assets were classified as available for sale or measured at amortised cost. In addition, under AASB 139, a group of financial assets may be designated as at fair value through profit or loss where it is both managed and its performance is evaluated on a fair value basis, in accordance with a documented risk management or investment strategy. In the vast majority of cases, financial assets backing life investment contract liabilities and financial assets backing life insurance liabilities would be managed and their performance would be evaluated on a fair value basis, in accordance with a documented risk management or investment strategy.

10.3 Investment property that is within the scope of AASB 140
***Investment Property* and that backs life insurance liabilities or life investment contract liabilities shall be measured at fair value using the fair value model under AASB 140.**

10.4 Property, plant and equipment that is within the scope of AASB 116
***Property, Plant and Equipment* and that backs life insurance liabilities or life investment contract liabilities shall be measured using the revaluation model under AASB 116.**

10.4.1 An insurer applies AASB 116 to its property, plant and equipment. Under AASB 116 property includes owner-occupied property and property being constructed or developed for future use as investment property. Under AASB 116, the cost model, for measurement subsequent to initial recognition, is to carry property, plant and equipment at cost. However, AASB 116 has a revaluation model: an entity, subsequent to initial recognition, may carry its property, plant and equipment assets at a revalued amount, being its fair value at the date of the revaluation less any subsequent accumulated depreciation and subsequent accumulated impairment losses.

10.4.2 Those property, plant and equipment assets that are within the scope of AASB 116 and that the insurer considers back life insurance liabilities or life investment contract liabilities are measured using the revaluation model under AASB 116, that is, they are measured at fair value with increases in fair value credited directly to equity and decreases recognised as an expense, unless they reverse a previous increase.

10.5 Investments in associates:

(a) are defined by AASB 128 *Investments in Associates*;

- (b) back either life insurance liabilities or life investment contract liabilities;
 - (c) are held by mutual funds, unit trusts and similar entities including *investment-linked* insurance funds; and
 - (d) are permitted to be designated as “at fair value through profit or loss” under AASB 139;
- shall be designated as “at fair value through profit or loss” under AASB 139 on first application of this Standard, or on initial recognition.**

10.5.1 An insurer applies AASB 128 to its investments in associates. AASB 128 requires investments in associates to be accounted for using the equity method but it does not apply to investments in associates held by mutual funds, unit trusts and similar entities including investment-linked insurance funds that are treated under AASB 139 and designated as “at fair value through profit or loss”.

10.6 Venturers’ interests in jointly controlled entities that:

- (a) are defined by AASB 131 *Interests in Joint Ventures*;
- (b) back either life insurance liabilities or life investment contract liabilities;
- (c) are held by mutual funds, unit trusts and similar entities including investment-linked insurance funds; and
- (d) are permitted to be designated as “at fair value through profit or loss” under AASB 139;

shall be designated as “at fair value through profit or loss” under AASB 139, on first application of this Standard, or on initial recognition.

10.6.1 Entities apply AASB 131 to interests in joint ventures. AASB 131 requires investments in joint ventures to be proportionately consolidated or to be accounted for using the equity method. However, AASB 131 does not apply to venturers’ interests in jointly controlled entities held by mutual funds, unit trusts and similar entities including investment-linked insurance funds that are treated under AASB 139 and designated as “at fair value through profit or loss”.

Separate Financial Statements

10.7 When preparing *separate financial statements*, those investments in subsidiaries, jointly controlled entities and associates that:

- (a) **are within the scope of AASB 127 *Consolidated and Separate Financial Statements*;**
- (b) **back life insurance liabilities or life investment contract liabilities; and**
- (c) **are permitted to be designated as “at fair value through profit or loss” under AASB 139;**

shall be designated as “at fair value through profit or loss” under AASB 139, on first application of this Standard or on initial recognition.

10.7.1 An insurer applies AASB 127 to its investments in subsidiaries, jointly controlled entities and associates when preparing separate financial statements. Under AASB 127, in the parent’s separate financial statements, the investments in subsidiaries, jointly controlled entities and associates can either be accounted for at cost or in accordance with AASB 139.

10.7.2 In the parent’s separate financial statements, investments in subsidiaries, jointly controlled entities and associates, that are within the scope of AASB 127, that the insurer considers back life insurance liabilities or life investment contract liabilities, and that are permitted to be designated as “at fair value through profit or loss” under AASB 139, are designated as “at fair value through profit or loss” under AASB 139, on first application of this Standard or on initial recognition.

11 Imputed Inflows and Outflows

11.1 Subject to paragraph 18.3, a life insurer shall recognise imputed inflows and outflows as income and expenses when, and only when, such imputed flows relate to transactions with external entities.

11.1.1 Life insurers often impute inflows and outflows to different classes of policyholders in order to help ensure that they are treated equitably. For example, a life insurer may own the buildings that it occupies. The funds of a particular group of policyholders are used to acquire and operate such buildings whilst a wider group of

policyholders and shareholders may benefit from the use of the buildings. In the owner-occupied building example, the life insurer imputes an inflow of rent income to the policyholders whose funds are used to acquire and operate the buildings and imputes an outflow of rent cost to the other policyholders and to shareholders.

- 11.1.2 In cases where there are no transactions with external entities, such as with owner-occupied buildings, the life insurer is dealing with itself. There is no transaction or other past event that gives rise to income or an expense. Any inflows and outflows imputed for internal management purposes would be eliminated in preparing external financial statements except in relation to the disaggregated disclosures required by paragraphs 18.1 and 18.2.
- 11.1.3 In some cases, life insurers impute inflows and outflows where external entities are involved. For example, life insurers often lend funds to their employees at concessional rates of interest with the funds being provided by a particular group of policyholders, whilst other policyholders and any shareholders benefit from the services provided by those employees. Because external parties are involved, such imputed inflows and outflows are recognised as income and expenses when they can be reliably measured.

12 Life Investment Contracts

- 12.1 **Life investment contract liabilities, that are permitted to be designated as “at fair value through profit or loss” under AASB 139, shall be designated as “at fair value through profit or loss” under AASB 139 on first application of this Standard, or on initial recognition.**
 - 12.1.1 The view adopted in this Standard is that, in all but rare cases, life investment contract liabilities within the scope of AASB 139 are permitted to be measured at fair value through profit or loss under AASB 139. This is because, when a life investment contract liability is backed by a financial asset measured at fair value through profit or loss, designating the life investment contract liability at fair value through profit or loss eliminates or significantly reduces a potential measurement inconsistency which would arise if the life investment contract liability were measured at amortised cost. In addition, in the vast majority of cases, life investment contract liabilities would be managed and their performance would be evaluated on a fair value basis, in accordance with a documented risk management or investment strategy.

- 12.1.2 Some life investment contracts involve both the origination of one or more financial instruments and the provision of management services. Life investment contract liabilities arise under the financial instrument element and are treated under AASB 139. The management services element, including associated acquisition costs, is treated under AASB 118 *Revenue*; this element may also give rise to assets and liabilities. Life insurers shall refer to paragraph 14(b)(iii) in the illustrative examples accompanying AASB 118.

13 Life Insurance Contracts Acquired in a Business Combination or Portfolio Transfer

- 13.1.1 To comply with AASB 3 *Business Combinations*, an insurer shall, at the acquisition date, measure at fair value the insurance liabilities assumed and *insurance assets* acquired in a business combination. However, an insurer is permitted, but not required, to use an expanded presentation that splits the fair value of acquired insurance contracts into two components:

- (a) a liability measured in accordance with the insurer's accounting policies for life insurance contracts that it issues; and
- (b) an intangible asset, representing the difference between:
 - (i) the fair value of the contractual insurance rights acquired and insurance obligations assumed; and
 - (ii) the amount described in paragraph 13.1.1(a).

The subsequent measurement of this asset shall be consistent with the measurement of the related life insurance liability.

- 13.1.2 An insurer acquiring a portfolio of life insurance contracts may use an expanded presentation described in paragraph 13.1.1.
- 13.1.3 The intangible assets described in paragraphs 13.1.1 and 13.1.2 are excluded from the scope of AASB 136 *Impairment of Assets* and from the scope of AASB 138 *Intangible Assets* in respect of recognition and measurement. AASB 136 and AASB 138 apply to customer lists and customer relationships reflecting the expectation of future contracts that are not part of the contractual insurance rights and contractual insurance obligations that existed at the date of a business combination or portfolio transfer.

- 13.1.4 AASB 138 includes disclosure requirements in relation to this intangible asset.
- 13.1.5 Where a life insurer recognises an intangible asset under paragraph 13.1.1(b), this intangible asset is considered when performing the liability adequacy test referred to in paragraph 8.6.

14 Life Insurance Contracts Disclosure – Explanation of Recognised Amounts

14.1 A life insurer shall disclose information that identifies and explains the amounts in its financial statements arising from life insurance contracts.

- 14.1.1 To comply with paragraph 14.1, a life insurer shall disclose:
 - (a) its accounting policies for life insurance contracts and related assets, liabilities, income and expense;
 - (b) the recognised assets, liabilities, income, expense and cash flows arising from life insurance contracts. Furthermore, if the life insurer is a cedant, it shall disclose:
 - (i) gains and losses recognised in profit or loss at the time of buying reinsurance; and
 - (ii) if the cedant defers and amortises gains and losses arising at the time of buying reinsurance, the amortisation for the period and the amounts remaining unamortised at the beginning and end of the period;
 - (c) the process used to determine the assumptions that have the greatest effect on the measurement of the recognised amounts described in (b). When practicable, a life insurer shall also give quantified disclosure of those assumptions;
 - (d) the effect of changes in assumptions used to measure life insurance assets and life insurance liabilities, showing separately the effect of each change that has a material effect on the financial statements; and
 - (e) reconciliations of changes in life insurance liabilities and reinsurance assets.

- 14.1.2 When applying paragraph 14.1.1(b) and disclosing recognised income arising from life insurance contracts, life insurers would normally disclose income from direct and reinsurance business. In accordance with the principles embodied in this Standard, with the exception of premium revenue recognised in accordance with paragraph 5.1, all revenues are recognised and disclosed before the effects of any transfers to or from life insurance liabilities. Disclosure of the effects of transfers to and from life insurance liabilities is required by paragraph 14.1.1(e).
- 14.1.3 In accordance with the principles embodied in this Standard, with the exception of claims expense recognised in accordance with paragraph 5.1, all expenses are recognised and disclosed before the effects of any transfers to or from life insurance liabilities. Disclosure of the effects of transfers to and from life insurance liabilities is required by paragraph 14.1.1(e).
- 14.1.4 To disclose and explain the expenses arising from life insurance contracts, life insurers would normally disclose:
- (a) outwards reinsurance expense;
 - (b) operating expenses:
 - (i) claims expense;
 - (ii) policy acquisition expenses, separated into material components including commission;
 - (iii) policy maintenance expenses; and
 - (iv) investment management expenses; and
 - (c) the basis for the apportionment of operating expenses between:
 - (i) life insurance contract acquisition;
 - (ii) life insurance contract maintenance;
 - (iii) investment management expenses;
 - (iv) life investment contract acquisition;
 - (v) life investment contract maintenance; and
 - (vi) other expenses.

- 14.1.5 When applying paragraphs 14.1.1(c) and 14.1.1(d) and disclosing the process used to determine assumptions, quantified disclosure of assumptions and the effect of changes in assumptions, the life insurer would normally show the impact of changes in assumptions on future profit margins and life insurance liabilities. The assumptions that would normally have the greatest effect on the measurement of recognised amounts described in paragraph 14.1.1(b) are:
- (a) discount rates and inflation rates;
 - (b) profit carriers used for each major product group;
 - (c) future maintenance and investment management expenses, the rate of inflation applicable to them and any automatic indexation of benefits and premiums;
 - (d) rates of taxation;
 - (e) mortality and morbidity, by reference to the identity of the tables;
 - (f) rates of discontinuance;
 - (g) surrender values;
 - (h) rates of growth of unit prices in respect of unit-linked benefits;
 - (i) rates of future supportable participating benefits; and
 - (j) the crediting policy adopted in determining future supportable participating benefits.
- 14.1.6 When applying paragraph 14.1.1(b) and disclosing the recognised liabilities arising from life insurance contracts, life insurers would normally disclose the following components of life insurance liabilities:
- (a) future policy benefits, including participating benefits;
 - (b) balance of future expenses;
 - (c) planned margins of revenues over expenses;
 - (d) future charges for acquisition costs; and

(e) balance of future revenues.

- 14.1.7 When a life insurer is presenting the disclosures required by paragraphs 14.1.1(c) and 14.1.1(d) the insurer determines the level and extent of disclosure that is appropriate having regard to its circumstances and the qualitative characteristics of financial statements under the *Framework for the Preparation and Presentation of Financial Statements* of understandability, relevance, reliability and comparability.

15 Nature and Extent of Risks Arising from Life Insurance Contracts

- 15.1 A life insurer shall disclose information that enables users of its financial statements to evaluate the nature and extent of risks arising from life insurance contracts.**

- 15.1.1 To comply with paragraph 15.1, a life insurer shall disclose:
- (a) its objectives, policies and processes for managing risks arising from life insurance contracts and the methods used to manage those risks;
 - (b) information about *insurance risk* (both before and after risk mitigation by reinsurance), including information about:
 - (i) sensitivity to insurance risk (see paragraph 15.1.3);
 - (ii) concentrations of insurance risk, including a description of how management determines concentrations and a description of the shared characteristic that identifies each concentration (e.g. type of *insured event*, geographical area, or currency); and
 - (iii) actual claims compared with previous estimates (i.e. claims development). The disclosure about claims development shall go back to the period when the earliest material claim arose for which there is still uncertainty about the amount and timing of the claims payments, but need not go back more than ten years. A life insurer need not disclose this information for claims for which uncertainty about the amount and timing of claims payments is typically resolved within one year;

- (c) information about credit risk, liquidity risk and market risk that paragraphs 31-42 of AASB 7 would require if the life insurance contracts were within the scope of AASB 7. However:
 - (i) a life insurer need not provide the maturity analyses required by paragraphs 39(a) and (b) of AASB 7 if it discloses information about the estimated timing of the net cash outflows resulting from recognised insurance liabilities instead. This may take the form of an analysis, by estimated timing, of the amounts recognised in the statement of financial position; and
 - (ii) if a life insurer uses an alternative method to manage sensitivity to market conditions, such as an embedded value analysis, it may use that sensitivity analysis to meet the requirement in paragraph 40(a) of AASB 7. Such a life insurer shall also provide the disclosures required by paragraph 41 of AASB 7; and
- (d) information about exposures to market risk arising from embedded derivatives contained in a host insurance contract if the life insurer is not required to, and does not, measure the embedded derivatives at fair value.

15.1.2 The claims development disclosure required by paragraph 15.1.1(b)(iii) only applies to classes of business where claims are not typically resolved within one year. For many life insurance products this disclosure would not normally be required. Furthermore, claims development disclosure would not normally be needed for annuity contracts, for example, because each periodic payment arises, in effect, from a separate claim about which there is no uncertainty.

15.1.3 To comply with paragraph 15.1.1(b)(i), a life insurer shall disclose either (a) or (b) as follows:

- (a) a sensitivity analysis that shows how profit or loss and equity would have been affected had changes in the relevant risk variable that were reasonably possible at the end of the reporting period occurred; the methods and assumptions used in preparing the sensitivity analysis; and any changes from the previous period in the methods and assumptions used. However, if a life insurer uses an alternative method to manage sensitivity to market

conditions, such as an embedded value analysis, it may meet this requirement by disclosing that alternative sensitivity analysis and the disclosures required by paragraph 41 of AASB 7; and

- (b) qualitative information about sensitivity, and information about those terms and conditions of life insurance contracts that have a material effect on the amount, timing and uncertainty of the life insurer's future cash flows.

16 Other Disclosures Relating to Life Insurance Contracts

16.1 Where any premiums and any claims are separated into their revenue, expense and change in life insurance liability components in accordance with paragraph 5.1, total premiums and total claims shall be disclosed.

16.1.1 The mix of products written by a life insurer will vary between life insurers. Comparability between life insurers is enhanced by the disclosure of total premiums and total claims.

17 Disclosures Relating to Life Insurance Contracts and Life Investment Contracts

Financial Performance

17.1 The following components of profit or loss shall be shown, separated between policyholder and shareholder interests:

- (a) profit related to movement in life insurance liabilities;
- (b) profit related to movement in life investment contract liabilities and movement in assets or liabilities arising in respect of the management services element of life investment contracts;
- (c) investment earnings on assets in excess of policy liabilities; and
- (d) other items, separated into material components.

17.2 The following components of profit related to movements in life insurance liabilities, life investment contract liabilities and assets

or liabilities arising in respect of the management services element of life investment contracts shall be shown:

- (a) planned margins of revenues over expenses;
- (b) the difference between actual and assumed experience;
- (c) the effects of changes to underlying assumptions;
- (d) loss recognition on groups of related products or reversal of previously recognised losses required by paragraph 8.6; and
- (e) other movements, separated into material components.

Restrictions on Assets

17.3 Restrictions attaching to assets held for the benefit of policyholders shall be disclosed.

17.3.1 There are a number of restrictions on the use of assets invested for policyholders in *statutory funds*. It is important that these restrictions be disclosed so that users of the financial statements can assess their impact.

Guaranteed or Assured Returns of Funds Invested

17.4 A life insurer shall separately disclose:

- (a) in respect of contracts with discretionary participation features, the amount of policy liabilities that relates to the *guaranteed element*;
- (b) in respect of investment-linked contracts, the amount of policy liabilities subject to investment performance guarantees; and
- (c) in respect of any other contracts not addressed in (a) or (b) with a fixed or guaranteed termination value, the amount of the current termination values.

17.4.1 Many life insurers issue contracts that provide some form of guarantee or assurance about the return of funds invested. It is useful for users of life insurers' financial statements to have information about the extent of such guarantees or assurances, since

they involve the life insurer bearing investment risks on behalf of policyholders.

Equity

17.5 The following components of equity shall be disclosed:

- (a) retained earnings wholly attributable to shareholders; and**
- (b) retained earnings where the allocation between participating policyholders and shareholders has yet to be determined.**

17.5.1 Information about the different components of retained earnings is useful in meeting the accountability obligations of the life insurer for the whole business and in showing the relative positions of the major stakeholders.

17.5.2 A life insurer that has issued participating business may have “retained profits” generated from that business. In relation to Australian participating policyholders, these “retained profits” are liabilities in accordance with the Life Insurance Act. However, in friendly societies or foreign life insurance operations, “retained profits” may exist which have yet to be allocated between policyholders and shareholders. Such “retained profits” are separately disclosed. It is relevant to note that “retained profits” directly attributable to shareholders may reside in both statutory funds and a shareholder fund.

17.5.3 Where, in friendly societies or foreign life operations, “retained profits” exist, which have yet to be allocated and which are treated as equity then the insurer applies paragraphs 17.5.4 and 17.5.5 to this participating business.

17.5.4 Where a life insurance contract with a discretionary participation feature is issued by a friendly society or foreign life operation, the issuer of such a contract:

- (a) may, but need not, recognise the guaranteed element separately from the discretionary participation feature. If the issuer does not recognise them separately, it classifies the whole contract as a liability. If the issuer classifies them separately, it classifies the guaranteed element as a liability;**

- (b) shall, if it recognises the discretionary participation feature separately from the guaranteed element, classify that feature as either a liability or a separate component of equity. This Standard does not specify how the issuer determines whether that feature is a liability or equity. The issuer may split that feature into liability and equity components and shall use a consistent accounting policy for that split. The issuer shall not classify that feature as an intermediate category that is neither liability nor equity;
 - (c) may recognise all premiums received as revenue without separating any portion that relates to the equity component. The resulting changes in the guaranteed element and in the portion of the discretionary participation feature classified as a liability shall be recognised in profit or loss. If part of the entire discretionary participation feature is classified in equity, a portion of profit or loss may be attributable to that feature (in the same way that a portion may be attributable to minority interests). The issuer shall recognise the portion of profit or loss attributable to any equity component of a discretionary participation feature as an allocation of profit or loss, not as expense or income (see AASB 101 *Presentation of Financial Statements*);
 - (d) shall, if the contract contains an embedded derivative within the scope of AASB 139, apply AASB 139 to that embedded derivative; and
 - (e) shall, in all respects not described in paragraphs 14-20 of AASB 4 and paragraphs 34(a)-(d) of AASB 4, continue its existing accounting policies for such contracts, unless it changes those accounting policies in a way that complies with paragraphs 21-30 of AASB 4.
- 17.5.5 The requirements in paragraph 17.5.4 also apply to a life investment contract issued by a friendly society or foreign life insurer that contains a discretionary participation feature. In addition:
- (a) if the issuer classifies the entire discretionary participation feature as a liability, it shall apply the liability adequacy test in paragraph 8.6 to the whole contract (i.e. both the guaranteed element and the discretionary participation feature). The issuer need not determine the amount that would result from applying AASB 139 to the guaranteed element;

- (b) if the issuer classifies part or all of the discretionary participation feature as a separate component of equity, the liability recognised for the whole contract shall not be less than the amount that would result from applying AASB 139 to the guaranteed element. That amount shall include the intrinsic value of an option to surrender the contract, but need not include its time value if paragraph 2.2.2 exempts that option from measurement at fair value. The issuer need not disclose the amount that would result from applying AASB 139 to the guaranteed element, nor need it present that amount separately. Furthermore, the issuer need not determine that amount if the total liability recognised is clearly higher;
- (c) although these contracts are financial instruments, the issuer may continue to recognise the premiums for those contracts as revenue and recognise as an expense the resulting increase in the carrying amount of the liability, subject to the requirements of paragraphs 5.1 and 5.2; and
- (d) although these contracts are financial instruments, an issuer applying paragraph 20(b) of AASB 7 to contracts with a discretionary participation feature shall disclose the total interest expense recognised in profit or loss, but need not calculate such interest expense using the effective interest method.

Solvency Information

17.8 A life insurer shall disclose the regulatory solvency position of each statutory fund. A group shall disclose the regulatory solvency position of each life insurer in the group.

17.8.1 Under the Life Insurance Act, life insurers are required to hold reserves in excess of the amount of policy liabilities. These additional reserves are necessary to support the life insurer's capital requirements under its business plan and to provide a cushion against adverse experience in managing long-term risks. Because solvency is an important aspect of a life insurer's financial position, information about it is useful to users of financial statements.

Managed Funds and Other Fiduciary Activities

17.9 The nature and amount of the life insurer's activities relating to managed funds and trust activities, and whether arrangements

exist to ensure that such activities are managed independently from its other activities, shall be disclosed.

Actuarial Information

17.10 The following shall be disclosed in notes:

- (a) if other than the end of the reporting period, the effective date of the actuarial report on policy liabilities and solvency reserves;
- (b) the name and qualifications of the actuary;
- (c) whether the amount of policy liabilities has been determined in accordance with the requirements of the Life Insurance Act; and
- (d) whether the actuary is satisfied as to the accuracy of the data from which the amount of policy liabilities has been determined.

Assets Backing Life Insurance Liabilities or Life Investment Contract Liabilities

17.11 An insurer shall disclose the process used to determine which assets back life insurance liabilities or life investment contract liabilities.

Other Disclosures

17.12.1 Australian Accounting Standards and the Life Insurance Act differ in their requirements. Accordingly, life insurers are encouraged to disclose a reconciliation between:

- (a) the profit for the reporting period reported under Australian Accounting Standards and the profit for the reporting period reported under the Life Insurance Act; and
- (b) the retained earnings at the end of the reporting period in accordance with Australian Accounting Standards and the retained earnings at the end of the reporting period in accordance with the Life Insurance Act.

17.13.1 This Standard addresses disclosure requirements in relation to life insurance contracts and certain disclosure requirements in relation to life investment contracts. Other Australian Accounting Standards

may be relevant to a life insurer's financial statements. In particular, the disclosure requirements in AASB 7 would normally be relevant to life insurers.

18 Disaggregated Information

Statutory Funds and the Shareholder Fund

18.1 For each statutory fund and for the shareholder fund the following shall be disclosed:

- (a) investment assets;**
- (b) other assets;**
- (c) life insurance liabilities;**
- (d) life investment contract liabilities and assets or liabilities arising in respect of the management services element of life investment contracts;**
- (e) liabilities other than life insurance liabilities or life investment contract liabilities;**
- (f) retained earnings, showing the amount directly attributable to shareholders and other retained earnings;**
- (g) premium revenue split between life insurance contracts and life investment contracts;**
- (h) investment income;**
- (i) claims expense split between life insurance contracts and life investment contracts;**
- (j) other operating expenses;**
- (k) investment income paid or allocated to policyholders;**
- (l) profit or loss before tax;**
- (m) profit or loss after tax; and**
- (n) transfers to or from other funds.**

- 18.1.1 Disaggregated information for each life fund and the shareholder fund is useful because, under Australian legislation, each life insurer may have more than one fund and, in general, the assets of each life fund are only available to meet the liabilities and expenses of that life fund.

Investment-linked and Non-investment-linked Business

- 18.2 A life insurer shall disclose the information required by paragraphs 18.1(a) to 18.1(m) disaggregated between those amounts relating to investment-linked business and those relating to *non-investment-linked business*.**

- 18.2.1 The risks and potential rewards for a life insurer differ substantially as between investment-linked business and non-investment-linked business. Accordingly, disaggregated information about these is considered to be useful in assessing the financial performance and financial position of a life insurer. The information required by paragraph 18.2 is for the entity's life insurance business as a whole; it is not required for each life fund.

- 18.2.2 [Deleted by the AASB]

Imputed Inflows and Outflows

- 18.3 Disclosures required by paragraphs 18.1 and 18.2 shall include all imputed inflows and outflows as income and expenses where they can be reliably measured.**

- 18.3.1 As discussed in paragraph 11.1.1, life insurers often impute inflows and outflows to different classes of policyholders and shareholders to help ensure that they are treated equitably. Whereas, in relation to the statement of comprehensive income and the statement of financial position, paragraph 11.1 only permits the recognition of imputed inflows and outflows relating to transactions with external parties, paragraph 18.3 requires all imputed inflows and outflows to be included in the disaggregated information to reflect the performance of each segment of the life insurer.

19 Transitional Provisions

- 19.1 An entity need not apply the disclosure requirements in this Standard to comparative information that relates to annual periods beginning before 1 January 2005, except for the disclosures required by paragraphs 14.1.1(a) and 14.1.1(b)**

about accounting policies, and recognised assets, liabilities, income and expense and cash flows.

- 19.2 When an entity applies the disclosure requirements in this Standard to comparative information that relates to annual periods beginning before 1 January 2005, if it is impracticable to apply a particular requirement of this Standard to comparative information that relates to annual periods beginning before 1 January 2005, an entity shall disclose that fact. AASB 108 explains the term “impracticable”.
- 19.3 In applying paragraph 15.1.1(b)(iii), an entity need not disclose information about claims development that occurred earlier than five years before the end of the first annual reporting period in which it applies this Standard. Furthermore, if it is impracticable, when an entity first applies this Standard, to prepare information about claims development that occurred before the beginning of the earliest period for which an entity presents full comparative information that complies with this Standard, the entity shall disclose that fact.
- 19.3.1 There are also references to transitional measurement requirements in paragraphs 10.2-10.2.2, 10.5, 10.6, 10.7, 10.7.2 and 12.1.

20 Definitions

20.1 In this Standard:

acquisition costs means the fixed and variable costs of acquiring new business, including commissions and similar distribution costs, and costs of accepting, issuing and initially recording policies

(Acquisition costs relate to the costs incurred in acquiring specific life insurance contracts during the reporting period. They do not include the general growth and development costs incurred by a life insurer.)

cedant means the policyholder under a life reinsurance contract

deposit component means a contractual component that is not accounted for as a derivative under AASB 139 *Financial Instruments: Recognition and Measurement* and would be within the scope of AASB 139 if it were a separate instrument

direct insurance contract means an insurance contract that is not a reinsurance contract

discretionary participation feature means a contractual right to receive, as a supplement to *guaranteed benefits*, additional benefits:

- (a) that are likely to be a significant portion of the total contractual benefits;
- (b) whose amount or timing is contractually at the discretion of the issuer; and
- (c) that are contractually based on:
 - (i) the performance of a specified pool of contracts or a specified type of contract;
 - (ii) realised and/or unrealised investment returns on a specified pool of assets held by the issuer; or
 - (iii) the profit or loss of the company, fund or other entity that issues the contract

fair value means the amount for which an asset could be exchanged, or a liability settled, between knowledgeable, willing parties in an arm's length transaction

financial risk means the risk of a possible future change in one or more of a specified interest rate, financial instrument price, commodity price, foreign exchange rate, index of prices or rates, a credit rating or credit index or other variable, provided in the case of a non-financial variable that the variable is not specific to a party to the contract

general insurance contract means an insurance contract that is not a life insurance contract

guaranteed benefits means payments or other benefits to which a particular policyholder or investor has an unconditional right that is not subject to the contractual discretion of the issuer

guaranteed element means an obligation to pay guaranteed benefits included in a contract that contains a discretionary participation feature

insurance asset means an insurer's net contractual rights under an insurance contract

insurance contract means 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

(Refer to Appendix for additional guidance in applying this definition.)

insurance liability means an insurer's net contractual obligations under an insurance contract

insurance risk means risk, other than financial risk, transferred from the holder of a contract to the issuer

insured event means an uncertain future event covered by an insurance contract and creates insurance risk

insurer means the party that has an obligation under an insurance contract to compensate a policyholder if an insured event occurs

investment-linked means where the benefit amount under a life insurance contract or life investment contract is directly linked to the market value of the investments held in the particular investment-linked fund

liability adequacy test means an assessment of whether the carrying amount of an insurance liability needs to be increased (or the carrying amount of the related deferred acquisition costs or related intangible assets decreased) based on a review of future cash flows

life insurance business means all life insurance contract and life investment contract business conducted by a life insurer

life insurance contract means an insurance contract, or a financial instrument with a discretionary participation feature, regulated under the Life Insurance Act, and similar contracts issued by entities operating outside Australia

(Private health insurance contracts issued under the *National Health Act 1953* but written by friendly societies registered under the Life Insurance Act, are not life insurance contracts but are general insurance contracts.)

life insurance liability means a life insurer's net contractual obligations under a life insurance contract

life insurer means an entity registered under the *Life Insurance Act 1995*, that issues life insurance contracts or life investment contracts, and similar entities operating outside Australia

life investment contract means a contract which is regulated under the *Life Insurance Act 1995* but which does not meet the definition of a life insurance contract in this Standard, and similar contracts issued by entities operating outside Australia

life investment contract liability means a life insurer's net contractual obligations under a life investment contract which arise under the financial instrument component of a life investment contract

life reinsurance contract means a life insurance contract issued by one insurer (the reinsurer) to compensate another insurer (the cedant) for losses on one or more contracts issued by the cedant

non-investment-linked business means life insurance business other than investment-linked business

policyholder means a party that has a right to compensation under an insurance contract if an insured event occurs

policy liability means a liability that arises under a life insurance contract or a life investment contract including any asset or liability arising in respect of the management services element of a life investment contract

reinsurance assets means a cedant's net contractual rights under a reinsurance contract

reinsurance contract means an insurance contract issued by one insurer (the reinsurer) to compensate another insurer (the cedant) for losses on one or more contracts issued by the cedant

reinsurer means the party that has an obligation under a reinsurance contract to compensate a cedant if an insured event occurs

separate financial statements are those presented by a parent, an investor in an associate or a venturer in a jointly controlled entity, in which the investments are accounted for on the basis of the direct equity interest rather than on the basis of the reported results and net assets of the investees

statutory fund means a statutory fund under the *Life Insurance Act 1995*

unbundle means to account for the components of a contract as if they were separate contracts

- 20.2 The following terms are defined in AASB 132 *Financial Instruments: Presentation* and are used in this Standard with the meaning specified in AASB 132:
- (a) financial asset;
 - (b) financial instrument; and
 - (c) financial liability.

APPENDIX

DEFINITION OF AN INSURANCE CONTRACT

This appendix is an integral part of AASB 1038.

- 1 This Appendix gives guidance on the definition of an insurance contract in section 20 of this Standard. It addresses the following issues:
 - (a) the term ‘uncertain future event’ (paragraphs 2-4);
 - (b) insurance risk and other risks (paragraphs 5-14);
 - (c) examples of life insurance contracts (paragraphs 15-18);
 - (d) significant insurance risk (paragraphs 19-25); and
 - (e) changes in the level of insurance risk (paragraphs 26 and 27).

Uncertain Future Event

- 2 Uncertainty (or risk) is the essence of an insurance contract. Accordingly, at least one of the following is uncertain at the inception of an insurance contract:
 - (a) whether an insured event will occur;
 - (b) when it will occur; or
 - (c) how much the insurer will need to pay if it occurs.
- 3 In some insurance contracts, the insured event is the discovery of a loss during the term of the contract, even if the loss arises from an event that occurred before the inception of the contract. In other insurance contracts, the insured event is an event that occurs during the term of the contract, even if the resulting loss is discovered after the end of the contract term.
- 4 Some insurance contracts cover events that have already occurred, but whose financial effect is still uncertain. An example is a reinsurance contract that covers the direct insurer against adverse development of claims already reported by policyholders. In such contracts, the insured event is the discovery of the ultimate cost of those claims.

Distinction between Insurance Risk and Other Risks

- 5 The definition of an insurance contract refers to insurance risk, which this Standard defines as risk, other than *financial risk*, transferred from the holder of a contract to the issuer. A contract that exposes the issuer to financial risk without significant insurance risk is not an insurance contract.
- 6 The definition of financial risk in section 20 of this Standard includes a list of financial and non-financial variables. That list includes non-financial variables that are not specific to a party to the contract, such as an index of earthquake losses in a particular region or an index of temperatures in a particular city. It excludes non-financial variables that are specific to a party to the contract.
- 7 Some contracts expose the issuer to financial risk, in addition to significant insurance risk. For example, many life insurance contracts both guarantee a minimum rate of return to policyholders (creating financial risk) and promise death benefits that at some times significantly exceed the policyholder's account balance (creating insurance risk in the form of mortality risk). Such contracts are insurance contracts.
- 8 Under some contracts, an insured event triggers the payment of an amount linked to a price index. Such contracts are insurance contracts, provided the payment that is contingent on the insured event can be significant. For example, a life-contingent annuity linked to a cost-of-living index transfers insurance risk because payment is triggered by an uncertain event – the survival of the annuitant. The link to the price index is an embedded derivative, but it also transfers insurance risk. If the resulting transfer of insurance risk is significant, the embedded derivative meets the definition of an insurance contract, in which case it need not be separated and measured at fair value (see paragraph 2.2.1 of this Standard).
- 9 The definition of insurance risk refers to risk that the insurer accepts from the policyholder. In other words, insurance risk is a pre-existing risk transferred from the policyholder to the insurer. Thus, a new risk created by the contract is not insurance risk.
- 10 The definition of an insurance contract refers to an adverse effect on the policyholder. The definition does not limit the payment by the insurer to an amount equal to the financial impact of the adverse event. For example, the definition does not limit payment under a term life insurance contract to the financial loss suffered by the

deceased's dependants, nor does it preclude the payment of predetermined amounts to quantify the loss caused by death or an accident.

- 11 Some contracts require a payment if a specified uncertain event occurs, but do not require an adverse effect on the policyholder as a precondition for payment. Such a contract is not an insurance contract even if the holder uses the contract to mitigate an underlying risk exposure. For example, if the holder uses a derivative to hedge an underlying non-financial variable that is correlated with cash flows from an asset of the entity, the derivative is not an insurance contract because payment is not conditional on whether the holder is adversely affected by a reduction in the cash flows from the asset. Conversely, the definition of an insurance contract refers to an uncertain event for which an adverse effect on the policyholder is a contractual precondition for payment. This contractual precondition does not require the insurer to investigate whether the event actually caused an adverse effect, but permits the insurer to deny payment if it is not satisfied that the event caused an adverse effect.
- 12 Lapse or persistency risk (i.e. the risk that the counterparty will cancel the contract earlier or later than the issuer had expected in pricing the contract) is not insurance risk because the payment to the counterparty is not contingent on an uncertain future event that adversely affects the counterparty. Similarly, expense risk (i.e. the risk of unexpected increases in the administrative costs associated with the servicing of a contract, rather than in costs associated with insured events) is not insurance risk because an unexpected increase in expenses does not adversely affect the counterparty.
- 13 Therefore, a contract that exposes the issuer to lapse risk, persistency risk or expense risk is not an insurance contract unless it also exposes the issuer to insurance risk. However, if the issuer of that contract mitigates that risk by using a second contract to transfer part of that risk to another party, the second contract exposes that other party to insurance risk.
- 14 An insurer can accept significant insurance risk from the policyholder only if the insurer is an entity separate from the policyholder. In the case of a mutual insurer, the mutual accepts risk from each policyholder and pools that risk. Although policyholders bear that pooled risk collectively in their capacity as owners, the mutual has still accepted the risk that is the essence of an insurance contract.

Examples of Life Insurance Contracts

- 15 The following are examples of contracts that are life insurance contracts, if the transfer of insurance risk is significant:
- (a) life insurance contracts (although death is certain, it is uncertain when death will occur or, for some types of life insurance, whether death will occur within the period covered by the insurance);
 - (b) life-contingent annuities and pensions (i.e. contracts that provide compensation for the uncertain future event – the survival of the annuitant or pensioner – to assist the annuitant or pensioner in maintaining a given standard of living, which would otherwise be adversely affected by his or her survival); and
 - (c) life reinsurance contracts.
- 16 The following are examples of items that are not life insurance contracts:
- (a) investment contracts that are governed under the *Life Insurance Act 1995* but do not expose the insurer to significant insurance risk, for example life insurance contracts in which the insurer bears no significant mortality risk (such contracts are non-insurance financial instruments or service contracts: see paragraphs 17 and 18 of this Appendix);
 - (b) contracts that have the legal form of insurance, but pass all significant insurance risk back to the policyholder through non-cancellable and enforceable mechanisms that adjust future payments by the policyholder as a direct result of insured losses, for example some financial reinsurance contracts or some group contracts (such contracts are normally non-insurance financial instruments or service contracts: see paragraphs 17 and 18 of this Appendix);
 - (c) self-insurance, in other words retaining a risk that could have been covered by insurance (there is no insurance contract because there is no agreement with another party);
 - (d) contracts (such as gambling contracts) that require a payment if a specified uncertain future event occurs, but do not require, as a contractual precondition for payment, that the event adversely affects the policyholder. However, this

- does not preclude the specification of a predetermined payout to quantify the loss caused by a specified event such as death or an accident;
- (e) derivatives that expose one party to financial risk but not insurance risk, because they require that party to make payment based solely on changes in one or more of a specified interest rate, financial instrument price, commodity price, foreign exchange rate, index of prices or rates, credit rating or credit index or other variable, provided in the case of a non-financial variable that the variable is not specific to a party to the contract (see AASB 139); and
 - (f) general insurance contracts.
- 17 If the contracts described in paragraph 16 of this Appendix create financial assets or financial liabilities, they are within the scope of AASB 139. Among other things, this means that the parties to the contract use what is sometimes called deposit accounting, which involves the following:
- (a) one party recognises the consideration received as a financial liability, rather than as revenue; and
 - (b) the other party recognises the consideration paid as a financial asset, rather than as an expense.
- 18 If the contracts described in paragraph 16 of this Appendix do not create financial assets or financial liabilities, AASB 118 applies. Under AASB 118, revenue associated with a transaction involving the rendering of services is recognised by reference to the stage of completion of the transaction if the outcome of the transaction can be estimated reliably.

Significant Insurance Risk

- 19 A contract is an insurance contract only if it transfers significant insurance risk. Paragraphs 5 to 14 of this Appendix discuss insurance risk. The following paragraphs discuss the assessment of whether insurance risk is significant.
- 20 Insurance risk is significant if, and only if, an insured event could cause an insurer to pay significant additional benefits in any scenario, excluding scenarios that lack commercial substance (i.e. have no discernible effect on the economics of the transaction). If significant additional benefits would be payable in scenarios that

have commercial substance, the condition in the previous sentence may be met even if the insured event is extremely unlikely or even if the expected (i.e. probability-weighted) present value of contingent cash flows is a small proportion of the expected present value of all the remaining contractual cash flows.

21 The additional benefits described in paragraph 20 of this Appendix refer to amounts that exceed those that would be payable if no insured event occurred (excluding scenarios that lack commercial substance). Those additional amounts include claims handling and claims assessment costs, but exclude:

- (a) the loss of the ability to charge the policyholder for future services. For example, in an investment-linked life insurance contract, the death of the policyholder means that the insurer can no longer perform investment management services and collect a fee for doing so. However, this economic loss for the insurer does not reflect insurance risk, just as a mutual fund manager does not take on insurance risk in relation to the possible death of the client. Therefore, the potential loss of future investment management fees is not relevant in assessing how much insurance risk is transferred by a contract;
- (b) waiver on death of charges that would be made on cancellation or surrender. Because the contract brought those charges into existence, the waiver of these charges does not compensate the policyholder for a pre-existing risk. Hence, they are not relevant in assessing how much insurance risk is transferred by a contract;
- (c) a payment conditional on an event that does not cause a significant loss to the holder of the contract. For example, consider a contract that requires the issuer to pay one million currency units if an asset suffers physical damage causing an insignificant economic loss of one currency unit to the holder. In this contract, the holder transfers to the insurer the insignificant risk of losing one currency unit. At the same time, the contract creates non-insurance risk that the issuer will need to pay 999,999 currency units if the specified event occurs. Because the issuer does not accept significant insurance risk from the holder, this contract is not an insurance contract; and
- (d) possible reinsurance recoveries. The insurer accounts for these separately.

- 22 An insurer shall assess the significance of insurance risk contract by contract, rather than by reference to materiality to the financial statements¹. Thus, insurance risk may be significant even if there is a minimal probability of material losses for a whole book of contracts. This contract-by-contract assessment makes it easier to classify a contract as an insurance contract. However, if a relatively homogeneous book of small contracts is known to consist of contracts that all transfer insurance risk, an insurer need not examine each contract within that book to identify a few non-derivative contracts that transfer insignificant insurance risk.
- 23 It follows from paragraphs 20 to 22 of this Appendix that if a contract pays a death benefit exceeding the amount payable on survival, the contract is an insurance contract unless the additional death benefit is insignificant (judged by reference to the contract rather than to an entire book of contracts). As noted in paragraph 21(b) of this Appendix, the waiver on death of cancellation or surrender charges is not included in this assessment if this waiver does not compensate the policyholder for a pre-existing risk. Similarly, an annuity contract that pays out regular sums for the rest of a policyholder's life is an insurance contract, unless the aggregate life contingent payments are insignificant.
- 24 Paragraph 20 of this Appendix refers to additional benefits. These additional benefits could include a requirement to pay benefits earlier if the insured event occurs earlier and the payment is not adjusted for the time value of money. An example is whole life insurance for a fixed amount (in other words, insurance that provides a fixed death benefit whenever the policyholder dies, with no expiry date for the cover). It is certain that the policyholder will die, but the date of death is uncertain. The insurer will suffer a loss on those individual contracts for which policyholders die early, even if there is no overall loss on the whole book of contracts.
- 25 If an insurance contract is unbundled into a deposit component and an insurance component, the significance of insurance risk transfer is assessed by reference to the insurance component. The significance of insurance risk transferred by an embedded derivative is assessed by reference to the embedded derivative.

¹ For this purpose, contracts entered into simultaneously with a single counterparty (or contracts that are otherwise interdependent) form a single contract.

Changes in the Level of Insurance Risk

- 26 Some contracts do not transfer any insurance risk to the issuer at inception, although they do transfer insurance risk at a later time. For example, consider a contract that provides a specified investment return and includes an option for the policyholder to use the proceeds of the investment on maturity to buy a life-contingent annuity at the current annuity rates charged by the insurer to other new annuitants when the policyholder exercises the option. The contract transfers no insurance risk to the issuer until the option is exercised, because the insurer remains free to price the annuity on a basis that reflects the insurance risk transferred to the insurer at that time. However, if the contract specifies the annuity rates (or a basis for setting the annuity rates), the contract transfers insurance risk to the issuer at inception.
- 27 A contract that qualifies as an insurance contract remains an insurance contract until all rights and obligations are extinguished or expire.



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1 SUMMARY

- 1.1 This Information Note was prepared by the Life Financial Reporting Sub-committee (LFRSC) on behalf of the Life Insurance & Wealth Management Practice Committee (LIWMPC) of the Institute of Actuaries of Australia (Institute). This Information Note does not represent a Professional Standard or a Practice Guideline of the Institute.

It has been prepared for the purposes of providing information and generating discussion on aspects of asymmetric risk that may lead to divergent practices (for financial reporting and other purposes) within the Institute's membership.

Feedback from Institute Members is encouraged and should be forwarded to the LFRSC.

This Information Note was issued in October 2011 and will be reviewed periodically. It replaces the Information Note issued in April 2008.

- 1.2 Asymmetric risks are complex, and the importance of understanding their nature is set out in Section 3, with examples of asymmetric risk given in Appendix 1.

Allowance for Asymmetric Risks is important for Members providing actuarial advice across a wide range of life insurance practice areas, in particular determination of policy liabilities, economic valuations, product pricing, bonus philosophy and setting investment policy. The existing guidance and legislation is set out in Section 4.

Section 5 discusses alternative valuation methodologies, and raises the question of consistency between the valuation placed on the assets and the various components of the liabilities. There is some debate about the extent to which consistency is possible, which is discussed in Appendix 2.

The interaction of best estimates, risk margins and allowances for volatility are covered in Section 6 including reference to global market consistent valuation developments. Some examples of possible inconsistencies are given in Appendix 3.

Section 7 covers current practices in respect of defining the asymmetric risk valuations for participating business, including interaction with vested benefits, requirement to use best estimate assumptions and suitable option pricing techniques. Appendix 4 includes further discussion on the asymmetric risk valuations for participating business, including policyholder retained profits, investment equalisation reserves, capital injections and bonus philosophy. Examples are given for when the liability adequacy test is passed and when it is



failed. The appendix includes discussion of the impact of profit volatility on future profit margins and on shareholder profits in the short and long term.

The last four sections cover capital calculations and tail distributions, management actions, policyholder behaviour and communicating the results respectively.

2 BACKGROUND

2.1 Asymmetric Risks

Asymmetric risks arise where cash flows or values have an asymmetrical statistical distribution. Common examples include a skewed distribution where the dispersion of outcomes is greater for negative results than for positive ones and an embedded option which generates a "kinked" payoff.

Where the outcome function is non-linear, the outcome from a deterministic projection of the mean assumption values may misstate the mean value of the outcome function. For example, an out-of-the-money option would often be valued at zero under this approach.

Understanding asymmetry is important when determining best estimate liabilities under APRA's Valuation Standard (LPS1.04) and other calculations which require mean outcome values.

2.2 Embedded Options

As noted above, the embedded options that exist in certain types of life insurance products are a particular example of a possible asymmetric outcome (although sometimes the terms are used interchangeably). Some embedded options are "auto exercise" (such as a guaranteed minimum crediting rate for a non-par investment account product) whilst others are exercised by specific policyholder actions (such as a conversion option with guaranteed terms).

The assessment of asymmetric risks arising from specific policyholder actions may be more complicated as the outcome function depends on whether policyholders exercise their options and whether they are exercised in an optimal manner.

3 NATURE OF ASYMMETRIC RISKS

3.1 Identifying and Understanding Asymmetric Risks

Asymmetric risks are common to many life insurance products and are a key consideration for Members when providing actuarial advice across a wide range



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of areas (for example, determination of policy liabilities, economic valuations, product pricing, bonus philosophy/declaration, setting investment policy, evaluating reinsurance, prudential reserving and calculating economic capital). Not all of these areas are explicitly covered by the current Professional Standards, Practice Guideline and legislation discussed in Section 4.

To identify and develop an understanding of key asymmetric risks, the Member may need to consider:

- ▶ options and guarantees granted to policyholders, either explicitly in the policy document or implicitly through policyholder reasonable expectations;
- ▶ the operation of participating contracts and other forms of profit sharing and rebating;
- ▶ discretions available to the life insurer within policy design and legislative requirements. These might be constrained by policyholders' reasonable benefit expectations; and
- ▶ guaranteed crediting rates in non-participating investment account business and unit price guarantees in investment-linked business.

This Information Note is intended to help Members decide whether they have sufficient information and have undertaken adequate analysis to identify and understand all asymmetric risks that are material within the context of the calculation or assignment being undertaken.

More examples of asymmetric risks are provided in Appendix 1.

3.2 Asymmetric Assumptions

Many assumptions are slightly asymmetric because the value cannot go below zero but may increase by more than 100% of the expected. Further, short term symmetry may be converted into long term asymmetry by compounding. Mortality, expenses and lapses fall into these categories. The asymmetry of the assumptions may be material, particularly in the tail of the probability distribution used in determining capital requirements.

To the extent that these risks are not seen to correlate strongly with investment markets, this asymmetry may have limited direct impacts on the economic valuation of cash flows associated with these risks, provided the mean outcome is used rather than the median.



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4 EXISTING GUIDANCE & LEGISLATION

4.1 References to Asymmetric Risks

In certain instances – such as policy liability calculations, economic valuations and regulatory prudential capital requirements – the requirement and/or the method for allowing for asymmetric risks is covered in Actuarial Standards, Accounting Standards, Professional Standards or Practice Guidelines. A high level summary of these references is set out in the sub-sections below.

The following terminology (in respect of the prudential standard issued by APRA in November 2007) is used in the remainder of this Information Note:

- ▶ Valuation Standard ("LPS1.04")
- ▶ Solvency Standard ("LPS2.04")
- ▶ Capital Adequacy Standard ("LPS3.04")
- ▶ Management Capital Standard ("LPS6.03")

Similarly, the term "AASB1038" is used to refer to the Life Insurance Contracts accounting standard issued by the AASB in April 2007.

The contents of this Information Note may need to be revised if future successor standards contain different requirements for asymmetric risks compared to the standards listed above.

4.2 LPS1.04 (Valuation of Policy Liabilities)

This standard sets out the basis for calculating policy liabilities in respect of life insurance contracts, consistent with the objectives of realistic profit reporting, and provides for the release of profit over the life of the business. The overall policy liability comprises of two components: a Best Estimate Liability and a Profit Margin.

Under LPS1.04, the Best Estimate Liability should be representative of the mean of the distribution of the potential liability outcomes. Members should undertake analysis to identify and understand instances where the input assumptions or outcome function for the Best Estimate Liability is asymmetric.

LPS1.04 notes that allowances for asymmetry may be incorporated through adjustments to the assumptions or separate adjustments to the Best Estimate Liability.



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Where embedded options exist, these must also be allowed for in the calculation of the Best Estimate Liability. LPS1.04 states:

"Where the benefits contain options that may be exercised against the company, then either the value of those options must be determined (via a suitable option pricing model) and added to the Best Estimate Liability, or the Best Estimate Assumptions adjusted so as to appropriately capture the value of the options as part of the Best Estimate Liability." (paragraph 5.3.4)

4.3 AASB1038 (Accounting for Life Insurance Contracts)

This standard sets out the requirements for measuring life insurance contract liabilities for the general purpose accounts, and makes no explicit requirements regarding asymmetric risks. However, it does include a requirement to value embedded derivatives at fair value under some circumstances. It would also appear to be standard industry practice to make the same allowances for asymmetric risks when determining liabilities under AASB1038 and LPS1.04.

4.4 LPS2.04 (Solvency), LPS3.04 (Capital Adequacy) and LPS6.03 (Management Capital)

LPS2.04 and LPS3.04 set out prudential regulatory capital requirements for statutory funds, and LPS6.03 for the shareholders' fund.

Under these standards, the impact of many common asymmetric risks is measured using simple prescribed stresses.

Nonetheless, an overarching principle applied in all of these standards is that the Member perform further analysis and calculate additional capital requirements for material risks that are considered to be not fully captured or measured by the methodology described in the standards.

For these risks, the Member should broadly target a level of sufficiency consistent with that for the risks explicitly considered in the standards.

Where best estimate reporting under LPS1.04 uses a simple approximation for an asymmetric outcome distribution (often a deterministic base projection with an allowance for asymmetric risk), a similar approximation that takes into account the circumstances considered in the prudential standards might be used. For calculations of the value of asymmetric risks within resilience reserves in LPS2.04 and LPS3.04, it may be reasonable to consider the market shocks as a scenario, and recalculate the value of the asymmetric risk as that which would be reported under LPS1.04 if that scenario came to pass.



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The need to calculate capital requirements for risks not explicitly considered in the standards may be particularly relevant for certain asymmetric risks and embedded options including where the company is exposed to unusual risks. The standards set out margins (or a range of margins) for the exercise of options.

4.5 LPS5.02 (The Cost of Investment Performance Guarantees)

This standard is concerned with the asymmetric outcome from providing performance guarantees on unit linked business. It sets out a prescribed approach for measuring the cost of an embedded option for the purposes of determining whether it exceeds the limit for investment linked business as set out under section 42 of the Life Insurance Act 1995 (Cth) (Life Act).

Although the approach is prescribed, it refers to the principles and calculations under LPS3.04 which, as noted in Section 4.3 above, require the Member to include a further margin for risks that are considered to be not fully captured or measured by the methodology prescribed in the standards.

4.6 PS 200 (Actuarial Advice to a Life Insurance Company or Friendly Society)

PS 200 applies to advice to a life insurance company or friendly society relating to premium rates and charges, financial condition investigations and the distribution of surplus. In particular, when analysing the financial condition of the company, the Appointed Actuary is required to comment on the relationship between the nature and term of the assets and the corresponding liabilities, including any guarantees and options available under the policies and the likely effect of the exercise of those options.

The liability valuation method should take into account any guaranteed benefits and options, and the Appointed Actuary should make appropriate provisions for reserves to meet specific adverse contingencies not already allowed for in the calculation of the valuation liabilities.

4.7 Practice Guideline 199.03 (Economic Valuations) (PG199.03)

This PG sets out the considerations that bear on the work involved in carrying out economic valuations. It describes general principles and procedures for carrying out and reporting on economic valuations. This includes economic valuations used to support a market valuation or a fair valuation.

The PG expects that Members should make appropriate allowance for any material optionality or non-linear outcomes in the cash flows being modelled.



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- 4.8 IFRS4 (Insurance contracts), IAS39 (Financial Instruments: Recognition and Measurement), IAS32 (Financial Instruments: Disclosure and Presentation) all deal with options and guarantees.

IAS39 generally requires derivatives on investment contracts to be separated from the host contract and valued as a derivative. This is not required if the host contract itself is a life insurance contract.

It would be normal to consider and quantify asymmetric risks for the purpose of the liability adequacy tests under the new IFRS standards.

- 4.9 Guidance is continually evolving.

The International Accounting Standards Board (IASB), the International Actuarial Association (IAA), various regulators and other bodies are continuously issuing discussion papers and new standards that have a bearing on these matters. Members cannot be expected to keep abreast of all the debates outside of Australia. It can be noted that the IASB issued an Exposure Draft on Insurance Contracts on 30 July 2010, with comments due by 30 November 2010. The ED proposes a "building block" approach with the first building block defined as "a current, unbiased and probability weighted estimate of the cash flows from the insurance contract".

5 VALUATION METHODOLOGIES

- 5.1 The Member should be satisfied that any method used is appropriate for the particular circumstance. The degree of detail and precision in an asymmetric risk calculation should be appropriate to the context in which it is being performed.

The model used will depend on the size and materiality of the asymmetric risk, the quality of the data available, the intended use of the analysis and the needs expressed by the key stakeholders.

Common valuation models which the Member is likely to consider using include:

- ▶ stochastic:
 - risk neutral models
 - real world models;
- ▶ scenario and stress testing;
- ▶ replicating portfolios; and



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- ▶ combinations of the above.

In applying these methods, the Member should be satisfied that the method is appropriate. Key aspects of these models are discussed in the following subsections.

5.2 Internal consistency

Whatever method is used, the Member should ensure as far as possible that there is consistency between the valuation placed on the assets and the various components of the liability. There is some debate about the extent to which this is possible, which is discussed in Appendix 2.

Consistency between the basis of the calculation of an asymmetric risk reserve and the application of the resulting asymmetric risk reserve under LPS1.04 needs to be ensured, in particular in the treatment of policyholder retained profits for participating business and investment equalisation reserves for investment account business. Different approaches to achieve this are discussed in Section 7 below.

5.3 Stochastic Models

This method normally involves multiple simulations of the asset or liability outcomes using distributions for key assumptions regarding future experience.

The risks that life insurance companies are exposed to are complex and there may be many processes and outcomes that are correlated, while other processes may have limited correlation and may provide diversification benefits. These relationships can be incorporated in a stochastic model enabling the risks to be statistically analysed. The complexity and interaction of events in many cases necessitates a full analysis across the full distribution of outcomes as opposed to analysis of a single tail event.

It is desirable that the underlying distributions assumed are reasonable, that a statistically sufficient number of simulations are used to produce stable results or convergence, particularly when uncertainty in the 'tail' of a distribution is being considered and that appropriate allowance for the impact of correlations in the tails of distributions are made.

Stochastic models for assessing asymmetric risks for participating business are invariably complex if they are to calculate representative outcomes allowing for the interaction of investment performance, bonus philosophy and underlying guarantees to policyholders. Modelling considerations include allowance for:



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- ▶ investment assumptions – asset class returns and correlations of returns between asset classes. Volatility assumptions, both current and extending over the duration of the model, can be 75 plus years, to points where there is little or no market activity;
- ▶ bonus philosophy – changes in reversionary and terminal bonus rates in response to modelled impacts of investment and other assumptions;
- ▶ threshold for shareholder injections – allowing for small deficits that are subsequently recovered relatively quickly; and
- ▶ other assumptions – allowance for impact of interaction of assumptions above on other assumptions such as lapses and expenses.

5.3.1 Risk neutral methods

With risk neutral methods, the discount rate used is a risk free rate and a "risk neutral" and notional probability distribution of (asset) return outcomes is established from the market price of relevant derivatives. Risk neutral methods are particularly applicable where investment or market-related gearing exists. They may also be more appropriate to determine the impact of asymmetric risks on the best estimate liability, when it is discounted at the risk free rate. Some practitioners would extend risk neutral methods to liabilities based on best estimate earning rates, such as participating business under AASB1038.

These methods will not produce cash flow projections on a realistic basis. This means that projected cash flows will generally not be suitable for other purposes, such as business planning. It also means that the communication of the projection results to users and the validation of the risk neutral cash flows may be challenging, as they will not necessarily reconcile to real world cash flows.

In applying these methods, the Member should be satisfied that the degree to which each cash flow is market-related can be reasonably ascertained or approximated and that the risk neutral probabilities are appropriate.

Risk neutral probabilities are not available for non-investment risks that are not traded. There are some theoretical grounds for adjusting real world lapse and expense rates for pricing and valuation purposes, but these are often not applied on either materiality grounds or because of a lack of a reasonable basis for an adjustment.

Risk neutral approaches tend to have less application in assessing capital requirements.



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5.3.2 Real world methods

"Real world" projections use distributions of values or cash flows based on expected future actual experience (that is, realistic projections). They are appropriate for determining solvency and capital adequacy requirements, but are more difficult to use in the determination of market consistent option costs.

If a real world approach is adopted, significant adaptation is required (via the use of state price deflators which adjust for the fact that market participants place different "utility" on different outcomes) when used in the determination of market consistent present values.

5.3.3 Models should be market consistent and arbitrage free

Members would normally take care that their models are consistent with market prices. This not only means that assets should be valued at market prices, but that the liability assumptions as to discount rates and statistical distributions should be consistent with the market price of available derivatives (options, swaps, future contracts, etc).

Members may have to use their judgment in this area as the prices of derivative instruments are not always consistent with each other or with historical volatilities. It is often inappropriate to extrapolate knowledge about short term probability densities near the mean to estimate longer term probability densities in the tail of the distribution.

The models should also not effectively assume that unrealistic arbitrage profits will arise in future. It is, for example, inappropriate to discount cash flows that assume an equity risk premium using a discount rate based on a lower amount of market risk or value far out-of-the-money options using volatilities unadjusted for the tail of the volatility surface.

5.4 Scenario and Stress Testing

A projection of a number of especially extreme scenarios can often add insight, aid communication and may provide essential information to management of the impacts that can be expected if the tail of a distribution occurred.

Historical events and market conditions are another source of possible stress test scenarios.

5.5 Replicating Portfolio

It is sometimes possible to construct a portfolio of simple financial instruments that replicates a more complex instrument. These simple instruments may include



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physical holdings of the underlying asset as well as derivatives including options. The price of these options can then be obtained from the market. This represents a non-stochastic solution in some cases, but can only be used where relevant market prices exist for the components of the complex instrument.

5.6 Combination of Above

A combination of approaches may sometimes be appropriate, particularly to help illustrate the impact of an alternative model.

6 BEST ESTIMATE VALUATIONS

- 6.1 Under a best estimate valuation, the focus will be on understanding the mean valuation result. While the whole probability and outcome distribution should be considered, the main focus may often be on the more probable outcomes when determining a best estimate valuation, whether it is for profit reporting, economic valuations, pricing or other purposes requiring a best estimate view.
- 6.2 Traditionally, embedded value measures have been calculated on a best estimate basis. Historically, asymmetric risks were typically not explicitly allowed for in these valuations but were, in theory, reflected in the risk discount rate. With the growing prominence of fair value principles (including in embedded value reporting, for example the market-consistent embedded value principles adopted by the CFO Forum¹ in Europe), asymmetric risks are often allowed for in both market consistent and traditional basis.
- 6.3 LPS1.04 mostly prescribes the policy liabilities to be valued on best estimate assumptions. This could be interpreted to extend to valuing the asymmetric risks but the standard is not explicit in this. Only section 11 of the standard specifically prescribes an approach based on the use of risk free rates for the purpose of calculating the "Adequacy Threshold" (that is, for the application of the liability adequacy test).
- 6.4 As noted earlier, Section 5.3 of LPS1.04 outlines the main considerations in incorporating an allowance for asymmetric risks within the Best Estimate Liability. In particular, Section 9.1 of LPS1.04 includes considerations for recalculating profit margins. For profitable non-participating business, an increase in the best estimate liability due to assumptions other than investment fluctuations results in

¹ The European Insurance CFO Forum ('CFO Forum') is a high-level discussion group formed and attended by the Chief Financial Officers of major European listed, and some non-listed, insurance companies. Its aim is to influence the development of financial reporting, value based reporting and related regulatory developments for insurance enterprises on behalf of its members, who represent a significant part of the European insurance industry. The CFO Forum was created in 2002.



an offsetting decrease in the value of future profit margins. Hence as long as the product is not in capitalised loss, an increase in the best estimate liability due to non-economic assumptions within the allowance for asymmetric risk may not directly affect the policy liability or emerging profit.

- 6.5 For similar reasons, the allowance for asymmetric risk may or may not have an impact on the policy liability for participating business, depending on the backing assets assumed in measuring the allowance for asymmetric risk, except via the deduction of current period profits. The appropriate adjustments to the components of the balance sheet are likely to be dependent on the particular method used to value the asymmetric risks in participating business. Further details on allowance for asymmetric risks within participating policy liabilities are set out in Appendix 4.
- 6.6 For all business, the method used to value the asymmetric risk will therefore be considered in the context of the size of the product's overall best estimate liability and profit margins, along with its potential impact on the timing of profit emergence.
- 6.7 It is also important that any adjustment to the best estimate liability in respect of asymmetric risks is determined consistently with the best estimate liability calculation. For example, the best estimate liability may include the intrinsic value of the risk and hence only a time value adjustment is required. Examples of possible inconsistencies that may arise can be found in Appendix 3.
- 6.8 Section 3.9 of LPS1.04 states that, with regard to benefits that include any embedded options, "the Best Estimate Liability must include an appropriate value in respect of those options". Section 5.3.4 of LPS1.04 states that "either the value of those options must be determined (via a suitable option pricing method) and added to the Best Estimate Liability, or the Best Estimate Assumptions adjusted so as to appropriately capture the value of the options as part of the Best Estimate Liability." The reference to "a suitable option pricing method" is interpreted by some practitioners to mean that a risk neutral approach needs to be adopted for the calculation of asymmetric risk, even under the best estimate framework of LPS1.04. Other interpretations are possible as discussed in Appendix 2.

7 PARTICIPATING BUSINESS

- 7.1 The best estimate liability (BEL) for participating business will use similar considerations as for non-participating business, because the BEL is defined under LPS1.04 as only applying to the existing guaranteed benefits. A simple investment mismatch for the assets backing the BEL is no more an asymmetric risk than an equivalent example for a non-participating product with guaranteed benefits.



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- 7.2 For participating business, the asymmetric risk does not arise from vested benefits valued in the BEL. Some practitioners interpret section 3.9 of LPS1.04 to mean the asymmetric risk should only be allowed for to the extent that it arises from vested benefits being valued in the BEL, and hence conclude that no asymmetric risk reserve is required for participating business. However, the standard is more commonly interpreted to mean that there is an asymmetric risk for typical participating business in that the life insurance company may not be able to declare future bonuses to policyholders at rates which meet policyholders' reasonable expectations (PRE), and that this risk should be reflected in the BEL. Further comments in this regard are provided in Appendix 4.

8 CAPITAL CALCULATIONS & TAIL DISTRIBUTIONS

- 8.1 Appropriate consideration of extreme events, at the tail of the probability distribution, is particularly important in capital adequacy reporting, as the focus of the analysis is on the likelihood and impact under adverse circumstances.
- 8.2 In some cases, a simple stress test may provide a simple substitute for a more technical stochastic approach. This is particularly the case when investigating the impact of events in the tail of the probability function as the parameters for the stress test can be based on observed events (although Members would also be aware that extreme events may be over- or under-represented in recent available data).
- 8.3 A stochastic approach requires a subjective estimate of future experience that may not be apparent to the users.
- 8.4 The value and capital requirements relating to asymmetric risks may be particularly affected by the distribution of variables in the tails, and correlations between parameters. In particular, correlations in the tails of distributions may be different to overall average correlations.
- 8.5 It is important to note that the resilience reserve component of the regulatory capital requirement is generally not a suitable replacement for an asymmetric risk reserve under LPS1.04. The resilience reserve calculation represents a single point in the tail of the distribution, whereas the asymmetric risk reserve represents a weighted valuation across the distribution of possible outcomes (which is more consistent with a pricing methodology of an embedded option). In addition to this, the asymmetric risk reserve is required to form part of the accounting liability.

9 MANAGEMENT ACTIONS, DISCRETIONS & MITIGATION STRATEGIES

- 9.1 The impact of asymmetric risks may be significantly affected by the exercise of management actions and discretions. Examples include:



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- ▶ changes to declared bonus and crediting rates for both participating and discretionary non-participating business;
- ▶ changes to surrender values;
- ▶ discretions to alter fees and to change other policy terms and conditions;
- ▶ alterations to premium rate scales;
- ▶ changes to asset allocation strategies or implementation of hedging strategies; and
- ▶ other mitigation strategies such as expense management, reinsurance and the ability to terminate or refuse to renew contracts.

There are various factors to consider when assessing discretions, including how and when they can be exercised. Past actions or communications may create implied or constructive obligations that may constrain management actions. There may be limited flexibility to change bonus and crediting rate philosophies.

In addition, there may be delays before changes are approved and implemented and they may require policyholder notification. Members should also consider the impact of the exercise of management actions on policyholder actions, especially lapse and take-up rates.

Companies will also be aware of the ability of reinsurers or other companies (including other companies within the same overall group as the life company) to exercise discretions against them, and the impact of this on their mitigation strategies – for example their reinsurers' ability to terminate cover or refuse to renew. In addition, there may be limited ability to implement other asset based mitigation strategies (for example, reflecting market illiquidity or volatility adversely impacting market cost of options), which may also need to be considered.

Factors that can provide comfort that proposed management actions will be followed in various scenarios include: any precedents created through previous company actions and industry practices; systems, processes and documentation being in place to monitor key drivers, risk indicators and risk limits and react to changes in circumstances; and any pre-existing approval by the board to act in a certain way under certain conditions.

Rules for management actions and discretions can be included in scenarios or dynamic stochastic models, to enable a more realistic impact to be considered of a range of outcomes.



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10 POLICYHOLDER BEHAVIOUR

- 10.1 Additional variability in potential outcomes arises from the uncertainty of policyholders' responses.
- 10.2 Developing a probability distribution of policyholder behaviours may be appropriate with the mean outcome being used for best estimate reporting and the tail being used for capital reporting. Different correlations between policyholder behaviour and the other risks may however affect both the mean value and the required capital.

Any dynamic policyholder behaviours that serve to benefit the shareholder should be very carefully considered to ensure this is a reasonable outcome in the circumstances.

- 10.3 Presenting a range of possible outcomes may also be appropriate to indicate the impact of different policyholder behaviours.

11 COMMUNICATING ASYMMETRIC RISKS

- 11.1 The communication of asymmetric risks should be driven by the purpose of the exercise. In financial reporting, Accounting Standard AASB 7 Financial Instruments: Disclosures has certain requirements for sensitivities to be disclosed.
- 11.2 In other circumstances, such as pricing or risk management, it may not be sufficient to put a single value on an asymmetric risk, particularly where the risk being quantified is subject to significant uncertainty. It may be more appropriate to support any best estimate number produced with a number of scenarios to give an idea of the variability and importance of the risk being considered.
- 11.3 In a life insurance environment, it would be expected that material asymmetric risks would be discussed in the Financial Condition Report.
- 11.4 Consideration should be given to the audience that will be receiving the communication:
 - ▶ Will they want detailed technical information or general information?
 - ▶ Will they have an understanding of the full range of possible outcomes?
 - ▶ Will they have an undue focus on recent good or bad experience when options and guarantees in contracts may apply for a considerable period?
 - ▶ Are they aware of similar risks in different countries or industries, or at different time periods?



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- ▶ Do they understand the uncertainties in any quantification, such as in the assumptions or simplified modelling?
 - ▶ Do they know that the general starting point is that it is often possible to reduce, eliminate or transfer a risk through reinsurance or asset matching? If any other approach is proposed, are they aware of why the matching approach was accepted or rejected?
- 11.5 Depending on the use of the report, it may be appropriate to describe risk mitigation strategies. Asymmetric risks can be reduced, transformed or transferred in a large number of ways, including through policy design before the risk is written, or through changing investment strategy and reinsurance afterwards.
- 11.6 The communication of risks that are quantified using stochastic techniques in particular needs care to balance the amount of information available and the amount of information being presented such that it is appropriate for the intended audience.
- 11.7 Spurious accuracy should be avoided when communicating results, and an appreciation of uncertainties and subjective elements of the calculations should be provided, whether numerically by sensitivity analysis or scenario testing, or qualitatively by description, or in some other manner.



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APPENDIX 1 – EXAMPLES OF ASYMMETRIC RISKS

- (a) Conventional Participating business and Investment Account business. All the upside is generally split using a certain profit participation percentage, while the downside may require the company to meet the underlying guarantees and take 100% of the loss after a certain point.
- (b) Extra cost guarantees on investment linked products may also require the company to meet 100% of the loss after a certain point.
- (c) Guaranteed annuity conversion options, where the annuity rate is guaranteed, can create a large difference between market rates and guaranteed rates, leading to significant financial selection effects.
- (d) Caps on fees and other inflation risks may provide losses in times of high inflation.
- (e) Policyholder free look period can be a short option to the policyholder, for example investment products involving a guarantee.
- (f) Profit sharing formulae (reinsurance and group risk) may give away most of the upside but little of the downside. This occurs in par business as noted in (a) and non-par business with a specified profit sharing formula, particularly where losses are not carried forward.
- (g) Tax is asymmetric as the company will always need to pay tax on profits but may not be able to claim tax losses in all adverse scenarios.
- (h) Non-proportional forms of reinsurance, such as stop loss and catastrophe insurance, are asymmetric.



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APPENDIX 2 – POTENTIAL INCONSISTENCIES WHEN VALUING LIABILITIES WITH ASYMMETRIC RISKS

LPS1.04 and AASB1038 were produced to reflect the limited changes under the Phase 1 IFRS Standard for insurance contracts. As such, both standards grandfathered many of the provisions of their predecessors.

Both standards require the use of discount rates that reflect the market risk inherent in the policyholder benefits. Hence liabilities in respect of products whose benefits are contractually linked to assets values (for example, participating products) are normally valued using best estimate earning rates (ignoring liability adequacy testing) and liabilities in respect of other products (for example, pure risk products) are valued using risk free discount rates.

As noted earlier, AASB1038 contains few provisions regarding asymmetric risks and this Information Note has proposed using the same methods for life insurance contracts with asymmetric risks under both AASB1038 and LPS1.04.

LPS1.04 states that the best estimate liability must include the value of any options that may be exercised against the company and that this value should be determined using a suitable option price method.

There is likely to be an inconsistency between option values determined using a risk neutral valuation and a best estimate liability that is based on real world distribution assumptions and discounted at either risk free discount rates or best estimate earning rates, if the best estimate is the mode of the distribution. It is however possible to use real world probabilities and discount at a risk adjusted rate to produce market consistent present values. Given that the real world probabilities are based on the market returns of the underlying assets, it can be argued that the standards permit the use of fair value.

Because LPS1.04 (and its predecessors) have not required the calculation of market consistent liabilities, two solutions suggest themselves:

- ▶ One possible solution would be to value the entire life insurance liability using market consistent techniques. (This method may include separating the life insurance liability into components dependent on the performance of the assets supporting the liability, as well as a guaranteed component). This approach would seemingly be consistent with the fair value measurement approach required for financial instruments (including life investment contracts).
- ▶ An alternative solution would be to value the options using real world probabilities and an appropriate risk adjusted rate for discounting. It may however be difficult



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to find an appropriate distribution of real world outcomes and appropriate discount rates that reflect the nature, structure and term of the liabilities.

This alternative applies if the liabilities are not linked to investment performance. If they are related to investment returns, then the discount rate should be the same for both assets and liabilities. In such cases, the options can either be valued using risk neutral rates or real world deflator methods.

A further alternative is to value the asymmetric risk reserve only using market consistent option techniques, although this creates a potential inconsistency when combined with a liability determined on a real world basis.

LFRSC is not aware of this inconsistency being a material issue for any practitioners. It notes that either approach appears to be theoretically justifiable. As the increase in BEL (due to the inclusion of the value of options) will normally be offset against profit margins, this is only likely to be an issue when products are in, or close to, loss recognition. Examples of how the inclusion of the value of options can impact the policy liability are provided in Appendices 5 and 6.

LFRSC notes that capital reserving requirements under LPS2.04, LPS3.04 or LPS6.03 are based on adverse real world scenarios. As discussed in Section 5.3.2, real world methods are required for determining the appropriate capital reserves in respect of asymmetric risks and so the inconsistency described above does not seem to arise in this case.



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APPENDIX 3 – EXAMPLES OF POSSIBLE INCONSISTENCIES BETWEEN ASYMMETRIC RISK VALUATIONS AND DETERMINISTIC BEST ESTIMATE LIABILITY VALUATIONS

It should be noted that this is a simple artificial example to demonstrate the principles and possible pitfalls.

Consider a profit share arrangement on a pure risk policy. The example ignores discounting and assumes a 1 year time period only. The profit share terms are $\text{Max } \{0, 60\% * [75\% \text{ Premiums} - \text{Claims}]\}$.

The profit share represents an asymmetry as the policyholder shares in the upside only.

Example 1 – “Out-of-the-Money” Scenario

Assume claims have three possible scenarios:

Claim Scenario	Payment at t=1	Probability
A	1,000	40%
B	2,000	40%
C	3,000	20%
100%		

The premium charged is 2,000. The financial outcomes are shown in the table below.

Table 1 – Asymmetry Cost Based on Upside Paid Away

Claim Scenario	Premium at 0	Claims at 1	Profit Share at 1	BEL at 0	Probability
A	2,000	1,000	300	-700	40%
B	2,000	2,000	0	0	40%
C	2,000	3,000	0	1,000	20%
Mean outcome		2,000	1,800	120	-80
Outcome using mean inputs		2,000	1,800	0	-200

The cost of the profit share is estimated using two different methods in Table 1:

- ▶ As the mean of the cost estimated in each scenario (120).



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- ▶ As the cost using the deterministic mean input assumption that is, $60\% * (75\% * 2,000 - 1,800) = 0$, which clearly understates the true expected cost.

The correct BEL at time 0 is -80 (calculated as the mean of the scenario outcomes for the BEL). The same result can be obtained by adding the cost of the profit share from the scenario analysis (120) to the BEL calculated ignoring the profit share (-200).

The "intrinsic value" of the asymmetry (defined as the value using mean inputs) can be considered to be zero and the "time value" of the asymmetry (the balancing item) can be taken to be 120.

The discussion so far has examined the value of the profit share by reference to the amount of upside profit given away to the policyholder in each scenario. An alternative approach is to consider the cost of the profit share as the amount of downside that is not able to be passed onto the policyholder in each scenario. The two approaches should provide the same answer (using the same logic as underlies put-call parity in option pricing). However, care needs to be taken to ensure this outcome arises as shown below.

Table 2 – Asymmetry Cost Based on Downside NOT Shared

Claim Scenario	Premium at 0	Claims at 1	Losses unable to be shared at 1	Probability
A	2,000	1,000	0	40%
B	2,000	2,000	300	40%
C	2,000	3,000	900	20%
Mean outcome	2,000	1,800	300	

Note: the "losses unable to be shared at 1" represent the losses under the profit share formula that the insurer would pass onto the policyholder if the profit share formula was not subject to a minimum payment of zero.

The cost of the profit share (300) is seemingly overstated in Table 2 compared to Table 1. However, the cost under this approach represents the time value only and ignores the intrinsic value. The intrinsic value is -180 ($= 60\% * [75\% * 2,000 - 1,800]$). Hence the correct adjustment to the deterministic BEL (120) is only obtained once both components are taken into account.



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Example 2 – “In-the-Money” Scenario

An example is now considered where the intrinsic value of the option is positive at time 0 (that is, a profit share is expected to be paid under deterministic best estimate inputs).

The assumed claims distribution is revised to be:

Claim Scenario	Payment at t=1	Probability
A	1,000	45%
B	2,000	35%
C	3,000	20%
100%		

The premium charged is now assumed to be 2,500 and the revised outcomes are below.

Table 3 - Asymmetry Cost Based on Upside Paid Away

Claim Scenario	Premium at 0	Claims at 1	Profit Share at 1	BEL at 0	Probability
A	2,500	1,000	525	-975	45%
B	2,500	2,000	0	-500	35%
C	2,500	3,000	0	500	20%
Mean outcome		1,750	236	-514	
Outcome using mean inputs		2,500	1,750	75	-675

The correct BEL at time 0 is now -514. However, it is noted that an incorrect result (of -439) can be obtained if the mean profit share cost (236) from the scenario analysis is added to the deterministic BEL of -675.

That is, the scenario analysis does not provide the correct adjustment to apply to the BEL using deterministic mean inputs. This is because the intrinsic value (75) is double counted (it is in both the deterministic cost and the scenario based cost). (The correct adjustment is $236 - 75 = 161$).

The revised outcomes when the cost of the profit share is viewed as the amount of downside not able to be passed on are shown below.



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Table 4 – Asymmetry Cost Based on Downside NOT Shared

Claim Scenario	Premium at 0	Claims at 1	Losses unable to be shared at 1	Probability
A	2,500	1,000	0	45%
B	2,500	2,000	75	35%
C	2,500	3,000	675	20%
Mean outcome	2,500	1,750	161	

The cost using this approach (161) is now the correct adjustment to apply to the BEL, ignoring any asymmetry in the profit share calculation - although the asymmetry does not apply when using deterministic mean inputs - to give the correct overall BEL.

Discussion

The above two examples are intended to illustrate some of the basic principles when allowing for asymmetric risks in liability valuations. In particular, the liability adjustment to allow for an asymmetric risk needs to be consistent with any existing allowances for this risk.



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APPENDIX 4 – ADDITIONAL CONSIDERATIONS FOR PARTICIPATING BUSINESS

A4.1 GENERAL CONSIDERATIONS

- (a) The key asymmetric risks for typical participating business are:
 - (i) future bonuses/crediting rate must be declared to policyholders at rates which meet policyholders' reasonable expectations (PRE). In some cases, this implies that future bonuses/crediting rates cannot be negative, whereas in other cases, this might imply future bonuses/crediting rates cannot be less than a specified positive rate; and
 - (ii) available assets are insufficient to meet statutory minimum liabilities (for example, the Liability Adequacy Threshold test), which may require a "top-up" by the shareholder of the available assets that cannot be recovered by the shareholder in the future, even if this top-up is no longer required to meet the statutory minimum.
- (b) Alternatively, these risks can be considered as an option for policyholders to receive benefits in excess of the total assets backing this business (that is, those which are "earmarked" for policyholder benefits) in certain circumstances, requiring the shareholder to meet the shortfall.
- (c) Industry practice may be divergent for reporting under LPS1.04 for participating business, regarding the option described above in (b). It is understood that most companies currently allow for the value of this asymmetric risk within the BEL.
- (d) LPS1.04 is also unclear as to what amount of assets can be considered to be earmarked for participating policyholder benefits when assessing this risk and this could lead to divergent practices. In particular, it is unclear as to the extent to which policyholder's retained profits (PRP) can be assumed to back the participating business when assessing this asymmetric risk.
- (e) In practice, PRP is available to fund future participating policyholder benefit payments and so it would generally be reasonable to allow for this amount when assessing this asymmetric risk under LPS1.04. (This is not inconsistent with AASB1038's treatment of these amounts as an unvested policyholder benefits liability.)
- (f) The inclusion of PRP effectively means that future shortfalls (which would be borne by the shareholder) will only arise if the BEL, policyholder profit margins and PRP are insufficient to meet PRE and this would normally be allowed for in determining liabilities under LPS1.04.



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- (g) The extent to which PRP and future policyholder profits have been allowed for in the calculation of the asymmetric risk reserve may need to be considered when applying the outcome of the asymmetric risk reserve calculation to LPS1.04. In particular, if the PRP, shareholder future profits or policyholder future profits are included to meet PRE in the assessment of the asymmetric risk, and an increase in the BEL is required, that is, the cost of the asymmetric risk is not zero, then offsetting the increase in the BEL against the PRP, shareholder future profits or policyholder future profits respectively would mean that the support of these would be (inappropriately) "double counted" in determining the impact of the asymmetric risk on the policy liability and on profit. This is discussed further in examples below.
- (h) Assessment of these risks needs to have regard for discretions (as set out in Section 8), as well as equity considerations (as discussed in PS 200). Under a stochastic model, the discretions used may differ depending on the economic scenario, thus the discretions may be dynamically modelled per scenario.

In summary, LPS1.04 is widely considered to be open to multiple interpretations with no single "correct" interpretation being clear. In practice, interpretations vary considerably across companies and practitioners. There are a number of approaches that could reasonably be interpreted to be allowable under LPS1.04 and AASB1038 and different approaches are in use, although all approaches should consider the constraints imposed by the Life Act. Separate examples are shown in Appendix A4.2 below for the scenario where the liability adequacy test is passed.

Appendix A4.3 deals with the scenario where the liability adequacy test is failed.

A4.2 EXAMPLES OF THE APPLICATION OF ASYMMETRIC RISK VALUATIONS UNDER LPS1.04 AND AASB1038 – LIABILITY ADEQUACY TEST PASSED

The following three approaches will be described in this section:

- ▶ increasing the policy liability and recognising a shareholder loss with increases in the asymmetric risk reserve;
- ▶ increase the BEL with increases in the asymmetric risk reserve, but offset by a decrease in the present value of future profit margins; and
- ▶ no explicit asymmetric risk reserve.

Example 1 – Increase the Policy Liability

This is the more conservative interpretation of the standards, as the value of the implicit guarantees are added to the value of the liability and are therefore immediately



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recognised as a shareholder loss. Taking into account the considerations discussed in paragraph (g) of Appendix A4.1, this example assumes that the PRP are exhausted in the modelling underlying the calculation of the asymmetric risk reserve and may therefore not be available to support funding the asymmetric risk reserve.

Increase the Policy Liability – What Do the Standards Say?

Under this approach, any changes in the asymmetric risk reserve are treated as being due to investment market assumptions related to investment market movements as described in section 8.5(c) of AASB1038 and recognised in the profit for that period.

"The financial effects of changes to the assumptions underlying the measurement of life insurance liabilities made during the reporting period shall be recognised in the statement of comprehensive income over the future reporting periods during which services are provided to policyholders, except that: ...

(c) the effects of a change to adopted discount rates and related economic assumptions caused by changes in investment market and general economic conditions shall be recognised as income or expense of the reporting period in which the change occurs;"

The policy liability of participating business is generally valued as the value of supporting assets (VSA) as described in section 10.2 of LPS1.04.

"10.2 Value of Supporting Assets

10.2.1 The Value of Supporting Assets is determined as:

- a) the Policy Liability at the end of the previous reporting period; plus
- b) the cost of declared Bonuses at the end of the previous period; plus
- c) the actual policy related cash flows and investment experience as reported in the regulatory financial statements; less
- d) the expected Shareholder Profits emerging over the period and the non-investment Experience Profit.

10.2.2 The Value of Supporting Assets must be calculated so as to attribute no value of assets to terminated benefits."

An increase in the policy liability due to an increase in the asymmetric risk reserve leads to an increase in the liability beyond the VSA. Under this interpretation, this leads to



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recognition of an expense (loss) in the relevant period according to section 9.2.5 of AASB1038:

"Where a life insurer "tops up" the vested benefits from previously recognised unvested policyholder benefits liabilities, a transfer between liabilities is recognised. If a life insurer tops up the vested benefits for participating policyholders other than from unvested policyholder benefits liabilities, the amount of the "top up" is recognised as an expense of the reporting period in which the additional benefits are vested."

Increase the Policy Liability - Complications

The biggest complication of this approach is that, from a shareholder point of view, the loss is irreversible. Once the liability has been increased and the cost of the increase in the liability has been allocated 100% to shareholders, under section 60 of the Life Act, a subsequent decrease in the policy liability due to a reduction in the asymmetric risk reserve cannot be allocated 100% to shareholders and must be split (generally) 80/20 between policyholders and shareholders.

"60 Basis of allocation of operating profit etc.

(1) The allocation of an operating profit of a category of business of a statutory fund must be made in accordance with the following rules:

(a) in the case of a profit of a category representing Australian participating business, at least 80%, or such higher percentage as is specified in the constitution of the company, of the profit must be treated as, or added to, Australian policy owners' retained profits of the statutory fund;

(b) any part of a profit of a category representing Australian participating business and not allocated under paragraph (a) must be treated as, or added to, shareholders' retained profits (Australian participating) of the statutory fund;

(2) The allocation of an operating loss of a category of business of a statutory fund must be made in accordance with the following rules:

(a) in the case of a loss of a category representing Australian participating business, no more than 80%, or such higher percentage as is specified in the constitution of the company, may be taken into account in reduction of Australian policy owners' retained profits of the statutory fund;

(b) any part of a loss of a category representing Australian participating business and not allocated under paragraph (a) must be allocated in



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reduction of shareholders' retained profits (Australian participating) of the statutory fund;"

Under LPS1.04, the definition for the determination of the VSA and hence of the policy liability could be interpreted as not allowing for an increase or a decrease to the liability to be made, other than by the prescribed definition. However, should a company decide to increase the assets supporting the liability, the principle based nature of the standard could be used to support an alternative approach.

It may be argued that the loss can be allocated 80% to PRP and 20% to SRP. In this case, the liability increase and any future reductions in the liability should the asymmetric risk reserve decrease will be split 80/20 between policyholder and shareholder.

Alternatively, the guarantee can be deemed to be a benefit that is offered by the shareholder to the policyholder and consequently, the increase in liability would be allocated to shareholder profits. In this case, a subsequent reduction in the BEL or in the total policy liability due to a reduction in the asymmetric risk reserve will have to be split 80/20 between policyholders and shareholders under the Life Act.

The inconsistency created by this interpretation of AASB1038 and LPS1.04 leads to shareholders being potentially liable for any increases in the asymmetric risk reserve but only 20% of the decreases. Under average levels of equity market and bond market volatility, regular increases in the asymmetric risk reserve are not unlikely. Hence, consistent application of this approach could lead to additional benefits for policyholders and additional costs for shareholders.

A possible alternative to manage the potential inconsistency between the Life Act and LPS1.04 is to hold the asymmetric reserve as a separate reserve outside the policy liability and not as part of the value of supporting assets (although still within the statutory fund). There are no clear directions or guidelines under LPS1.04 that prescribe or justify this approach, but it is a pragmatic way to recognise the impact on profit of movements in the asymmetric risk reserve as well as provide additional protection to policyholders.

Under this approach there is likely to be increased volatility in reported profits.

Example 2 - Increase the BEL and Decrease Future Profit Margins

The approach to increase the BEL and decrease the future profit margins is typically used for assumption changes that are not related to investment markets and, under the VSA methodology, to allow for the crediting rates and bonus rates applied over the reporting period.



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As in Example 1, taking into account the considerations discussed in paragraph (g) of Appendix A4.1, this example assumes that the PRP are exhausted in the modelling underlying the calculation of the asymmetric risk reserve and may therefore not be available to support funding the asymmetric risk reserve. Furthermore, offsetting the increase in the BEL due to the asymmetric risk reserve with a decrease in the future profit margins, means that exclusion of the future profit margins from the calculation of the asymmetric risk reserve may be appropriate.

Increase the BEL and Decrease Future Profit Margins – What Do the Standards Say?

Standard LPS1.04 is clear on the need to have regard for asymmetric risk in determining the BEL:

"3.9 In determining the Best Estimate Liability and Best Estimate Assumptions, the Actuary must have regard to the impact on the liability of the distribution of potential future outcomes. Where the benefits being valued contain options that may potentially be exercised against the company, or the potential liability outcomes have an adverse asymmetrical distribution, then the Best Estimate Liability must include an appropriate value in respect of those options and/or asymmetries."

The most transparent way to have regard for asymmetric risk is through an explicit asymmetric risk reserve.

Increase the BEL and Decrease Future Profit Margins – Complications

The asymmetric risk reserve can change for many reasons, including assumption changes or methodology changes in the calculation of the reserve. Consideration may have to be given to the reason for the change in the asymmetric risk reserve.

Before inclusion of the asymmetric risk reserve, the BEL reflects net cash-flows and for participating business, subsequent crediting rates and bonus rates already allocated to policyholders. For a participating book, the asymmetric risk reserve generally reflects the policyholder benefit that these net cash-flows plus credited earnings and bonus rates are guaranteed not to reduce in value.

The value of this guarantee can vary over time and hence the BEL will vary over time. The assets to back vested benefit increases from credited earnings and bonus rates are offset in the profit and loss statement by changes in the Interest Equalisation Reserves and Policyholder Retained Profits respectively.

The vested benefits are different from the asymmetric risk reserve (which can increase and decrease, and potentially reduce to zero). Offsetting movements in the asymmetric risk reserve with changes in the future profit margins is in a way similar to



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offsetting the impact of investment market fluctuations in the value of supporting assets against the value of future profit margins, both policyholder and shareholder.

In this case, consideration can be given to offsetting the movement in the asymmetric risk reserve against both policyholder and shareholder (generally 80/20) or to offset movements in the asymmetric risk reserve only against shareholder future profit margins.

If both policyholder and shareholder future profit margins are used, no further complications arise. Within this approach, the shareholder may still decide to fund any future losses from the guarantee on the vested benefits and state so in notes to the accounts.

If only shareholder profit margins are used, the planned profit margins will no longer be split (generally) 80/20 between policyholder and shareholder. The policyholder planned profit margins will be greater than 80%, which is allowed under the Life Act, LPS1.04 and AASB1038. During the time that the asymmetric risk reserve is greater than zero and therefore future profit margins are not split 80/20 between policyholder and shareholder, reported profits are not released 80/20 between policyholder and shareholder. The shareholder would not be able to recover this deviation from the 80/20 split of profits in future years. However, a decrease in the asymmetric risk reserve would be allocated 100% to the future shareholder profits. The shareholder could then recover most or some of the initial reduction in future shareholder profit margins.

Example 3 – No Explicit Asymmetric Risk Reserve

Under this interpretation of LPS1.04, there is no explicit calculation of an asymmetric risk reserve. Not having an explicit asymmetric risk reserve may still be compliant with LPS1.04 if the asymmetric risk is allowed for implicitly by reflecting it through a lower best estimate earning rate.

No Explicit Asymmetric risk reserve - Standards

LPS1.04 does not explicitly prescribe the inclusion of a separate asymmetric risk reserve. However, it is clear that the BEL without regard for asymmetric risks is expected to be different from the BEL with regard for asymmetric risks:

"3.9 In determining the Best Estimate Liability and Best Estimate Assumptions, the Actuary must have regard to the impact on the liability of the distribution of potential future outcomes. Where the benefits being valued contain options that may potentially be exercised against the company, or the potential liability outcomes have an adverse asymmetrical distribution, then the Best Estimate Liability must include an appropriate value in respect of those options and/or asymmetries."



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Having regard for asymmetric risk does not mean that a separate reserve must be held. LPS1.04 provides alternatives to valuing the asymmetric risks:

"5.3 Valuing Liability Options

5.3.1 The Best Estimate Liability and Best Estimate Assumptions are to have regard to any options or asymmetrical distribution of liability outcomes.

5.3.3 However, the Actuary needs to consider and assess the extent that variations in the assumptions may be correlated, and/or may compound one another, in adverse circumstances. In such cases the Best Estimate Assumptions must be adjusted so that the Best Estimate Liability is representative of the mean of the distribution of the potential liability outcomes.

5.3.4 Where the benefits contain options that may be exercised against the company, then either the value of those options must be determined (via a suitable option pricing method) and added to the Best Estimate Liability, or the Best Estimate Assumptions adjusted so as to appropriately capture the value of the options as part of the Best Estimate Liability."

This may be interpreted to mean that changes in the value of the asymmetric risk can be reflected in the BEL through changes in the best estimate earnings rate. Obviously, an increase in the risk is expected to lead to a lower best estimate earnings rate and vice versa. If this approach were to be adopted, any changes in the BEL would, in the normal course of events, be offset by changes in both the shareholder and policyholder future profit margins.

A4.3 EXAMPLES OF THE APPLICATION OF ASYMMETRIC RISK VALUATIONS UNDER LPS1.04 AND AASB1038 – LIABILITY ADEQUACY TEST FAILED

In some areas, LPS1.04 and AASB1038 are aligned in their definition of the liability adequacy test (LAT). For participating products, under both standards the policy liability needs to be tested against the BEL calculated on a risk free rate. However, there are areas of ambiguity and difference between LPS1.04 and AASB1038. The following covers two examples of possible interpretations of the standards.

Application of the Liability Adequacy Test - No Explicit Asymmetric Risk Reserve

Before moving to the examples, this section will briefly cover the basis for the calculation of the asymmetric risk component of the BEL for the liability adequacy test.

One interpretation is that the BEL calculated for the liability adequacy test (BEL_{RFR}) can be calculated on a deterministic basis on a risk-free rate. In that case, a BEL would be calculated without explicitly allowing for the asymmetric risk. In Example 3 in



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Appendix A4.2, the asymmetric risk was allowed for implicitly through (a reduction of) the best estimate earning rate. It may be appropriate to allow for the asymmetric risk for the LAT in a similar way (that is, through a reduction in the earning rate). However, using a discount rate for the LAT that is different from the risk free rate may contradict LPS1.04.

Section 11.5 of LPS1.04 states:

"11.5 The Adequacy Threshold for the Value of Future Best Estimate Bonuses and Shareholder Profits under Related Product Groups in respect of benefits that are contractually linked to the performance of the assets held (i.e. where a risk free discount rate is not used to discount future expected cash flows) is equal to the difference between:

- a) the Best Estimate Liability on Basis 2 (either in accordance with paragraph 9.1.3 or paragraph 10.1.3, whichever is applicable), but using a risk free discount rate (or rates) based on the current observable, objective rates that relate to the nature, structure and term of the future liability cash flows; and
- b) the Best Estimate Liability on Basis 2."

A literal interpretation would preclude any further adjustments being made to the risk free rate, but a reduction to allow for asymmetric risk may nonetheless still be appropriate.

An alternative and more common interpretation is to apply the LAT by using the same process as for the BEL on best estimate assumptions, including an assessment of the asymmetric risk. This interpretation may be seen as being more in line with the standards.

Application of the Liability Adequacy Test – Loss Recognition

Under the LAT no decision needs to be made on whether an increase in BEL can be offset against future profit margins, unlike the examples discussed in Appendix A4.2. However, there is still some ambiguity in the standards on how to recognise any losses. The main area of possible contention is around the inclusion of PRP in the test. Two examples are discussed below where the BEL_{RFR} , including the assessment for asymmetric risk, is greater than the VSA.



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Example 1 – Use PRP to Meet the Liability Adequacy Test

In the first example, the excess of the BEL_{RFR} over the VSA is tested against the PRP² and SRP. Here are two scenarios that are distinguished:

Scenario 1a:

If the BEL_{RFR} is less than the $VSA + PRP + SRP$, then the LAT may be partly supported by PRP. However, shareholder support would be required as well, equal to 20% of the total support required. In formulas:

If $BEL_{RFR} < VSA + PRP + SRP$ then Policy Liability = $VSA + PRP + 20\% * (BEL_{RFR} - VSA)$

In the year that the LAT is failed for the first time, the shareholder profit impact under this scenario would be a loss of $20\% * (BEL_{RFR} - VSA)$.

Scenario 1b:

If the BEL_{RFR} is greater than the $VSA + PRP + SRP$, then there is not enough support in the PRP for the LAT and shareholder support is required, equal to the full amount of the shortfall. In formulas:

If $BEL_{RFR} > VSA + PRP + SRP$ then Policy Liability = BEL_{RFR}

In the year that the LAT is failed for the first time, the shareholder profit impact under this scenario would be a loss of $(BEL_{RFR} - VSA - PRP)$.

Example 1 – Use PRP to Meet the Liability Adequacy Test – What do the Standards Say?

There are a number of sections in the standard that support this approach.

Section 17.5.2 of AASB1038 includes the PRP as part of the (policy) liability:

"17.5.2 A life insurer that has issued participating business may have "retained profits" generated from that business. In relation to Australian participating policyholders, these "retained profits" are liabilities in accordance with the Life Insurance Act."

As the PRP is deemed to be part of the policy liability under AASB1038, it may be deemed reasonable to test the BEL_{RFR} against VSA plus the PRP.

Section 9.2.5 of AASB1038 deals with participating products and "topping up" of vested benefits:

²

Section 17.5.2 of AASB1038 includes the PRP as part of the (policy) liability.



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"9.2.5 Where a life insurer "tops up" the vested benefits from previously recognised unvested policyholder benefits liabilities, a transfer between liabilities is recognised. If a life insurer tops up the vested benefits for participating policyholders other than from unvested policyholder benefits liabilities, the amount of the "top up" is recognised as an expense of the reporting period in which the additional benefits are vested."

From this it could be concluded that PRP can be used to "top up" the vested benefits if required. Passing the LAT with the support of the PRP may then require a formal transfer of liability from the PRP to the VSA.

Example 1 – Use PRP to Meet the Liability Adequacy Test – Complications

One complication is the same as that for Example 1 in Appendix A4.2: from a shareholder point of view, the loss is irreversible. Once the liability has been increased and the cost of the increase in the liability has been allocated 100% to shareholder, under section 60 of the Life Act, a subsequent decrease in the policy liability due to a reduction in the asymmetric risk reserve cannot be allocated 100% to shareholder and must be split (generally) 80/20 between policyholder and shareholder.

As in the examples in Appendix A4.2, the considerations discussed in paragraph (g) of Appendix A4.1 can be taken into account. If the PRP are used in this way to pass the LAT, then exclusion of the PRP in the calculation of the asymmetric risk component of the BEL_{RFR} may be required. The same applies to the future profit margins; these would, in this case, reasonably be expected to be excluded from the calculation of the asymmetric risk component of the BEL_{RFR}.

Example 2 – Only Use VSA to Meet the Liability Adequacy Test

The alternative to the approach in Example 1 is to test the VSA against the BEL_{RFR}, without support of the PRP. In this case, a shortfall of the VSA relative to the BEL_{RFR} leads to a shareholder loss. In formulas:

If $BEL_{RFR} > VSA$ then Policy Liability = BEL_{RFR}

In the year that the LAT is failed for the first time, the shareholder profit impact under this scenario would be a loss of 100% * ($BEL_{RFR} - VSA$).

Example 2 – Only Use VSA to Meet the Liability Adequacy Test – What do the Standards Say?

The rationale for this approach can be found in LPS1.04. The overview of Section 4 describes the policy liability to be equal to the BEL plus future profit margins for shareholders and policyholders, but not the PRP:



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"Participating Benefits"

Where Participating Benefits are provided the policy owner is entitled to share in the profits of the business. The participation process is managed by the life company, through the declaration of Bonuses. Company practice, and ultimately the requirements of the Act, control the relationship between policy owner and shareholder entitlements to profits.

The profit for Participating Benefits includes provision for:

- Bonuses (policy owner profits); and
- Shareholder Profits.

Policy Liability = Best Estimate Liability

plus Value of future Best Estimate Bonuses

plus Value of future Best Estimate Shareholder Profits"

The need for immediate recognition of the shortfall is based on Section 3.7 of LPS1.04, which states:

"3.7 When the valuation results in expected future profits for a Related Product Group that are below the Adequacy Threshold for that product group, the value of the shortfall must be recognised immediately as a loss."

Section 11.5 of LPS1.04 describes that only the expected future profits are to be used to meet the Adequacy Threshold.

Section 11.5 defines how the Adequacy Threshold is calculated:

"11.5 The Adequacy Threshold for the Value of Future Best Estimate Bonuses and Shareholder Profits under Related Product Groups in respect of benefits that are contractually linked to the performance of the assets held (i.e. where a risk free discount rate is not used to discount future expected cash flows) is equal to the difference between:

- a) the Best Estimate Liability on Basis 2 (either in accordance with paragraph 9.1.3 or paragraph 10.1.3, whichever is applicable), but using a risk free discount rate (or rates) based on the current observable, objective rates that relate to the nature, structure and term of the future liability cash flows; and
- b) the Best Estimate Liability on Basis 2."



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The difference in the definition of the policy liability under AASB1038 and LPS1.04 and the different descriptions of the adequacy test under AASB1038 and LPS1.04 lead to different interpretations.

Example 2 – Only Use VSA to Meet the Liability Adequacy Test – Complications

The complication is the same as that for Example 1 in Appendix A4.2 and Example 1 above: from a shareholder point of view, the loss is irreversible. Once the liability has been increased and the cost of the increase in the liability has been allocated 100% to shareholder, under section 60 of the Life Act, a subsequent decrease in the policy liability due to a reduction in the asymmetric risk reserve cannot be allocated 100% to shareholder and must be split (generally) 80/20 between policyholder and shareholder.

Again, the considerations discussed in paragraph (g) of Appendix A4.1 can be taken into account. Unlike in Example 1, where exclusion of the PRP in the calculation of the asymmetric risk component of the BEL_{RFR} may reasonably be required, for Example 2, the *inclusion* of the PRP in the calculation of the asymmetric risk component of the BEL_{RFR} would be a more reasonable approach.

However, just like in Example 1, exclusion of the future profit margins in the calculation of the asymmetric risk component of the BEL_{RFR} would reasonably be required as the excess of the BEL_{RFR} over the BEL is compared to the future profit margins.

END OF INFORMATION NOTE



APRA

Prudential Practice Guide

CPG 110 – Internal Capital Adequacy Assessment Process and Supervisory Review

March 2013

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About this guide

This prudential practice guide (PPG) assists regulated institutions in developing their Internal Capital Adequacy Assessment Process (ICAAP), including the required documentation, and in understanding the Australian Prudential Regulation Authority's (APRA's) approach to the supervisory review process for setting supervisory adjustments to required capital. The information in this guide supports compliance with *Prudential Standard APS 110 Capital Adequacy* (APS 110), *Prudential Standard GPS 110 Capital Adequacy* (GPS 110) and *Prudential Standard LPS 110 Capital Adequacy* (LPS 110). These prudential standards set out requirements in relation to the capital adequacy of a regulated institution, including the need for a regulated institution to have an ICAAP, and establish a framework for supervisory review and adjustment of a regulated institution's capital requirements.

In this PPG, the term 'capital standards' will be used to refer to APS 110, GPS 110 and LPS 110, unless otherwise indicated. The term 'regulated institution' will be used to refer to an authorised deposit-taking institution (ADI) on a Level 1 basis or a group of which an ADI is a member on a Level 2 basis, a general insurer or Level 2 insurance group, or a life company (including a friendly society).

This PPG is designed to be read together with the capital standards and does not address all prudential requirements in relation to ICAAPs.

Subject to meeting the capital standards, regulated institutions have the flexibility to configure their approach to capital management in a manner best suited to achieving their business objectives. Not all of the practices outlined in this PPG will be relevant for every regulated institution and some aspects may vary depending upon the size, complexity and risk profile of the institution.

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Part A – Internal Capital Adequacy Assessment Process

Board ownership of the ICAAP

1. Under the capital standards, the Board of a regulated institution has primary responsibility for the capital management of that institution. This obligation goes beyond the need to ensure compliance with regulatory capital requirements and requires the Board to ensure that each regulated institution holds capital resources commensurate with its risk profile.
2. Consistent with that overarching responsibility, the capital standards require each regulated institution to have an ICAAP that has been approved by its Board.
3. While the ICAAP may be developed by the regulated institution's senior management with input from relevant areas and experts across the organisation (including the Appointed Actuary where relevant), the capital standards require the Board to be actively engaged in the development and finalisation of the ICAAP and the oversight of its implementation on an ongoing basis.
4. APRA expects the Board to robustly challenge the assumptions and methodologies behind the ICAAP and the associated documentation. APRA expects the Board to understand and to be able to explain the key aspects of the ICAAP and why it is considered appropriate for the institution.
5. APRA expects the ICAAP to be integrated into the decision-making processes of the regulated institution and considered in strategic and business planning.

Risk appetite and risk management framework

6. The Board is responsible for the risk appetite of a regulated institution and for ensuring that the institution has an appropriate risk management framework. Risk appetite is a fundamental part of both risk management and capital management.
7. An ICAAP involves an integrated approach to risk management and capital management, based around assessing the level of, and appetite for, risk in the regulated institution and ensuring that the level and quality of capital is appropriate to that risk profile. APRA expects these processes of risk and capital considerations to have clear linkages, and be consistent with one another and with the business planning process. The processes will also be embedded in the institution's operations and be key inputs into decision-making.
8. APRA expects that the risk appetite and risk management framework of a regulated institution will address all material sources of risk for that institution. This will include risks that are covered by specific regulatory capital requirements and risks that are not, regardless of whether those risks are able to be quantified.
9. Since a regulated institution is required under the capital standards to have an appropriate ICAAP in place at all times, it follows that material changes in its risk profile or risk appetite would prompt a reconsideration of capital needs and a review of the ICAAP.

Requirements for the ICAAP

10. The capital standards set a number of minimum requirements for an ICAAP, which include:
 - (a) processes for assessing the risks arising from a regulated institution's activities and ensuring that capital held is commensurate with the level of risk; and
 - (b) a strategy for maintaining adequate capital over time, including the setting of capital targets consistent with the risk profile of the institution, the risk appetite and regulatory capital requirements.¹

Risk coverage

11. APRA expects that the ICAAP will consider all risks to which the regulated institution is exposed. As an indication:
 - (a) for insurers, this will include asset risk, credit risk, asset/liability mismatch risk, insurance risk, asset concentration risk, insurance concentration risk and liquidity risk;
 - (b) for ADIs, this will include credit risk, liquidity risk, market risk, interest rate risk in the banking book and risks associated with securitisation; and
 - (c) for all regulated institutions, this will include operational risk, strategic and reputational risks and contagion risks. Other risks may be relevant for individual regulated institutions and, if so, will ordinarily be considered in the ICAAP.
12. Correlations between and within risk categories are a potential source of capital volatility. Historical experience shows that these correlations can change rapidly, particularly in times of stress in markets. The ICAAP of a regulated institution will ordinarily have regard to the potential impact of volatility in any assumed correlations.

Proportionality

13. Under the capital standards, the ICAAP of a regulated institution must be appropriate for its size, business mix and complexity. Each institution's ICAAP will be tailored to the circumstances of the institution. For more complex institutions, appropriately sophisticated processes are expected; for simpler institutions with limited product offerings and simple investment structures, simplified approaches may suffice. The complexity or otherwise of an institution's ICAAP will be expected to reflect the Board's and senior management's view of the institution's functional complexity.

Forward-looking capital management

14. Prudent practice is for regulated institutions to ensure that capital management is forward-looking, having regard to changes in strategy, business plans, operating environment and other factors that might impact on the risk profile of the institution and the capital resources available. In addition to changes in business plans and operating environment that have been anticipated by the regulated institution, the institution will also typically consider how it could react to unanticipated changes. External factors such as a period of strong credit growth in the economy can be relevant considerations to take into account (particularly for ADIs given their potential impact on regulatory capital requirements if a countercyclical capital buffer is invoked).

¹ For ADIs, this will include the capital conservation buffer and any countercyclical capital buffer.

Group ICAAP considerations

15. Where relevant, a regulated institution's ICAAP will also typically take into account the risks to which that institution is exposed due to its membership of a broader corporate group (whether or not that group is an APRA-regulated Level 2 or Level 3 group). These risks can include contagion risks, counterparty risks, reputational risks and risks related to operational dependencies such as shared functions and systems. Assessment of capital resources at a group level will need to have regard to the transferability of capital between group entities in a range of market conditions.
16. Under the capital standards, a regulated institution may make use of a group ICAAP or components of that ICAAP. In doing so, the Board of each regulated institution in the group is still required to ensure that the ICAAP is appropriate and meets the requirements of the capital standards in relation to the institution.

Documenting the ICAAP

17. A regulated institution's ICAAP will include a range of processes and systems for assessing capital requirements relative to the risks to which the institution is exposed, setting target capital levels, projecting and monitoring the capital position, taking action if capital levels fall below target levels, and reporting on the process and its outcomes to the Board. These underlying processes will ordinarily be documented in various policies and procedural documents.
18. The capital standards require a regulated institution to document its internal processes for assessing capital adequacy in an ICAAP summary statement and an ICAAP report (discussed below). Under the capital standards, the processes documented in the ICAAP must be those that are actually used by the regulated institution.

Setting the target levels of capital

19. A key component of an ICAAP is the setting of target levels of capital. The capital standards require a regulated institution, as part of the ICAAP, to set capital targets based on its own assessments of its capital needs. Capital targets will have regard to, but not be set solely by reference to, regulatory capital requirements. Both the quantity and quality of capital will ordinarily be assessed by the institution. An institution will typically consider both bottom-up (for example, by summing capital amounts for individual risks) and top-down (for example, by stress testing of the overall capital position) perspectives on the adequacy and composition of its capital.
20. APRA expects that the Board will satisfy itself that the capital targets are in line with the risk appetite. This will include consideration of the Board's appetite for potential breaches of regulatory capital requirements.
21. A range of considerations will ordinarily be taken into account in setting capital targets:
 - (a) the risk appetite of the regulated institution;
 - (b) regulatory capital requirements;
 - (c) internal assessments of capital needs, including those arising from the institution's business plans and strategy;
 - (d) the likely volatility of profit and the capital surplus;
 - (e) dividend policy;
 - (f) where relevant, ratings agency assessments; and
 - (g) access to additional capital.

22. There is a range of approaches that institutions can use in setting target capital levels including stress testing approaches. While APRA does not require an economic capital model to be used, a more sophisticated institution may choose to use such a model as well as stress testing.
23. A key purpose of setting capital targets that exceed regulatory minima is to protect against breaches of the Prudential Capital Requirement (PCR), enabling a regulated institution to continue operating in the event of significant stress. Under the capital standards, a regulated institution will be subject to minimum requirements in relation to Common Equity Tier 1 Capital, Tier 1 Capital and Total Capital. Such requirements may be set by the operation of the prudential standards or specifically modified by APRA applying a Pillar 2 adjustment. Accordingly, a regulated institution will typically consider the possibility of breaching the capital requirements in respect of each of these components and set targets accordingly. This will necessarily include consideration of an appropriate composition of the capital buffers, taking account of the need for the buffers to perform their function of absorbing losses on an ongoing basis to allow the institution to continue to operate in the face of stressed conditions.
- (c) the extent of additional capital necessary to cover planned business growth, whether organic or by acquisition;
- (d) the extent to which the institution can take action to lower its required capital (e.g. by reducing risk-weighted assets for ADIs or de-risking to reduce the prescribed capital amount for insurers);
- (e) the need to ensure adequate immediate and projected capital coverage in a wide range of market and economic conditions, including severely stressed scenarios, over a reasonable period of time (taking into account, where relevant, any ability of the capital conservation or countercyclical capital buffers to absorb losses incurred during severe levels of stress);
- (f) economic capital requirements; and
- (g) where relevant, the impact of ratings agency assessments, shareholder expectations and market considerations on capital needs.

Strategy for maintaining adequate capital over time

24. A regulated institution's strategy for ensuring that adequate capital is maintained over time, as required under the capital standards, will typically take account of a range of capital-generating and capital-consuming factors:
- (a) the extent of organic capital growth through retained earnings;
- (b) the ability to access additional external capital of any form: whether Common Equity Tier 1 Capital, Additional Tier 1 Capital or Tier 2 Capital, including, where relevant, the ability and willingness of the major shareholders, parent company or broader group to contribute additional capital to the regulated institution;

Trigger levels and related actions to manage the capital position

25. To avert capital falling below target operating levels and, in the most severe case, breaching regulatory requirements, an institution is required under the capital standards to have capital triggers in place. These triggers are intended to serve as early warning indicators and thereby provide the Board and senior management with time to rectify problems and restore capital while the institution continues to operate.
26. APRA expects that there will be a graduated series of triggers above the PCR to protect against breaches of the PCR and to manage capital on an ongoing basis. The sets of potential actions associated with the various triggers will vary according to the nature of the stress and, ordinarily, will increase in intensity as capital surplus reduces. APRA expects very strong immediate actions in the event of a breach of the PCR.

27. APRA acknowledges that the capital position of a regulated institution will vary around target capital levels set in the ICAAP over time, and may fall below target capital levels from time to time. This is acceptable as long as the regulated institution acts in accordance with the trigger points and actions set out in its ICAAP, including reporting to APRA as appropriate (and subject always to the requirement that the institution not breach the PCR).
28. A range of actions may be available to a regulated institution to protect its capital position, including:
 - (a) raising additional external capital or capital from group sources;
 - (b) adjustments to dividend policy and dividend reinvestments plans;
 - (c) slowing or ceasing new business;
 - (d) in the case of insurers, entering into reinsurance arrangements;
 - (e) sales of parts of the business;
 - (f) asset sales;
 - (g) changes to investment strategy;
 - (h) changes to product pricing; and/or
 - (i) changes to business mix.
29. In considering these actions, a regulated institution will typically have regard to:
 - (a) the extent to which the action would improve the capital position;
 - (b) the timeframe over which the action would have effect;
 - (c) whether the action is realisable in a severely stressed scenario;
 - (d) whether there are dependencies (such as on key investors or particular markets) and relevant contingency plans; and
 - (e) the impact of the actions on the franchise value of the business and its ability to operate as a going-concern.
30. In addition to the actions available to a regulated institution to manage its capital position, APRA has the ability to trigger a non-viability event in relation to a regulated institution under *Prudential Standard APS 111 Capital Adequacy: Measurement of Capital* (APS 111), *Prudential Standard GPS 112 Capital Adequacy: Measurement of Capital* or *Prudential Standard LPS 112 Capital Adequacy: Measurement of Capital*. APRA expects that regulated institutions will consider actions to protect its capital position that will obviate the need for APRA to declare a non-viability trigger event.
31. APRA expects that a regulated institution will have in place procedures for reacting to receipt of a notice of a non-viability trigger event from APRA, including processes to ensure that conversion or write-off occurs in line with the requirements of the relevant prudential standard.
32. For ADIs, APS 111 requires that Additional Tier 1 instruments classified as liabilities must be converted or written-off where the ADI's Common Equity Tier 1 Capital ratio falls to or below 5.125 per cent of risk-weighted assets. APRA expects an ADI's ICAAP to include early warning signals as well as measures to ensure conversion or write-off happens immediately and irrevocably. This will include processes to monitor whether the trigger has been reached and processes to execute the necessary conversion or write-off in line with the requirements of APS 111.

Stress testing

33. The capital standards require a regulated institution to include stress testing and scenario analysis in its ICAAP. Stress testing and scenario analysis can assist in the formulation of capital targets and trigger levels by:
- (a) assisting the regulated institution to understand its risk profile;
 - (b) indicating and validating key assumptions (such as those assumptions to which the outcome is most sensitive);
 - (c) testing the appropriateness of proposed capital targets;
 - (d) testing the risk appetite of the institution against its ability to bear risk (i.e. the risk capacity);
 - (e) providing a reasonableness check on the outputs of capital modelling (whether an APRA-approved internal model used for calculating regulatory capital requirements or other models used in capital management and planning); and
 - (f) being readily understandable to the Board and senior management.
34. Stress testing and scenario analysis will be tailored to the individual regulated institution and its particular risk exposures. Scenarios will typically cover the full range of material risks to which the institution is exposed.
35. A range of approaches may be useful:
- (a) scenario analysis including:
 - (i) historical scenarios (such as the global financial crisis experience, early 1990's Australian recession, 1987 stock market event, Japan's 1990's 'lost decade');
 - (ii) statistically generated scenarios; and
 - (iii) hypothetical scenarios developed by the institution;
 - (b) sensitivity testing;
- (c) stress testing based on statistical factors or historical experience;
 - (d) reverse stress testing designed to identify a stress scenario that would cause failure of the regulated institution;
 - (e) longer-term scenarios (such as the impact of a prolonged low interest rate or low investment earnings environment) and short-term scenarios (such as market shocks and insurance events); and
 - (f) a combination of scenarios (e.g. a series of less severe but more frequent events).
36. A regulated institution will typically make use of a range of stress scenarios in its testing program. APRA expects that stress scenarios considered will range in impact and include very severe scenarios.

Review of the ICAAP

37. The capital standards require a regulated institution to arrange for regular and robust review of its ICAAP by appropriately qualified persons who are operationally independent of the conduct of capital management. A range of reviewers may be utilised as part of the independent review process to take advantage of diverse skills and functions. For example, a regulated institution may make use of internal audit, external audit, risk management personnel or other external consultants to undertake aspects of the review. Importantly, APRA has not required that the review be undertaken by an external party. Internal resources may be appropriate, where it can be demonstrated that they have the requisite skills and operational independence.
38. The required review does not have to cover the entire ICAAP in one review. It may be appropriate for a regulated institution to implement a review program designed to cover the whole ICAAP process over time, by way of a series of focussed reviews of individual components of the overall process. Regardless of the structure of the review program, APRA expects that it will comprehensively cover the ICAAP over a reasonable timeframe (such as three years).

39. It will be appropriate to consider a range of factors in reviewing the ICAAP, including:
- (a) the ongoing appropriateness of the assumptions and methodologies used in the ICAAP;
 - (b) the appropriateness of the stress and scenario testing;
 - (c) any limitations of the ICAAP;
 - (d) the accuracy and extent of data relied on in calculations;
 - (e) the consistency of the ICAAP outcomes with the risk appetite of the Board and the risk capacity of the entity;
 - (f) the effectiveness of key controls relied upon for the purposes of the ICAAP;
 - (g) any non-compliance with the policies and procedures underpinning the ICAAP and the actions taken to address such non-compliance;
 - (h) the appropriateness of planned capital outcomes;
 - (i) the appropriateness of planned changes to the ICAAP;
 - (j) changes in the external environment;
 - (k) changes to the risk appetite and risk profile of the institution;
 - (l) the group ICAAP, if relevant; and
 - (m) developments in industry good practice.
40. APRA expects that a regulated institution will have in place processes to report the outcomes of the review to the Board and senior management, as well as processes to assess and respond to any recommendations for change arising out of the review.

ICAAP summary statement

41. An ICAAP summary statement is a high-level document that describes and summarises the capital assessment and management processes of the regulated institution. It serves as a roadmap to the ICAAP that allows the Board and APRA to understand the capital management processes of the institution. APRA anticipates that the ICAAP summary statement will refer to other policies and procedures, but will be relatively self-contained.
42. APRA has not mandated any particular format for the ICAAP summary statement – a regulated institution is able to adopt the form that best suits the circumstances of its business. APRA also has not mandated that the ICAAP summary statement and ICAAP report (discussed below) be contained in separate documents. If a regulated institution chooses to do so, it may address the two requirements in a single document, subject to meeting all the requirements of the capital standards. Note, however, that the ICAAP report is required to be updated each year, whereas the summary statement may have a longer life.
43. In addition to the items required in the capital standards, the ICAAP summary statement will typically also include:
- (a) a description of the risk appetite of the institution, including a statement of the actual appetite for risk, how it has been derived and how it is integrated with strategic and business planning, risk management and capital management;
 - (b) a clear statement of the scope and coverage of the ICAAP, including its application to group entities where relevant;
 - (c) a description of the key internal controls relied upon for the ICAAP;
 - (d) a description of the approaches to, and processes for, risk assessments and capital allocation, and the linkages between these processes;

- (e) a description of the procedures and persons involved in approving, reviewing and monitoring compliance with the ICAAP;
 - (f) an outline of the procedures and persons responsible for the ongoing implementation of the ICAAP;
 - (g) a description of the approach to capital allocation including the basis on which it has been undertaken; and
 - (h) if allowances have been made for diversification, how these allowances have been derived.
46. For insurers, it may be appropriate in some circumstances to incorporate the ICAAP report into the Financial Condition Report (FCR) prepared by the Appointed Actuary. Such an approach can aid in administrative simplicity but APRA does not expect an insurer to take this approach unless the Board of the insurer is satisfied that, in so doing, the independence of the Appointed Actuary is not compromised and that the Board retains clear ownership of the ICAAP. In order to demonstrate that ownership, it is appropriate for the ICAAP report to form a separately identifiable and distinct sub-component of the FCR. It is not appropriate for the Board to simply accept without challenge the work of the Appointed Actuary in producing the ICAAP report. APRA expects in most cases that the ICAAP report will be a separate document.
47. The timing of the ICAAP report is a matter for the individual regulated institution, subject to the overall requirement that the report be completed annually. An institution may choose to prepare the report as part of its annual planning process, or may choose to undertake it as part of the year-end reporting process. Where an insurer elects to include the ICAAP report in the FCR, the combined report will need to be provided to APRA within the allowed timeframe for submission of the FCR under *Prudential Standard LPS 320 Actuarial and Related Matters* or *Prudential Standard GPS 320 Actuarial and Related Matters*.
48. APRA anticipates that the ICAAP report will involve both quantitative and qualitative analysis. Sufficient detailed description will typically be provided to explain how quantitative results have been derived.

ICAAP report

44. As for the ICAAP summary statement, APRA has not mandated any particular format for the ICAAP report. Neither the ICAAP summary statement nor ICAAP report need to be prepared specifically for APRA; documents used for internal purposes can be used to meet the APRA requirements, so long as the requirements of the capital standards are satisfied.
45. The ICAAP summary statement and ICAAP report are prepared for distinct purposes and are conceptually separate. The ICAAP summary statement is a point-in-time summary description of the capital management processes of the regulated institution. The annual ICAAP report details the outcomes of the implementation of these processes over the previous year and also looks forward for at least a three-year period to illustrate expected capital outcomes. APRA's expectation is that the ICAAP report is likely to change significantly from year-to-year, while the ICAAP summary statement will be relatively stable over time.

49. In addition to the items required in the capital standards, the content of an ICAAP report will typically include:
- (a) details of planned capital management actions and other management actions impacting on the capital position with explanations of why they are being undertaken and their impact. This includes dividends, buy-backs, capital transfers, issue of capital instruments, redemptions of instruments and major asset or liability transactions that impact on the capital position;
 - (b) a description of action plans (including timeframes) if the capital projections contained in the report show a need to raise capital or take other actions to protect the capital position;
 - (c) a description of the regulated institution's current regulatory capital, including key contractual terms of its capital instruments. A description of the key areas of difference between any Additional Tier 1 Capital or Tier 2 Capital instruments and Common Equity Tier 1 Capital is likely to be useful;
 - (d) an assessment of the expected sources and uses of capital over the planning horizon assuming both expected and stressed conditions;
 - (e) an assessment of anticipated changes in the regulated institution's risk profile over the planning horizon. This will include any expected changes outlined in the institution's business plan or strategy that would be likely to have a material impact on its capital position. It will also, at Level 2, have regard to any proposed changes in group composition and structure over the planning horizon; and
 - (f) where relevant, reconciliation of economic and regulatory capital including explanation of the areas of difference and their impact on the result.

Part B – APRA supervisory review

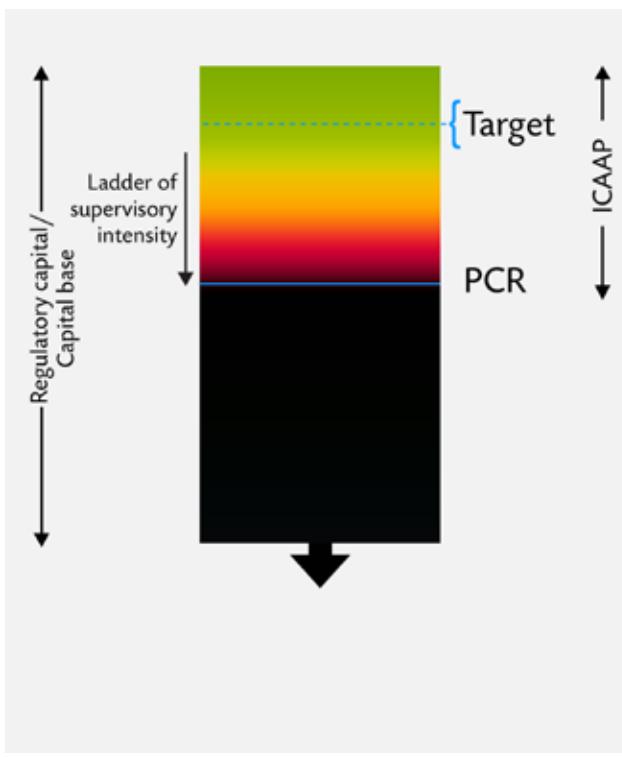
A three-pillar approach to capital adequacy

50. APRA's capital adequacy framework for a regulated institution is based on a three pillar approach. The three pillars, intended to be mutually reinforcing, are as follows:
- (a) Pillar 1 – quantitative requirements in relation to required capital, eligible capital and liability valuations;
 - (b) Pillar 2 – the supervisory review process, which includes supervision of the risk management and capital management practices of regulated entities and may include a supervisory adjustment to capital; and
 - (c) Pillar 3 – disclosure requirements designed to encourage market discipline.
51. From a purely capital perspective:
- (a) the Pillar 1 required capital of a regulated institution is determined in accordance with the applicable prudential standards;
 - (b) as part of the Pillar 2 supervisory process, APRA may require a regulated institution to meet a PCR above the minimum amount calculated in accordance with the prudential standards, known as a 'supervisory adjustment' or 'Pillar 2 supervisory adjustment'; and
 - (c) Pillar 3 disclosure allows market participants to better assess the capital adequacy of an institution with respect to its risks. This is especially important given the information asymmetries that exist between regulated institutions and market participants. The Basel Committee on Banking Supervision has highlighted poor market disclosure as a factor that has hindered the ability of market participants to properly assess the capital adequacy of banks.

Principles underlying the Pillar 2 supervisory review process

52. Four key principles underpin APRA's Pillar 2 supervisory review of capital adequacy:
- (a) each regulated institution must have an ICAAP, approved by its Board. APRA's expectations regarding ICAAPs are set out in the capital standards and in this PPG;
 - (b) APRA will review and evaluate a regulated institution's ICAAP and take supervisory action if it is not satisfied with the quality of the ICAAP;
 - (c) each regulated institution must operate above its PCR and in accordance with the framework of target capital levels and trigger points it has established in its ICAAP. APRA will adjust the PCR where there are prudential reasons to do so. These supervisory adjustments are made under the capital standards and are discussed below; and
 - (d) APRA will intervene at an early stage if a regulated institution's capital shows any signs of falling below the PCR and will require remedial action if capital is not maintained or restored.

53. The intensity of APRA's supervisory attention will increase as the regulated institution's capital level approaches the PCR. The PCR is the regulatory minimum and any breach of the PCR can be expected to generate immediate supervisory action. A regulated institution that breaches the PCR will therefore need to take immediate steps to address this breach if it is to avoid explicit intervention by APRA.



54. Capital adequacy also depends heavily on the way a regulated institution monitors and manages its capital position and its risks. APRA therefore considers its supervision of a regulated institution's capital management and risk management to be of utmost importance.

Supervisory adjustments

Types of supervisory adjustment

For ADIs

55. APS 110 sets absolute minimum PCRs for Common Equity Tier 1 Capital, Tier 1 Capital and Total Capital. APRA has the ability, however, to apply a supervisory adjustment (Pillar 2 supervisory adjustment) such that an ADI is required to meet a PCR greater than these absolute minimum levels. In these cases, the ADI's PCR will be the amounts determined by APRA in respect of Common Equity Tier 1 Capital, Tier 1 Capital and Total Capital.
56. The capital conservation buffer (not shown on the diagram) is in addition to the minimum Common Equity Tier 1 requirement, and capital distribution constraints are automatically imposed on an ADI when its capital levels fall within the buffer range. APRA will add the capital conservation buffer to the Common Equity Tier 1 PCR that it determines for an ADI, which may be at or above the minimum in APS 110. APRA will, however, have regard to the cumulative impact of its capital requirements when determining the size of the capital conservation buffer to apply to an ADI.
57. APS 110 also introduces a countercyclical buffer designed to ensure that banking system capital requirements take account of the macro-financial environment in which ADIs operate. This buffer will be imposed, through an extension of the capital conservation buffer, when aggregate credit growth is judged by APRA to be associated with a build-up of system-wide risk.

For general insurers and life insurers

58. For insurers, a supervisory adjustment to minimum capital may take the form of an addition to the prescribed capital amount. In these cases, the insurer's PCR will be the prescribed capital amount calculated under the prudential standards plus any supervisory adjustment to the prescribed capital amount. Alternatively, APRA may apply an adjustment to the minimum requirements for the composition of the capital base used to meet the PCR. As an indication, APRA may make such an adjustment where it has concerns about the relative levels of the different components of capital held by the insurer, or where APRA is concerned about the quality of the surplus capital and its loss-absorbing ability. These types of supervisory adjustments are referred to as 'Pillar 2 supervisory adjustments'.
59. For insurers, APRA also has the power to adjust any aspect of the prescribed capital amount calculation where, in its view, application of the method outlined in the prudential standard does not produce an appropriate outcome. This type of supervisory adjustment is referred to as a 'Pillar 1 supervisory adjustment'. Such an adjustment could result in an increase or decrease in the prescribed capital amount depending on the circumstances and nature of the adjustment. This power will be used where interpretation of the requirements in the standard by an insurer is seen by APRA as being incorrect or inappropriate, or where unusual asset structures or lines of business that are intended to be covered by one of the capital charges are not specifically captured in the standard. For example, an adjustment could be made for unusual types of derivative transactions that are not fully captured under the Asset Risk Charge or newly developed products which are not contemplated under the Standard Method set out in the prudential standards. An adjustment could be made, for example, by specifying a different parameter in the calculation process to that prescribed in the prudential standard.

Circumstances in which a Pillar 2 supervisory adjustment may be considered

60. As a non-exhaustive indication, APRA may consider imposing a supervisory adjustment on a regulated institution in a range of circumstances, including:
- (a) the calculation of required capital set out in the prudential standards does not adequately address the risks specific to the institution (e.g. strategic risk, reputation risk or other risks not adequately catered for by those capital calculations due to some aspect of the institution's business or operations);
 - (b) the institution is using a business model, has an organisational structure or is following a business strategy that APRA regards as highly risky, or overly difficult to assess, in a way that is not captured under the calculation of required capital set out in the prudential standards;
 - (c) the institution is newly licensed or has recently materially changed, or plans to materially change, its business mix;
 - (d) APRA has identified material issues with the competence or probity of responsible persons associated with the institution;
 - (e) APRA has identified material weaknesses in the institution's governance, or deficiencies in the suitability, adequacy or effectiveness of its risk management framework or strategy;
 - (f) the institution has failed to comply with applicable prudential standards, or has complied in a way that, in APRA's view, is not consistent with the spirit or intent of those standards;
 - (g) the institution's ICAAP is not well-defined or documented, or its target capital policy is assessed as being inadequate, e.g. due to a lack of sufficiently rigorous stress and scenario testing;

- (h) APRA has concerns about the relative levels of the different components of capital held by the institution or about the quality of the surplus capital and its loss-absorbing ability; or
- (i) the institution has been unable to restore its capital position to target capital levels in accordance with its ICAAP in a timely manner.

Processes for determining Pillar 1 and Pillar 2 supervisory adjustments

- 61. Any supervisory adjustment will typically be determined as part of APRA's regular supervisory assessment of a regulated institution, and institutions are already familiar with APRA's overall supervisory approach. As with other supervisory decisions, consideration by APRA of the need for, and nature of, any supervisory adjustment to prescribed capital will typically involve discussions with the regulated institution. APRA reserves the right, however, to impose a supervisory adjustment outside of the ordinary supervisory process if it is considered necessary to do so. This may occur, for example, where APRA determines it is necessary to act rapidly to protect the interests of policyholders or depositors.
- 62. A decision whether to impose a supervisory adjustment, and the size of that adjustment, will be based on information available to APRA from the full range of APRA's supervision activities, including:
 - (a) off-site analysis;
 - (b) on-site reviews;
 - (c) PAIRS assessment/SOARS stance²;
 - (d) review of the ICAAP;
 - (e) discussions with the regulated institution;
 - (f) any plans by the regulated institution to address APRA's concerns, including the clarity, viability and timeliness of the plans; and
 - (g) any other information held or sought by APRA.
- 63. The reasons leading to the decision to apply a supervisory adjustment will be disclosed to the regulated institution. Depending on the basis for the proposed adjustment, APRA may first seek to have the regulated institution address the areas of concern through, for example, changes to its operations, governance or risk and capital management framework or processes. If a supervisory adjustment has been imposed and the regulated institution has subsequently addressed the issues that led to the adjustment, APRA will review the need for continuation of the supervisory adjustment.
- 64. The process for determining any supervisory adjustment, including implementation timing, will be subject to APRA's internal governance processes, including review at appropriate levels within APRA. APRA's processes for determining supervisory adjustments include comparisons of a regulated institution within relevant peer groups.

² PAIRS is APRA's Probability and Impact Rating System, SOARS is APRA's Supervisory Oversight and Response System. (For further information refer to <http://www.apra.gov.au/AboutApra/Pages/Supervision.aspx>)

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Managing Profits in a MoS Environment

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1 Introduction

The life industry is in the throes of a reporting revolution. It is preparing to report its annual profit on a realistic basis for the first time. The reporting method is known as Margin on Services (“MoS”). Though final standards have not yet been issued by the Life Insurance Actuarial Standards Board (“LIASB”), the basics of MoS are well known. They have been developed by the industry, actuaries and accountants over a number of years. Life companies have provided their 1994 MoS policy liabilities to the ISC and, by the time this paper is published, are due to have submitted their 1995 MoS policy liabilities. These results have not been published. The first published MoS results are due in respect of valuation dates on or after 31 December 1996. Some companies have already published MoS results and there are others which have been using other realistic reporting methods, in some cases for a number of years.

We believe that the use of the same realistic profit reporting regime by all life companies will herald many changes for life company management. These will be driven by:

- comparisons of company profitability in the press and by financial analysts
- owners, policyholders, boards and management focussing on published profit in the current year.

We have written this paper to anticipate these changes and to suggest the management information which life companies will need in order to deal with them. The theme of this paper is that the published profit will become *the key indicator* of a company's success. This internal use of published profits is both good and bad. In this paper we deal with the minimisation of some of the bad aspects as well as highlighting the good.

② The Current Situation In Australia

2.1 The Use of Embedded Values

Over the last ten to fifteen years, many companies have developed in-house forms of reporting which have been based around embedded values. Embedded value profits (i.e. increase in embedded value, removing the effect of capital injections and dividends paid) have been a key internal indicator of success for these companies.

This focus on embedded value profits for management reporting was due to four main factors –

- the absence of an appropriate statutory profit regime
- the view of embedded value profits as the “actuarially correct” measure of success
- the use of embedded values in mergers and acquisitions
- the publication of embedded values in some companies' annual reports.

On the whole, however, companies have not published their embedded value profit and therefore it has attracted little public comment or understanding.

The arguments for using embedded value profit have been well documented, and include -

- it is a realistic measure that reflects the amount and cost of capital
- it gives management the right signals, including showing the value added by new business.

2.2 The Value of MoS as a Management Tool

When US GAAP became the standard for life company reporting in the USA, life companies took to using it for internal management reporting too. This aligned the internal and external focus on profitability. Therefore it is likely that the same will occur in Australia with MoS profit reporting.

A small informal survey of Australian actuaries has shown that they fall into two broad categories -

- those who intend to move the focus of their management reporting to MoS based results, with perhaps annual embedded value calculations to assess value; and
- those who intend to keep embedded values as the focus of their management reporting, with annual MoS calculations for statutory purposes.

The features of MoS which make it suitable for internal management purposes, apart from it being the external measure, are:

- *it is largely objective - profit* does not depend much on actuarial judgement and therefore it can be accepted easily
- *it is easily understood - the* results are a realistic measure of profit. It need not bother management that the technique for calculating the policy liabilities was complex
- it is comparable between companies - which should help MoS to gain acceptance.

2.3 Criticisms of MoS as a Management Tool

MoS profit alone is not a good internal management tool. Cant and French, in their paper “Margin on Services Reporting: The Financial Implications” concluded – “We believe it is not appropriate to manage a company primarily on the basis of MoS Operating Earnings” (Ref 1).

They suggested an extension to MoS profit, which was expanded by Robert Clark in his paper “Margin on Services Value Added” (Ref 2).

Broadly, the criticisms of MoS have come under five headings -

- provides no information on the cost of capital
- does not demonstrate distributable earnings
- fails to show the value added by new business
- gives incorrect signals on experience variance, especially for lapses and disability incidence
- gives no information about the actuary's changed view of the future.

In this section we address these matters one-by-one.

1. *Provides no information on the cost of capital*

We do not believe this is a valid criticism of a profit reporting tool. Capital management is an important subject but one which is different from profit reporting. A trading company would not reflect its cost of equity capital in its profit. It would measure its return on capital and make its own judgements about whether the returns were good enough or fell short of expectations. MoS profit reporting puts a life company in the same position.

2. *Does not demonstrate distributable earnings*

In all industries, including life insurance, there is a wide gulf between distributable and reported earnings. Financing the increase in capital adequacy reserves from profits is no different from a mining company provisioning profits to purchase a new ore extractor, rather than paying dividends. Measuring distributable earnings is an important management tool and useful information for valuing a company, but it is not a necessary profit management tool.

3. *Fails to show value added by new business*

It is useful to consider this criticism in the light of the reported profits of any other trading company. A trader will show a profit from selling business if it is a simple cash transaction in which the payment is made at the same time as the sale is made. This is equivalent to a life company making initial expense profits on single premium business. A cleaning company, for example, would not show a profit for winning the contract for cleaning a large office block. The profit would be made over the course of the contract. The mining industry provides another example. A mining company would not show a profit for discovering a new body of ore. The profit would emerge as the ore was mined and sold.

These examples illustrate that the life industry is not the only one whose profit reporting does not immediately reflect changes in the economic value of the business. Other industries have addressed this feature with financial models for valuing a company's business. Life companies use embedded values. We consider this to be quite appropriate as an adjunct to profit measurement but not a reason to change the method of profit reporting itself.

4. *Gives incorrect signals on experience variance*

Both the Cant & French and Clark papers have documented well the incorrect signals that may be given by the current year's MoS profit, and identified that focussing on the variance in profit margins is a way of overcoming this problem. In Sections 4 and 5 we have detailed how to calculate and present the analysis of profit in a way that does give the full

information which management needs. We also stress that, while current year's MoS profits may give the wrong signals, MoS profits over the next two or three years will certainly present the right story. We will show how management can understand the position better through the impact on next year's profits than through the capitalised value of the change in all future profits.

5. *Does not reflect changes in assumptions*

Consider a life company which suffers a deterioration in its expense position. Under MoS, it will have suffered a small reduction in its profit in the year in which the change occurred and thereafter, all other things being equal, it will continue to underperform its target return on capital. Thus the company gets reminded every year that it is not doing well enough.

To extend the mining example from above, the mining company would only show a profit from introducing new ore recovery methods which greatly reduced its costs when the savings were actually achieved. The impact would, instead, be shown through projections of the annual dollar savings and their impact on return on capital. Similarly, in Section 5, we give examples of projections of MoS profits that show the impact of the actuary's changed views. This example shows how MoS puts life companies in the same position as other businesses.

3 A Proposed Management Approach

3.1 Philosophy

The essence of profit reporting is that if a company does well its profit is positive and if it does badly then it will show a loss. That may represent too low a hurdle for some and a better starting point for measuring good or bad performance is the profit expressed as a rate of return on capital. Thus a company which does well has a return on capital which exceeds shareholders' expectations and one which performs badly fails to meet them. Either way, profit is used as a, if not the, measure of performance. It becomes particularly meaningful when analysed to its sources. Therefore it is important that a company's profit measurement and analysis system gives the right signals to management so the right actions are both encouraged and recognised while the wrong actions are discouraged but also recognised. For these purposes we will treat the right actions as those which increase the profits of the business over the life of the business. It is important to remember at this point that a profit reporting system only affects the timing of the emergence of profit. It does not alter the total amount of profit made. (We note that this is not true for participating business under MoS, for which the profit depends on the basis for valuing the cost of bonus.)

The philosophy behind this paper is a three-tiered approach to management reporting:

1. Calculate and monitor a target return on capital, i.e.

$$\frac{\text{MoS operating earnings attributable to shareholders}}{\text{shareholder capital employed}}$$

and

$$\frac{\text{MoS operating earnings attributable to policyholders}}{\frac{\text{(excluding cost of supportable additions)}}{\text{policyholder capital employed}}}$$

where

shareholder capital employed is share capital
plus retained MoS profits attributable to
shareholders

policyholder capital employed is retained
MoS profits attributable to policyholders.

Companies will judge whether they had a good or bad year by whether they achieved their target.

2. An analysis of MoS profits that shows the impact of experience on the current year's profit, presented in a way which gives management the right signals.
3. Also expressing the consequences of the current year's experience in terms of its effect on the next year's profit.

This fast aspect, expressing the impact of this year's experience on next year's profit, is critical in sending the right message to management. The point should also be made that it is not only next year's profits that are impacted, but that it is indicative of a long term shift in profitability. Management needs to understand that, under MoS, experience variance effects persist (gradually diminishing) for many years into the future.

3.2 Presentation of Results to Management

The presentation of MoS results to management presents the actuary with a dilemma. On the one hand, the results should be presented in a simple format; on the other, a detailed breakdown is required to give the right signals.

We have argued that MoS profit will become the key indicator of a company's success, both externally and internally. In this case any management report will need to include, for both MoS profit and return on capital -

- the results of the current period
- comparison against budget
- comparison with prior periods
- impact on next year's profit.

In comparing MoS profits against budget, the situation arises where short term expectations differ from long term MoS assumptions. (For example, where withdrawal experience is expected to be high in the year ahead due to factors particular to the company at the present time). In this case, the budgeted MoS profit will include a component for 'expected variance'. This item should be clearly identified and explained in management reports and become, effectively, the first item in the MoS analysis of profit.

The company's budgeting process will have been important for setting the target return on capital for the year, which will not necessarily be the same as the company's long term target. This is because MoS profits on a policy

would not emerge at a constant rate on the capital employed, but rather as service is provided over the policy's life. Thus a company's expected rate of return in a year will depend on the age and mix of its business. Many trading companies would find themselves in the same position. Assuming that the difference between the rate of return for the year and the target was understood at the time of setting the budget, management reporting over the year can concentrate on the reasons for any differences from the budget rate of return.

Because MoS profits emerge slowly, management needs to understand the impact of recent events and actions on future profits. Capitalising future values, of course, is the ultimate in incorporating long time periods, however we think it detracts from the basic message - it is earnings, not capitalised values, that drive success.

In Section 5 we have provided a sample set of management reports to illustrate these points.

3.3 Applicability

There is value in disseminating the results of the MoS investigations throughout the organisation. In particular public focus on published MoS results will mean agents, brokers and staff may be questioned on the company's results. The more they understand the results, the more they can comment appropriately. For example, all staff could usefully be shown Graphs 5.1 and 5.2, and Table 5.1 to coincide with release of the profit result. As with any internal management system, the question of remuneration based on profit results arises. The analysis of profit gives the ability to build a remuneration system based on the controllable components of the variance (See Section 4.3 for definitions of the components). Items to incorporate may include -

Expenses

Cashflow variance against expected (both acquisition and maintenance)

Discontinuances

Profit margin variance next year, arising from this year's experience

Underwriting

Profit arising from this year's experience

New Business Volumes

Additional profit margin release added to next year's expected MoS profits.

While these amounts will be lower than the capitalised impact, they relate remuneration to a short term, measurable impact.

3.4 Frequency

Companies will wish to calculate MoS profits more frequently than annually, in order to -

- give early signals of likely year end published profits
- provide numeric analysis which will be useful in managing the business
- integrate MoS reporting into the regular management control cycle.

How often are such calculations required? Some companies have contemplated monthly reporting. While this can be justified on the grounds of giving ongoing indicators of likely published profits, its limits include -

- MoS profits without the analysis of profit can give incorrect messages - but a monthly analysis of profit may be overly time-consuming
- monthly MoS profits may provide spurious results due to seasonal impacts, low volumes and timing impacts of claims.

At present, a quarterly MoS profit calculation, with a profit analysis and revised forecasts, seems an appropriate aim. Monthly reporting may become the norm later on. In Section 6 we discuss the requirements of mid-year valuations, particularly relating to resetting assumptions and recalculating profit margins.

4 The MoS Analysis of Profit

4.1 The General Approach

The analysis of profit is a comparison between actual and expected profit. It gives a breakdown of the difference into meaningful components that separate cash flows, liabilities and profit margins. We recommend a two-tiered attack on the analysis, using -

- a series of model office projections,
- supported by simple arithmetic rules of thumb.

This is a pragmatic approach which uses a series of projections on different assumptions. It involves changing the assumptions for the period, being analysed one at a time from 'expected' to 'actual'. While these successive runs can, eventually, be automated, we believe that actuaries can gain considerable insight by working through the projections we describe.

The method described applies to both the projection and accumulation methods for valuing MoS policy liabilities. In the case of the accumulation method, one year projections of cash flows and policy liabilities are required. These would not have been necessary for the valuation of policy liabilities but could have been created for business planning purposes.

We have developed a simple model office to demonstrate the basic principles and management reports comprising the MoS analysis of profit. Full details are given in Appendix A. We are using it to carry out the analysis of profit for a company analysing its profit over 1996.

Table 4.1 shows a summary of the model office analysis we have used. The aim of this Section is to help actuaries calculate, understand and explain the 'variance in operating earnings' component.

Table 4.1 – Analysis of Profit

	In Force	New Business	Total
	\$m	\$m	\$m
Operating Earnings	152.8	1.7	154.5
Represented by:			
Planned interest on capital assets	59.8	0.0	59.8
<i>Plus:</i>			
Planned release of MoS profit margins	10.6	3.2	13.8
<i>Gives:</i>			
Expected operating earnings	70.4	3.2	73.6
<i>Plus:</i>			
Variance in operating earnings	82.4	-1.5	80.9
<i>Gives:</i>			
Actual operating earnings	152.8	1.7	154.5

The following are required to perform the analysis

- actual cash flows over the period
- projections of cash flows and policy liabilities for business in force at the start of the period
- projections for new business written during the period
- actual policy liabilities at the end of the period.

The process we describe applies at any level of detail. It simply requires that actual and projected results be available to the same level of detail. In fact, it is quite possible to do the analysis at different levels of detail for different parts of the analysis, e.g.

- expense profit could be analysed at business line level
- interest profit could be analysed at statutory fund level, and
- claims profit could be analysed at product level.

The actual cash flows over the period need to be expressed as

Premium income less SCT
Investment income, less tax
Acquisition expenses* net of tax deductibility
Maintenance expenses* net of tax deductibility
Surrenders
Claims

* *including commissions*

To achieve this presentation requires actual expenses to be split between acquisition and maintenance and for tax to be split between investment income and expenses. Both of these tasks would, in many cases, be carried out for the setting of assumptions and, if so, would not represent extensive additional work.

The projections need to project actual cash flows as well as projecting policy liabilities. As explained below, they need to accept assumptions for the period being analysed different from the assumptions for subsequent periods. The projections include investment earnings on assets in excess of policy liabilities in the statutory funds and on the shareholders' fund. We expect companies would find it better to use modelled data for the projections than individual policy data.

4.2 The Analysis Projections

In this Section we describe a series of model office projections to perform the analysis and supply the full management information. We have assumed that short term budgets are based on MoS best estimate assumptions. Where this is not the case, an additional variance item should be calculated at the start – “expected variance”. This shows the difference between long term MoS assumptions and short term budgets. We do not believe that MoS assumptions need to reflect such short term variants - better signals may be sent if the long term view is taken and short term variance simply emerges. The analysis then proceeds as follows.

The analysis starts with a projection of business in force at the start of the period. This is combined with a projection of the expected new business to obtain the expected profit for the period. The assumptions in the projection of business in force are the MoS valuation assumptions used at the end of the previous period (the old assumptions). Thus the expected profit is the profit that would be earned if the MoS valuation assumptions are borne out in practice.

The new business projections would also use the old assumptions except for acquisition expenses. An appropriate assumption is needed for expected acquisition expenses in the period under review. In order to provide a useful benchmark against which to measure actual experience, the assumption should be consistent with pricing or with the company's business plan.

The new business projection has to calculate the profit margins on new business. The in force projection would use the profit margins calculated at the previous valuation. The analysis then proceeds with a series of projections.

The projections required are -

- P₁ Projected profits in respect of business in force at the start, plus expected new business during the period, both using old assumptions
- P₂ As P₁, changing to actual volume and profile of new business
- P₃ As P₂, changing to actual new business expenses (still using expected new business profit margins)
- P₄ As P₃, using recalculated new business profit margins
- P₅ As P₄, changing to actual discontinuance rates for the period (lapses, surrenders and premium dormancy)
- P₆ As P₅, changing to actual claim rates for the period (both mortality and morbidity)
- P₇ As P₆, changing to actual net investment earnings rates for the period
- P₈ As P₇, changing to actual maintenance expenses for the period, net of tax deductibility.

Projections P₂ to P₈ above are needed specifically for the analysis. P₁ is simply the valuation of policy liabilities at the start of the period. P₂ would use a different new business model from that in P₁. The new model would reflect the profile of the new business actually written (i.e. age distribution, average premium, etc) whereas P₂ would have used the expected profile.

In addition to the above projections, the company would have its MoS valuation at the end of the period on its new assumptions. As a check on the projected end-of-period policy liabilities in P₈, a valuation on the old assumptions could be run.

P_8 is important. It provides a projection for the period under review using hindsight. In a perfect world the projected cash flows from P_8 would be the same as the actual ones. In practice they will not be.

The differences need to be brought into the analysis. They also provide a useful check on the analyses of the company's experience and on the model office. We believe that material differences in premium income, expenses and claims should be investigated. Differences in investment earnings, surrenders and the change in policy liabilities are more likely to occur. This is particularly so for unit linked business, for which the model would not reflect the daily or weekly changes to unit prices and their impact on surrender payments. Generally we would expect the differences to offset each other. If their net total was small we would treat it as an untraced difference. Otherwise its investigation would depend on insight into a particular company's model and products which is outside the scope of this paper. This feature is a potential weakness of the analysis, although we believe that in practice it is manageable.

4.3 Components of Analysis

The above analysis needs to be checked and understood. To do this, we believe it is helpful to analyse the variance into three components. These components are easy for the actuary to understand and some of them help with the messages to be given to management.

Cashflow variance (CF)

The effect of experience differences on cashflows over the period (excluding changes in policy liability)

Best estimate liability variance (BEL) The effect of experience differences on the BEL at the end of the period

Profit margin variance (PM)

The effect of experience differences on the value of profit margins at the end of the period.

This three way split can be shown as follows -

Table 4.2 – MoS Analysis of Variance

	Cash Flow Variance \$m	BEL Variance \$m	Profit Margin Variance \$m	Total \$m
Capital Asset Variance				
Interest – on capital assets	21.8	0.0	0.0	21.8
In Force Variance				
Lapses	-159.5	117.2	10.4	-31.9
Mortality	27.9	-15.4	-0.1	12.4
Morbidity	-4.1	-9.2	-1.9	-15.2
Interest	55.8	-04.1	-0.4	41.4
Maintenance Expenses	-16.0	0.0	0.0	-16.0
Total In Force Variance	-95.9	78.5	8.1	-9.3
New Business Variance				
Acquisition Expenses	-5.1	0.0	4.1	-1.0
Volumes	2.4	-4.8	1.9	-0.5
Total N.B. Variance	-2.7	-4.8	6.0	-1.5
Change in Assumptions				
	0.0	72.5	-2.6	69.9
Total Variance				
	-76.8	146.2	11.5	80.9

The actual and expected experience used in our example are set out in Appendix A.

The following sections describe how to calculate the components of Table 4.2. They are in the nature of 'rules of thumb', giving results which are accurate enough for the purposes of providing information to management and checking the analysis.

4.4 Analysing New Business

New Business Volume: ($P_2 - P_1$)

The new business volume variance is calculated by comparing the actual volumes (on expected expenses) with the expected volumes (on expected expenses). In most cases, with a reasonably homogenous cohort, this can be done through rationing all items in line with new business volumes, by product.

In the example, the variance is simply -

$$\frac{(17,000 - 20,000)}{20,000} \quad \text{expected values}$$

More useful information can be obtained if the company splits its acquisition expenses between the fixed and variable components. Then the profit or loss arising from spreading the fixed acquisition expenses over the actual new business volume can be included in the variance due to new business volume. This has not been done in the example in the paper.

Acquisition Expenses ($P_4 - P_2$)

Any under- or over-spending on acquisition expenses will frequently have only a small impact on profit. This will be the case when there are no actual or expected losses to be capitalised on new business. In this case the difference between actual and expected acquisition expenses (on actual new business volumes) will be exactly matched by a higher or lower value of future profit margins at issue. The profit variance will be only the profit margin released in the period.

In the example, acquisition costs exceeded the pricing assumption by \$300 per policy. The cashflow impact was

$$-\$300 * 17,000 \text{ policies} = -\$5.1 \text{ m}$$

The expected profit margin was 32% of claim outgo. The revised profit margin to absorb the extra costs at acquisition was 20% of claim outgo. This loss is partially released over the remainder of the year, the balance results in a lower value of future profit margins at the end of the year and is calculated as -

$$\begin{aligned} & (32\% - 20\%) * \text{value of profit carrier at end} \\ &= 12\% - \$2,000 - 17,000 \\ &= \$4.1 \text{ m} \end{aligned}$$

These results are respectively $P_3 - P_2$ and $P_4 - P_3$.

The acquisition expenses have no affect on the best estimate liability and so the acquisition expense variance only affects two components of the analysis. These components are important to management which needs to know the amount of under- or over-spending on acquisition costs (the cash flow variance) rather than be given the impression that acquisition expenses have little effect on profit.

4.5 Analysing Discontinuance Rates($P_5 - P_4$)

In the example, actual discontinuances were 30%, not 20% for disability or 10% for the other products as expected. Rerunning the model, with the actual lapse rate, gives the following results -

Table 4.3 – Analysis of Discontinuances

	Cash Flow Variance	BEL Variance	Profit Margin Variance	Total
	\$m	\$m	\$m	\$m
Term	0.0	-50.7	5.2	-45.6
Disability	0.0	40.9	1.6	12.5
Annuity	0.0	0.0	0.0	0.0
Unit Linked	-159.5	157.0	3.6	1.2
Total	-159.5	117.2	10.4	-31.9

The total profit arising from the difference between actual and expected discontinuance experience can be understood by considering the marginal discontinuance. It has a surrender value (SV) paid out and the policy liability (PL) released at the time of discontinuance, i.e.

$$\text{MoS Profit} = \text{PL} - \text{SV}$$

This gives a means of checking the analysis above. Assuming discontinuances occur on average in the middle of the period, the estimated discontinuance profit variance is:

$$[\frac{1}{2} (\text{PL}_0 + \text{P}_1) - \frac{1}{2} (\text{SV}_0 - \text{SV}_1)] * [\text{N}_a, - \text{N}_e] * (1 + \frac{1}{2}i)$$

where $\text{PL}_0, \text{P}_1^*$ = Average polity liability per policy at the start and end

$\text{SV}_0, \text{SV}_1^*$ = Average surrender value per policy at the start and end

N_a = Actual number of discontinuances

N_e = Expected number of discontinuances

i = Expected rate of investment earnings.

* Note that for interest sensitive business, PL_1 and SV_1 depend on the investment earnings in the period. Since the analysis of discontinuances is being done before the analysis of investment earnings, PL_1 and SV_1 should be on the expected interest basis and not the actual one. They could be obtained from the projection run P_4 .

For greater accuracy, this check would best be done for each product line, separately for in force and new business. In practice, new business would most likely contribute little to the discontinuance variance and could be ignored.

For our example, this formula gives –

Product	Estimated Discountinuance Profit
	\$m
Term	-48.7
Disability	10.1
Unit Linked	3.3

The differences between the above figures and those in Table 4.4 are due to the cash flows not being at the mid-year and to the very large difference between the actual and expected discontinuance rates. In practice, smaller discrepancies would be expected.

To gain insight into the discontinuances profit variance, the above formula can be re-expressed as:

$$\begin{aligned}
 \text{MoS Profit} &= \text{PL} - \text{SV} \\
 &= (\text{BEL} + \text{PVPM}) - \text{SV} \\
 &= \text{PVPM} - (\text{SV} - \text{BEL}) \\
 \text{where BEL} &= \text{Best Estimate Liability} \\
 \text{PVPM} &= \text{Present Value of future Profit Margins}
 \end{aligned}$$

Thus the discontinuance profit variance represents the bringing forward of future profits to the date of discontinuance, offset by the excess of the surrender value paid over the value of future liabilities.

The component of profit, PVPM, would have been earned later if the policy had remained in force. It does not represent good performance by the company. The second component (SV - BEL) represents the value added or subtracted by discontinuances. Most usually SV>BEL and, if so, higher discontinuances represent poor performance.

Looking at our example in this way:

- *Term Insurance* - had a negative BEL (an asset) and so the extra terminations represented a loss of this asset. It was only partially offset by the advancing of future profits.
- *Disability* - had a positive BEL, meaning that the extra discontinuances saved on claims which could not have been met from future premiums alone. The profit shown does represent good performance by the company. This situation could arise on level premium business. It would be unlikely to arise on stepped premium business, unless the product was particularly unprofitable.

- *Unit linked - showed a profit even though SV>BEL.* Nevertheless the profit was generated by the advancing of future profits and so represented poor performance by the company.

The variance items are read off as the difference between the two runs - the important item is the reduction in the value of future profit margins by \$10m.

4.6 **Analysing Mortality Rates ($P_6 - P_5$)**

The general approach is similar to that for discontinuances.

Because sums insured are less homogenous over the portfolio, an alternative approach is to calculate the excess of actual death payments over expected death outgo. This can be used directly in the cash flow variance column and the BEL and PM impact derived from the projection.

In this case, the office experienced nil deaths over the year, and the actuary has rerun the model on this basis. The result is clearly higher profits on the term insurance portfolio.

For the annuity portfolio, poor mortality experience (i.e. few deaths) leads to a compounding effect we have called the loss multiplier effect. This is because the increased number of lives in force at the year end increases the value of the profit margin reserved, despite poor experience. This is described fully in Section 6.1.

4.7 **Analysing Morbidity Rates($P_6 - P_5$)**

Disability income claims behave differently from mortality and TP1) claims. This is because the difference between actual and expected claims experience has to be spread over the term of the claims. Thus an increase in claim incidence will first be taken up in a reduction in the profit margin attaching to open claims and so may have a small effect in the year it occurs.

This is discussed further in Section 6.1, where the means of determining the profit margin for open claims is given.

The impact of variance in incidence and termination rates should be assessed separately. We believe this is a vital part of the analysis for companies with a significant disability portfolio.

The actuary has determined that the incidence rate was 3% against an expected 2% rate. Running the model with the revised incidence rate gives the following values-

Variance In:	\$m
Disability Outgo	4.1
Active Lives BEL Reserves	(0.7)
Open Claims BEL Reserves	9.9
Value of Profit Margins	1.9
MoS Profit	(15.2)

As with annuities, the impact of higher inception rates has led to an increase in the value of profit margins. This gives a “double hit” for the inception experience, and gives management the wrong indicators. In Section 6.1 we have proposed a solution to this loss multiplier effect”, through recalculating profit margins on open claims.

4.8 Analysing Investment Earnings ($P_7 - P_6$)

Investment earnings are an important source of profits and can cause volatility in profit from year to year. They contribute to profit in two ways -

- investment earnings on assets in excess of policy liabilities (retained earnings and shareholders' funds)
- investment earnings on policy liabilities to the extent they do not belong to policyholders.

Retained Earnings and Shareholders' Funds

All of the investment earnings on retained earnings and shareholders' funds fall into profit. They can be calculated as:

$$(A_0 - PL_0 + A_1 - PL_1) * \frac{i}{1+1/2 i}$$

where A_0, A_1 = Assets at start and end of period
 PL_0, PL_1 = Policy liabilities at start and end of period
 i = Actual rate of investment earnings.

In the example, the profit from this source was \$81.6m, which exceeded the expected profit of \$59.8 m by \$21.8 m.

Policy Liabilities

The policy liability can be considered in two components. One component (PL^S) represents the part of the policy liability which does not vary with the rate of investment earnings. This component would include premiums, dollar based

fees and charges, expenses except investment expenses and possibly claims. The other component (PL^S) would include unit linked and investment account surrender benefits, maturities and asset based charges. These items do vary with the investment earnings.

The profit variance arises from PL^S alone. PL^S is the value of the relevant cash flows CF^S . Assuming these cash flows occur on average in the middle of the period, the investment earnings variance is

$$(PL^S - \frac{1}{2}CF^S) \times (i^a - i^e)$$

where i^a = actual investment earnings rate
 i^e = expected investment earnings rate

The model illustrates the components of this variance formula, as explained below:

Term insurance, disability insurance and annuities: These have only fixed dollar components so the variances are:

		\$m
Term	$(-243 - \frac{1}{2} \times 36) \times .03$	-7.8
Disability	$(60 - \frac{1}{2} \times 12) \times .03$	1.6
Annuity	$(1504 - \frac{1}{2} \times 101) \times .03$	43.6

Unit linked.. This has expenses which do not vary with the investment earnings rate. The opening value of maintenance expenses was \$80m and the year's maintenance expenses were \$15m so the profit was:

$$(80 - \frac{1}{2} \times 15) \times .03 = 2.2$$

The sum of the above profit variances for the four products is \$39.6m. This gives a good check on the model's figure of \$41.4m. The difference is due to the timing of cash flows, which were not mid-year.

Matching

The paragraphs above dealt with investment earnings in the period being different from expected. The effect of the change in the investment earnings assumption on the policy liabilities is covered in Section 4.11. This variance, together with the above variance due to investment earnings on the assets supporting policy liabilities, represents the mismatching profit.

4.9 **Analysing Expense Rates ($P_8 - P_7$)**

The cash flow variance is simply the difference between actual and projected net maintenance expenses over the period. Projection P_8 is then not required to calculate this, which can be read directly off P_7 but is included for completeness.

4.10 **Analysing Participating Business**

Participating business is different under MoS in one important way. For non-participating business, the method of reporting profits only affects the timing of profits emerging. It does not affect the quantum of profit in aggregate over all years. This is not the case for participating business, for which the profit depends on the cost of bonus which in turn depends on the method used to calculate it.

Under MoS, interest profits are rolled up in the VSA and not reported as profit. Instead, the cost of supportable bonuses is reported as profit. All non-interest profit can be analysed as for non-participating business.

There is a practical issue with the calculation of participating business profits. It is that it is desirable to calculate the VSA and proceed to the calculation of the supportable bonus first and to do the analysis of profits second. Our formula for VSA is shown in Section 6.3 and enables the actuary to take this approach.

Thus the analysis for participating business will look like:

$$\begin{aligned}
 & \text{Interest on retained earnings} \\
 + & \text{Non-interest profits} \\
 - & \text{Cost of supportable bonus} \\
 + & \text{Interim and terminal bonuses paid in year} \\
 \\
 = & \text{Profit}
 \end{aligned}$$

which is split between policyholders and shareholders (say 80/20):

Policyholders' Retained Earnings		Shareholders' Retained Earnings (Participating)
=	Policyholders' Retained Earnings B/F	= Shareholders' Retained Earnings (Participating) B/F
+	80% of Profit	+ 20% of Profit
-	Cost of Declared Bonus	- Transfer to Shareholders' Retained Earnings (Non- participating)
-	Interim and Terminal Bonuses Paid in Year	
=	Policyholders' Retained Earnings C/F	= Shareholders' Retained Earnings (Participating) C/F

4.11 Changes in Assumptions

Under MoS, changes in assumptions have no impact on this period's profits, other than:

- a change in the investment earnings rate due to a change in market conditions
- changes that lead to reversal of previous capitalised losses or to capitalised losses.

However, by changing an assumption, the actuary is signalling that something has occurred over the period which is expected to impact future profits. The analysis of profit is an appropriate place to give an indication of this change.

The change in assumptions can be calculated as in Table 4.3, below, which shows separately the impact on the BEL carried forward and the profit margins carried forward.

Table 4.4 – Change in Assumptions

	Impact on BEL Carried Forward	Impact on Profit Margins Carried Forward	Impact on Policy Liability Carried Forward
	\$m	\$m	\$m
Interest	-81.1	-2.9	-84.0
Expenses	-4.3	2.8	-1.5
Mortality	15.5	0.0	15.5
Morbidity	0.0	0.0	0.0
Lapse Rates	-2.7	2.7	0.0
Total	-72.5	2.6	-69.9

While the total impact on profit is often zero, the actuary needs to understand the implications of the changes for future expected profits. This is shown through the capitalised value of the change in profit margins carried forward. For presentation purposes, as we explain in Section 5, it may be better to show the expected impact of each item on next year's profit.

Calculation notes

The analysis should be performed on a modelled data set. The analysis is performed on the period end data, changing one assumption at a time.

The interest variance is often the largest single item and reflects the decrease in policy liability due to the increase in the assumed future earnings rate. This impact is expected to relate to the change in the market value of assets, to the extent that assets and liabilities are matched, as discussed in Section 4.8.

The actuary has also reduced the expense maintenance assumption, leading to a reduction in the BEL carried forward of \$4.3m. Normally the profit margin would be increased by a corresponding amount to fully offset this reduction. However part of this reduction is a reversal of a previous capitalised loss (a loss of \$1.5m) and therefore the profit margin is only partially increased to absorb this change.

The actuary has become more pessimistic about future mortality rates and has worsened the assumptions. This has increased the BEL carried forward and this loss is fully recognised at the valuation date - there is no offsetting reduction in the profit margins.

Finally, the actuary has become more optimistic about the lapse rates on the unit linked product, leading to a reduction in the BEL carried forward of \$2.7m. There are no previous capitalised losses and therefore this amount is fully offset by an increase in the profit margin carried forward.

5 Presentation To Management

5.1 Management Focus/Indicators

We stressed in Section 3 that the prime focus should be on giving management the correct signals, both about the current year's performance and the revised estimates of next year's performance. While the full details could be shown in Table 4.2, it may be appropriate to develop a report which focuses on the important numbers. These are now given for each variance item.

New Business Volumes

The focus item is the variance in the value of 1997 profit margins added by new business. This will show not only volume variance but changes in the mix of high margin/low margin sales. In our example:

Expected 1997 Margins from Sales	Revised 1997 Margins from Sales	Variance
\$m	\$m	\$m
2.5	2.1	(0.4)

In reporting this result, the actuary may relate the profit margins on new business to the amount of capital invested in the new business.

Acquisition expenses

It is critical that management be shown the amount of over- or under-spending on acquisition costs in the period under review, not the MoS profit variance. While this can be shown as a variance in margins, it is easiest shown as a dollar amount. This should be related back to next year's expected profit from new business, viz:

	1996 Acquisition Expenses	Impact on 1997 Profit
	\$m	\$m
Budget	20.4	-
Actual	25.5	(1.4)

Discontinuance Profit

In Section 4.5 we described a way of dividing discontinuance profits into two components - profit margins brought forward, and surrender value losses (the

excess of the surrender value paid over the best estimate liability). This is also a useful way to present the results to management.

	Profit Margins Released 1996	Surrender Value Losses	Impact on 1997 Profits
	\$m	\$m	\$m
Budget	9.3	21.9	-
Actual	19.7	64.2	(2.7)

Mortality Profit

This can be shown in a similar way to discontinuance profit.

Investment Profits

The profit variance due to investment earnings is:

	\$m
Investment earnings on shareholders' retained earnings and shareholders' funds	21.8
Excess investment earnings on assets supporting policy liabilities	41.4
	<hr/>
	63.2

Change in Assumptions

There are three aspects to show, as demonstrated below:

Capitalised Losses	\$15.5m
Reversal of Previous Losses	\$1.5m
Estimated Reduction in 1997 Profit	\$0.8m

5.2 Presentation Examples

In Section 3 we described a three-tiered approach to management reporting:

- tracking the return on capital
- analysing MoS profit into its components
- showing projected impacts on profit of any experience variance or change in assumptions.

We have developed four key graphs and tables that will illustrate these points.

MoS Profits

Graph 5.1 shows actual and expected profits alongside historic and projected results. The key aspect is that two sets of forecast 1997 values are shown

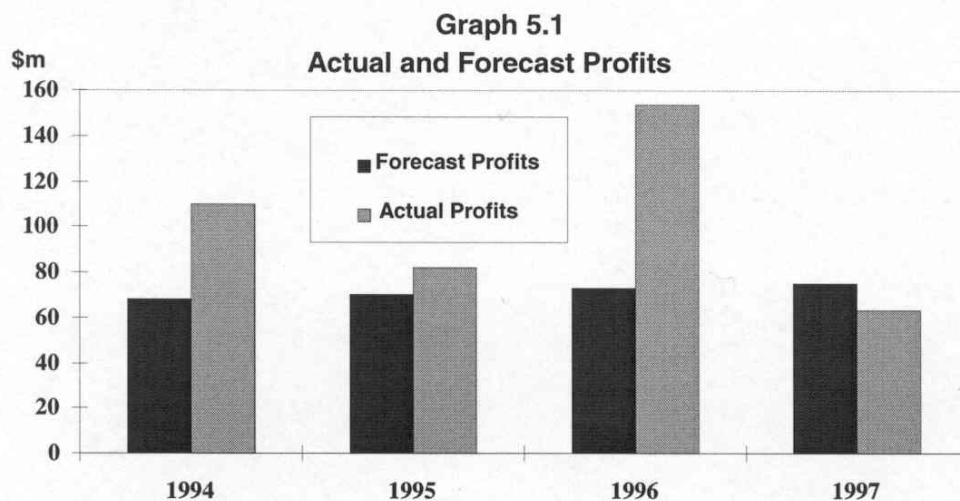
1. the forecast 1997 profit as at the start of 1996
2. the forecast 1997 profit as at the end of 1996, impacted by actual experience and the change in assumptions.

In this case, the revised forecast is \$11 m lower than the start of year forecast, due to the combined impact of 1996 experience and the changed assumptions. Showing this change is a strong control cycle discipline.

More generally it is critical that projected numbers are shown alongside actual

- to put this period earnings in context
- to show the gradual emergence of profit from new business sales and release of profit margins
- to provide management with their own expectation of profit against which to monitor emerging experience.

We cannot stress enough that an analysis of variance has the greatest value when management knows, at *the start of the period*, the profit expected to emerge.

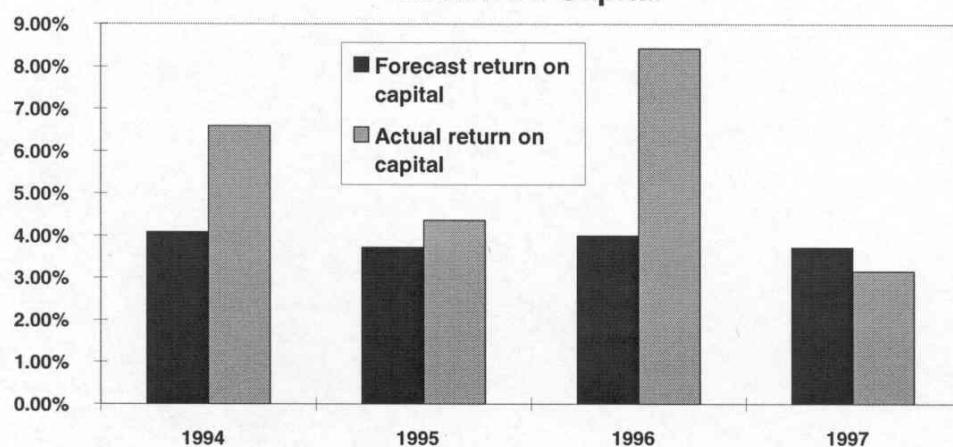


Return on Capital

Graph 5.2 is similar to Graph 5.1, except that it shows the values expressed as rates of return on capital. In this case we are showing

MoS operating earnings attributable to shareholders
shareholder capital employed where capital employed is taken straight from the
1996 balance sheet.

Graph 5.2
Return on Capital



Analysis of 1996 Experience Variance

Management needs to understand more fully this year's result, and at this stage the analysis of variance results are shown. We believe that two tables should be shown. The first shows the impact on this year's profit from the experience variance, and the second shows the expected impact on next year's profit from the variance. This second table will also incorporate the impact of the change in assumptions on expected profits.

Table 5.1 – Analysis of 1996 Profits

	1996 Profit Variance
Lapses	-31.9
Mortality	12.4
Morbidity	-15.2
Interest	63.1
New Business Volumes	-0.5
Acquisition Expenses	-1.0
Maintenance Expenses	-16.0
Change in Assumptions	69.9
 Total Variance	 80.9

Table 5.2 – Impact on 1997 Profits

	1997 Projected Variance
Lapses	-2.7
Mortality	0.0
Morbidity	0.6
Interest	-0.8
New Business Volumes	-0.4
Acquisition Expenses	-4.1
Maintenance Expenses	0.9
 Total Variance	 -3.8

We are only showing the impact on 1997 profits. Management also needs to understand that the 1997 effects are indicative and will persist for some years into the future.

Where the 1996 and 1997 impacts are different, this will naturally lead management to seek further explanation, promoting an understanding of the drivers of MoS profits.

6

Aspects of MoS Arising from the Analysis

6.1 The Loss Multiplier Effect

The analysis of variance highlights the earnings distortions under MoS when there is significant variance in an assumption which is closely linked to the profit carrier. Consider the following example for a disability portfolio - the profit margin is 16% of expected disability outgo. For simplicity there is no interest.

Policy Liabilities	Active Lives	Open Claims	Total
	\$m	\$m	\$m
BEL at Start	(20.0)	10.0	(10.0)
PM at Start	1.0	1.6	2.6
Policy Liability	(19.0)	11.6	(7.4)
BEL at End	(18.0)	10.5	(7.5)
PM at End	0.68	1.68	2.36
Policy Liability	(17.32)	12.18	(5.14)
Change in Policy Liability	1.68	0.58	2.26

Revenue Accounts	Active Lives	Open Claims	Total
	\$m	\$m	\$m
Premium Income	4.0	-	4.0
Disability Outgo	(0.5)	(1.0)	(1.5)
Change in Policy Liability	(1.68)	(0.58)	(2.26)
Profit	1.82	(1.58)	0.24

The expected profit is \$240,000 which is, as expected, 16% of disability outgo.

Now, suppose that the inception rate increases with the impact on profit being an additional loss of

Additional disability outgo for Active Lives at start of year	\$0.5m
Additional BEL reserve in respect of new Open Claims	\$1.0m
Total	\$1.5m

However, the actual MoS loss for the year is increased by another

$$\$1.0m * 16\% = \$160,000$$

due to holding a profit margin of 16% on the additional open claims reserve. The revised revenue account is then

	Expected	Actual
	\$m	\$m
Premium Income	4.0	4.0
Disability Outgo	(1.5)	(2.0)
Change in Policy Liability	(2.26)	(3.42)
	0.24	(1.42)

This additional \$160,000 loss is because the value of future profit margins on the carrier has *increased* due to the greater number of open claims. This would clearly seem to send the wrong signals to management, as well as giving a “double hit” to the company in the year of poor experience.

The same phenomenon can occur on an annuity portfolio when mortality rates are lower than expected. Not only does the value of the BEL increase, the value of *profit margins* on the future annuitant payments increases. Again this gives the wrong signal to management (who may be tracking the change in the value of profit margins) and gives a “double hit” in the year of experience.

We believe the correct approach is to recalculate the profit margin on the appropriate cohort (the annuitant portfolio or the open claims portfolio) so that the value of claims plus their profit margin, allowing for the year's experience, equals the expected value of claims plus their profit margin. The result will be profits emerging in proportion to claim payments, with no capitalised profit or loss at time of claim. A formula for this approach for disability business is shown below. Only annuities and disability products are subject to this loss multiplier effect.

Thus if -

EC^P = Expected claim payments in the year from new claims

EC^r = Expected claim reserves at the end of the year from new claims

OC^P = Expected claim payments in the year from open claims (at the start of the year)

OC^r = Expected claim reserves at the end of the year from open claims (at the start of the year)

P^a = Profit margin on active lives

P_s^C = Profit margin on open claims at the start of the year

AC^P = Actual claim payments in the year

AC^r = Actual best estimate claim reserves at the end of the year

The profit margin on open claims at the end of the year (P_e^c) can be calculated as:

$$(1 + P_e^c) = \frac{((EC^P + EC^r) * (1 + P^a) + (OC^P + OC^r) * (1 + P_s^C))}{(AC^P + AC^r)}$$

In our example above, we have

EC^P	=	\$0.5m	EC^r	=	\$1.5m
OCP	=	\$1m	OC^r	=	\$9m
P^a	=	16%	P^c	=	16%
AC^P	=	\$2.0m	AC^r	=	\$11.5m

giving a revised profit margin at the year end on open claims of

$$P_e^c = 3.1\%$$

The numerator is the expected cost of claims in the year, together with the associated profit margin i.e. it is the amount available on the best estimate assumptions for claims and profit. The denominator is the actual cost of claims in the year. Together they give the profit margin which spreads the profit over the actual claims.

The complication of this approach is that expected claim payments and reserves have to be calculated. The expected figures would come from projections of:

- the in force policies at the start of the year
- open claims at the start of the year
- new business during the year.

These projections will be P_e , as described in Section 4.

6.2 Choice of Discount Rate

In managing the volatility of MoS profits, management and actuaries must understand the impact of the assumption setting process on profits. In this

section, we discuss the impact of the investment earnings assumptions, particularly that component related to equity earnings.

There are two ways of setting the assumption for equities both of which we find reasonable -

1. 10 year bond yield + a margin for risk, or
2. Dividend yield + capital gain inflation + a margin for a real return)

These two approaches can produce quite different results., The first approach has the discount rate dependent only on the fixed interest market. This means that equity gains and losses flow directly to profit and loss to the extent that they differ from the gains that would have been made on fixed interest alone. On the other hand the second approach offsets equity gains, to the extent they are not due to dividend increases, by causing a reduction in the valuation interest rate, i.e. it implies that future earnings will be lower because the market is high.

It is interesting to consider the situation of a rising equity market combined with a failing fixed interest (rising interest rates) market. The first method will result in a higher assumed yield on equities in the future whereas the second method will give a lower one (assuming no change in inflationary expectations). Just this difference may have a very material effect on policy liabilities and hence on profit.

6.3 VSA Formula for Traditional Business

We have developed the following formula for calculating the Value of Supporting Assets (VSA) for conventional participating business. Its derivation is in Appendix B.

$$VSA = V_1^a + (V_0 + \frac{1}{2}CF^e)(i^a - i^e) + \frac{1}{2}(i^a - i^e)(v_1^a - v_1^e)$$

where VSA = value of supporting assets in force at year end

V_0 = value of policy liabilities at the start of the year

V_1^a = value of policy liabilities in force at year end using the assumptions from the previous valuation (Old Basis)

V_1^e = expected value of policy liabilities at year end from a projection of the in force at the start of the period

CF^e = expected cash flows (excluding investment income)

i^a = actual investment earnings rate

i^e = expected investment earnings rate

A final adjustment to this result is to deduct the shareholder's profit margin on interim discretionary additions and terminal bonuses paid in the period (a known number.)

The benefits of this formula are that it uses valuations of in force business only and is based on actual investment earnings. No other actual experience analysis is required.

6.4 Mid-year Valuations

PS201 states "the Actuary should review the assumptions at each valuation of liabilities". When the actuary is performing a mid-year valuation for statutory purposes (say, for published half-yearly accounts) each assumption must be reviewed.

When, however, the valuation is for internal management purposes, the actuary can choose which assumptions to review. This choice will largely depend on the purpose of the valuation - to track MoS profits, or to provide management information.

Interest Rates

To the extent that management will also be reviewing market valued assets, it seems natural that the interest rate be adjusted to reflect the current underlying earnings rates. The arguments for doing so include

- no change to profit margins is required (i.e. ease of calculation)
- consistency between policy liabilities and asset values
- avoiding strange results where explicitly matched products are being sold e.g. new business annuities.

Where the underlying asset mix has changed over the period, the actuary should assess the extent to which the change is permanent. If the change is short term, the actuary should continue to use the intended asset mix. Where it is long term, the actuary may wish to incorporate the change, to give management early warning of the impact of the change.

Inflation Rates

Under PS201 the actuary should ensure “reasonable consistency” between the investment earnings and inflation rates. Therefore the inflation assumption would most likely change with the investment earnings assumption.

Taxation

The impact of a legislative change should be reflected immediately. The tax rate on investment earnings should be kept consistent with the assumed earnings mix. The tax assumption for expenses and commission relief should be kept constant at mid-year valuations, if only because it is only determinable with a complete tax year's experience.

Acquisition Expenses

At the previous year-end, the actuary has determined unit acquisition assumptions designed exactly to equate to actual acquisition costs for business sold over that year. To use these assumptions unchanged at a mid-year valuation would lead to a capitalised profit or loss on that new business, to the extent that actual costs diverged from the previous years' average unit cost. Seasonality of new business sales alone will tend to make this so.

This leads to a conflict -

- using the unit cost assumption gives a profit or loss on acquisition for that period's new business
- using the actual acquisition costs gives a new business profit margin which is heavily impacted by seasonal impacts.

Our proposed solution is to -

- determine a profit margin that reflects actual acquisition costs over the period
- at year end, determine a single unit acquisition cost for the year's new business, and recalculate profit margins for all the year's new business using this unit cost. The new profit margin, would be average profit margin for the year.

This leads to a smooth emergence of new business profits over the year. It resolves the potential problem of capitalising losses on new business in, say, the first half of the year but having profit margins on the second half's new business.

Maintenance Expenses

Maintenance expenses are less seasonally variable and likely to be fairly stable over the year. In a situation where, permanent cost savings have been achieved over the period, the actuary may wish to reflect the achievement in a mid-period valuation. We should emphasise however -

- a change in assumption will not in itself signal any change (other than if loss reversal occurs) because the change is amortised
- the change in assumption will be strongly shown if projected values are shown separately.

This again illustrates the principle that the impact of a change in assumptions is only a management tool under MoS where it is accompanied by projected values.

Discontinuance

The impact of seasonality would be difficult to remove from a mid-year discontinuance review. As few companies perform this, we believe it is sensible to review the lapse assumption at year end only.

Morbidity

We have discussed in Section 6.1 the alternative approach to profit margins on *open claims*, where the impact of inception losses is reflected in a changed margin on open claims. Because of the potential volatility of inception rates, it may be appropriate to reflect this revised open claim margin at mid-year valuations.

Appendices

(A) Model Office Details

To illustrate the ideas in this paper, we have developed a simple spreadsheet model office, comprising a portfolio of term, annuities, single premium bonds and disability products. New business is sold on the term portfolio only.

The model is designed to illustrate one year variance from expected - the underlying cashflows are therefore heavily simplified and have been derived using a stylised portfolio, rather than detailed product features.

The values in the paper can be traced from the following attachments:

Table A.1 - Actual and Expected Assumptions

Table A.2 - The term insurance projections, moving from runs P_1 (the expected best estimate projection) through to run P_8 (the final variance run, which therefore coincides with actual experience).

Table A.3 - As above, for the annuity portfolio.

Table A.4 - As above, for the disability portfolio.

Table A.5 - As above, for the bond portfolio.

Table A.6 - The new business projections. Only projections P_1 , P_2 and P_4 are used.

Table A.7 - The total in force projections, i.e. the sum of A1.1 to A1.4.

The final projection shown, P_8 , is **before** the change in actuarial assumptions as at the year end. The impact of the change in assumptions can be separately derived from Table 4.3.

Table A.1 – Actual and Expected Assumptions

	Expected Experience	Actual Experience
Net Investment	10% annuities	13% annuities
Earnings	7% other	10% other
Unit acquisition costs	\$1,200	\$1,500
Discontinuance Rate		
Disability	20% pa	30% pa
Other	10% pa	30% pa
Mortality Rate		
Annuities	1% pa	Nil
Other	0.1% pa	Nil
Morbidity Rate (incurred)	2% pa	3% pa
New Business Volumes	20,000 term policies	17,000 term policies

Table A.2 – Term Portfolio

REVENUE ITEMS	Term Portfolio (\$m)					
	Projected Best Estimate <i>P₁</i>	Lapse Rerun <i>P₅</i>	Mortality Rerun <i>P₈</i>	Disability Rerun <i>P₉</i>	Interest Rerun <i>P₇</i>	Expense Rerun <i>P₆</i>
<i>Income</i>						
Premium income	90.0	90.0	90.0	90.0	90.0	90.0
Investment income (excl. capital assets)	-12.3	-12.3	-11.3	-11.3	-16.2	-16.7
Investment income on capital assets	25.5	25.5	25.5	25.5	36.5	36.5
<i>Outgo</i>						
Death outgo	27.0	27.0	0.0	0.0	0.0	0.0
Disability outgo	0.0	0.0	0.0	0.0	0.0	0.0
Surrender outgo	0.0	0.0	0.0	0.0	0.0	0.0
Annuity outgo	0.0	0.0	0.0	0.0	0.0	0.0
Acquisition expenses	0.0	0.0	0.0	0.0	0.0	0.0
Maintenance expenses	9.0	9.0	9.0	9.0	9.0	13.5
Change in policy liability	38.0	83.6	83.4	83.4	83.4	83.4
MoS profit	29.2	-16.3	11.8	11.8	17.8	12.9
<i>BALANCE SHEET ITEMS</i>						
BE reserve at start of year	-270.0	-270.0	-270.0	-270.0	-270.0	-270.0
MoS margins at start of year	27.0	27.0	27.0	27.0	27.0	27.0
MoS liability at start of year	-243.0	-243.0	-243.0	-243.0	-243.0	-243.0
BE reserve at end of year	-228.3	-177.6	-177.7	-177.7	-177.7	-177.7
MoS margins at end of year	23.3	18.1	18.1	18.1	18.1	18.1
MoS liability at end of year	-205.0	-159.4	-159.6	-159.6	-159.6	-159.6
CAPAD reserve at start of year	121.5	121.5	121.5	121.5	121.5	121.5
CAPAD reserve at end of year	102.5	79.7	79.8	79.8	79.8	79.8
Number of lives in force at start	90,000	90,000	90,000	90,000	90,000	90,000
Number of deaths	90	90	0	0	0	0
Number of surrenders	8,991	26,973	27,000	27,000	27,000	27,000
Number of disabilities	0	0	0	0	0	0
Number of new policies	0	0	0	0	0	0
Number of lives in force at end	80,919	62,937	63,000	63,000	63,000	63,000

Table A.3 – Annuity Portfolio

REVENUE ITEMS	Annuity Portfolio (\$m)					
	Projected Best Estimate P ₁	Lapse Rerun P ₅	Mortality Rerun P ₆	Disability Rerun P ₈	Interest Rerun P ₇	Expense Rerun P ₉
Income						
Premium income	0.0	0.0	0.0	0.0	0.0	0.0
Investment income (excl. capital assets)	140.3	140.3	140.3	140.3	182.4	182.3
Investment income on capital assets	30.1	30.1	30.1	30.1	39.1	39.1
Outgo						
Death outgo	0.0	0.0	0.0	0.0	0.0	0.0
Disability outgo	0.0	0.0	0.0	0.0	0.0	0.0
Surrender outgo	0.0	0.0	0.0	0.0	0.0	0.0
Annuity outgo	100.0	100.0	100.0	100.0	100.0	100.0
Acquisition expenses	0.0	0.0	0.0	0.0	0.0	0.0
Maintenance expenses	1.0	1.0	1.0	1.0	1.0	1.5
Change in policy liability	39.2	39.2	54.8	54.8	54.8	54.8
MoS profit	30.2	30.2	14.6	14.6	65.7	65.2
BALANCE SHEET ITEMS						
BE reserve at start of year	1,500.0	1,500.0	1,500.0	1,500.0	1,500.0	1,500.0
MoS margins at start of year	4.0	4.0	4.0	4.0	4.0	4.0
MoS liability at start of year	1,504.0	1,504.0	1,504.0	1,504.0	1,504.0	1,504.0
BE reserve at end of year	1,539.3	1,539.3	1,554.8	1,554.8	1,554.8	1,554.8
MoS margins at end of year	3.9	3.9	3.9	3.9	3.9	3.9
MoS liability at end of year	1,543.2	1,543.2	1,558.8	1,558.8	1,558.8	1,558.8
CAPAD reserve at start of year	1,804.8	1,804.8	1,804.8	1,804.8	1,804.8	1,804.8
CAPAD reserve at end of year	1,851.8	1,851.8	1,870.5	1,870.5	1,870.5	1,870.5
Number of lives in force at start	10,000	10,000	10,000	10,000	10,000	10,000
Number of deaths	100	100	0	0	0	0
Number of surrenders	0	0	0	0	0	0
Number of disabilities	0	0	0	0	0	0
Number of new policies	0	0	0	0	0	0
Number of lives in force at end	9,900	9,900	10,000	10,000	10,000	10,000

Table A.4 – Disability Portfolio

REVENUE ITEMS	Disability Portfolio (\$m)					
	Projected Best Estimate <i>P_b</i>	Lapse Rerun <i>P_g</i>	Mortality Rerun <i>P_d</i>	Disability Rerun <i>P_e</i>	Interest Rerun <i>P_i</i>	Expense Rerun <i>P_a</i>
<i>Income</i>						
Premium income	48.0	48.0	48.0	48.0	48.0	48.0
Investment income (excl. capital assets)	7.0	7.0	7.0	6.9	9.8	9.6
Investment income on capital assets	4.2	4.2	4.2	4.2	6.0	6.0
<i>Outgo</i>						
Death outgo	0.0	0.0	0.0	0.0	0.0	0.0
Disability outgo	8.0	8.0	8.0	12.0	12.0	12.0
Surrender outgo	0.0	0.0	0.0	0.0	0.0	0.0
Annuity outgo	0.0	0.0	0.0	0.0	0.0	0.0
Acquisition expenses	0.0	0.0	0.0	0.0	0.0	0.0
Maintenance expenses	4.0	4.0	4.0	4.0	4.0	6.0
Change in policy liability	40.0	27.5	27.5	38.7	38.7	38.7
MoS profit	7.2	19.7	19.6	4.4	9.1	6.9
BALANCE SHEET ITEMS						
BE reserve at start of year	44.0	44.0	44.0	44.0	44.0	44.0
MoS margins at start of year	16.0	16.0	16.0	16.0	16.0	16.0
MoS liability at start of year	60.0	60.0	60.0	60.0	60.0	60.0
BE reserve at end of year	87.0	76.1	76.2	85.4	85.4	85.4
MoS margins at end of year	13.0	11.4	11.4	13.3	13.3	13.3
MoS liability at end of year	100.0	87.5	87.5	98.7	98.7	98.7
CAPAD reserve at start of year	120.0	120.0	120.0	120.0	120.0	120.0
CAPAD reserve at end of year	200.0	175.0	175.1	197.4	197.4	197.4
Number of lives in force at start	40,000	40,000	40,000	40,000	40,000	40,000
Number of deaths	40	40	0	0	0	0
Number of surrenders	7,832	11,748	11,760	11,640	11,640	11,640
Number of disabilities	800	800	800	1,200	1,200	1,200
Number of new policies	0	0	0	0	0	0
Number of lives in force at end	31,328	27,412	27,440	27,160	27,160	27,160

Table A.5 – Unit Linked Portfolio

REVENUE ITEMS	Unit Linked Portfolio (\$m)					
	Projected Best Estimate P ₁	Lapse Rerun P ₅	Mortality Rerun P ₆	Disability Rerun P ₈	Interest Rerun P ₇	Expense Rerun P ₉
<i>Income</i>						
Premium income	0.0	0.0	0.0	0.0	0.0	0.0
Investment income (excl. capital assets)	50.1	44.7	44.7	44.7	63.7	62.9
Investment income on capital assets	0.0	0.0	0.0	0.0	0.0	0.0
<i>Outgo</i>						
Death outgo	0.0	0.0	0.0	0.0	0.0	0.0
Disability outgo	0.0	0.0	0.0	0.0	0.0	0.0
Surrender outgo	77.0	231.1	231.1	231.1	234.5	234.5
Annuity outgo	0.0	0.0	0.0	0.0	0.0	0.0
Acquisition expenses	0.0	0.0	0.0	0.0	0.0	0.0
Maintenance expenses	15.0	15.0	15.0	15.0	15.0	22.5
Change in policy liability	-45.7	-206.4	-206.4	-206.4	-192.0	-192.0
MoS profit	3.7	4.9	4.9	4.9	6.1	-2.1
BALANCE SHEET ITEMS						
BE reserve at start of year	750.0	750.0	750.0	750.0	750.0	750.0
MoS margins at start of year	18.8	18.8	18.8	18.8	18.8	18.8
MoS liability at start of year	768.8	768.8	768.8	768.8	768.8	768.8
BE reserve at end of year	706.7	549.7	549.7	549.7	563.7	563.7
MoS margins at end of year	16.3	12.7	12.7	12.7	13.0	13.0
MoS liability at end of year	723.0	562.3	562.3	562.3	576.8	576.8
CAPAD reserve at start of year	768.8	768.8	768.8	768.8	768.8	768.8
CAPAD reserve at end of year	723.0	562.3	562.3	562.3	576.8	576.8
Number of lives in force at start	150,000	150,000	150,000	150,000	150,000	150,000
Number of deaths	0	0	0	0	0	0
Number of surrenders	15,000	45,000	45,000	45,000	45,000	45,000
Number of disabilities	0	0	0	0	0	0
Number of new policies	0	0	0	0	0	0
Number of lives in force at end	135,000	105,000	105,000	105,000	105,000	105,000

Table A.6 – New Business Model

REVENUE ITEMS	New Business Model (\$m)					
	Projected Best Estimate <i>P₁</i>	Lapse Rerun n/a	Mortality Rerun n/a	Disability Rerun n/a	Volumes Rerun <i>P₂</i>	Expense Rerun <i>P₄</i>
<i>Income</i>						
Premium income	20.0	20.0	20.0	20.0	17.0	17.0
Investment income (excl. capital assets)	0.0	0.0	0.0	0.0	0.0	0.0
Investment income on capital assets	0.0	0.0	0.0	0.0	0.0	0.0
<i>Outgo</i>						
Death outgo	10.0	10.0	10.0	10.0	8.5	8.5
Disability outgo	0.0	0.0	0.0	0.0	0.0	0.0
Surrender outgo	0.0	0.0	0.0	0.0	0.0	0.0
Annuity outgo	0.0	0.0	0.0	0.0	0.0	0.0
Acquisition expenses	24.0	24.0	24.0	24.0	20.4	25.5
Maintenance expenses	2.0	2.0	2.0	2.0	1.7	1.7
Change in policy liability	-19.2	-19.2	-19.2	-19.2	-16.3	-20.4
MoS profit	3.2	3.2	3.2	3.2	2.7	1.7
BALANCE SHEET ITEMS						
BE reserve at start of year	0.0	0.0	0.0	0.0	0.0	0.0
MoS margins at start of year	0.0	0.0	0.0	0.0	0.0	0.0
MoS liability at start of year	0.0	0.0	0.0	0.0	0.0	0.0
BE reserve at end of year	-32.0	-32.0	-32.0	-32.0	-27.2	-27.2
MoS margins at end of year	12.8	12.8	12.8	12.8	10.9	6.8
MoS liability at end of year	-19.2	-19.2	-19.2	-19.2	-16.3	-20.4
CAPAD reserve at start of year	0.0	0.0	0.0	0.0	0.0	0.0
CAPAD reserve at end of year	0.0	0.0	0.0	0.0	0.0	0.0
Number of lives in force at start	0	0	0	0	0	0
Number of deaths	0	0	0	0	0	0
Number of surrenders	0	0	0	0	0	0
Number of disabilities	0	0	0	0	0	0
Number of new policies	20,000	20,000	20,000	20,000	17,000	17,000
Number of lives in force at end	20,000	20,000	20,000	20,000	17,000	17,000

Table A.7 – Total In Force Portfolio

REVENUE ITEMS	Total In Force Portfolio (\$m)					
	Projected Best Estimate P ₁	Lapse Rerun P ₅	Mortality Rerun P ₆	Disability Rerun P ₈	Interest Rerun P ₇	Expense Rerun P ₉
<i>Income</i>						
Premium income	138.0	138.0	138.0	138.0	138.0	138.0
Investment income (excl. capital assets)	185.1	179.7	180.6	180.5	239.6	238.2
Investment income on capital assets	59.8	59.8	59.8	59.8	81.6	81.6
<i>Outgo</i>						
Death outgo	27.0	27.0	0.0	0.0	0.0	0.0
Disability outgo	8.0	8.0	8.0	12.0	12.0	12.0
Surrender outgo	77.0	231.1	231.1	231.1	234.5	234.5
Annuity outgo	100.0	100.0	100.0	100.0	100.0	100.0
Acquisition expenses	0.0	0.0	0.0	0.0	0.0	0.0
Maintenance expenses	29.0	29.0	29.0	29.0	29.0	43.5
Change in policy liability	71.4	-56.2	-40.7	-29.6	-15.1	-15.1
MoS profit	70.4	38.5	50.9	35.7	98.8	82.9
<i>BALANCE SHEET ITEMS</i>						
BE reserve at start of year	2,024.0	2,024.0	2,024.0	2,024.0	2,024.0	2,024.0
MoS margin at start of year	65.8	65.8	65.8	65.8	65.8	65.8
MoS liability at start of year	2,089.8	2,089.8	2,089.8	2,089.8	2,089.8	2,089.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0
BE reserve at end of year	2,104.7	1,997.5	2,003.0	2,012.2	2,026.3	2,026.3
MoS margins at end of year	56.5	46.0	46.1	48.0	48.4	48.4
MoS liability at end of year	2,161.2	2,033.6	2,049.1	2,060.2	2,074.6	2,074.6
CAPAD reserve at start of year	2,815.1	2,815.1	2,815.1	2,815.1	2,815.1	2,815.1
CAPAD reserve at end of year	2,877.3	2,668.8	2,687.8	2,710.0	2,724.4	2,724.4
Number of lives in force at start	290,000	290,000	290,000	290,000	290,000	290,000
Number of deaths	230	230	0	0	0	0
Number of surrenders	31,823	83,721	83,760	83,840	83,640	83,640
Number of disabilities	800	800	800	1,200	1,200	1,200
Number of new policies	0	0	0	0	0	0
Number of lives in force at end	257,147	205,249	205,440	205,160	205,160	205,160

(B)

Formula for Value of Supporting Assets

Paragraph 5.7 of PS201 states:

“The Value of Supporting Assets is determined as the build up of the Policy Liability brought forward as at the start of the year, allowing for the actual policy related experience during the year, and adjusted by the non investment Experience Profit for the year.”

Thus:

$$\begin{aligned} VSA = & \text{ start year policy liability (including cost of bonus)} \\ & + \text{ actual policy cash flows (including premiums etc)} \\ & - \text{ non-investment experience profits} \end{aligned}$$

all rolled up using the actual rather than the expected investment earned rate.

We make two simplifying assumptions to work out a method of calculating the adjusted value of assets:

- cash flows (other than interest income) do not change during the year due to actual investment return; and
- cash flows occur on average half way through the year.

The formula becomes:

$$\begin{aligned} VSA &= V_0 (1 + i^a) \\ &+ (CF^a) (1 + \frac{1}{2} i^a) \\ &\quad - \text{experience profits} (1 + \frac{1}{2} i^a) \quad (1) \end{aligned}$$

$$\begin{aligned} \text{Experience profits} &= (CF^a - CF^e) (1 + \frac{1}{2} i^a) \\ &\quad - (VR^a - VR^e) (1 + \frac{1}{2} i^a - \frac{1}{2} i^e) \quad (2) \end{aligned}$$

where CF = cash flow items (excluding investment income)
 VIR = end of year reserve released on decrements
 a, e = actual or expected items.

We have added interest at the actual rate on experience cash flows because that is specified in paragraph 5.7.5 of PS201. The interest item shown for the reserve part of the experience profit formula is for a similar reason; the reserve release (either actual or expected) assumes that the expected rate of interest will be earned on assets. The philosophy used for VSA is that all items of interest will be actual, so we have to adjust this reserve item for actual rates of interest.

We now have the formula:

$$\begin{aligned} VSA &= V_0(1 + i^a) + CF^a (1 + \frac{1}{2} i^a) - (CF^a - CF^e) (1 + \frac{1}{2} i^a) \\ &\quad + (VR^a - VR^e) (1 + \frac{1}{2} (i^a - i^e)) \end{aligned} \quad (3)$$

Now the information from the valuation is:

- V_0 = value of policy liabilities at the start of the year
- V_1^a = value of policy liabilities in force at year end using the assumptions from the previous valuation (Old Basis)
- V_1^e = expected value of policy liabilities at year end from a projection of the in force at the start of the period
- i^a = actual investment earnings rate
- i^e = expected investment earnings rate.

We know that

$$V_1^e = V_0 (1 + i^e) + CF^e (1 + \frac{1}{2} i^e) \quad (4)$$

$$VR^a - VR^e = V_1^a - V_1^e \quad (5)$$

so if we substitute these items into the formula above, and manipulate it,

$$VSA = V_1^a + (V_0 + \frac{1}{2} CF^e) (i^a - i^e) + \frac{1}{2} (i^a - i^e) (V_1^a - V_1^e) \quad (6)$$

This formula is a relatively simple one to use, as it does not include any actual cash flow items. The only calculations which will have to be done to calculate the value of supporting assets will be the valuation of the expected and actual in force, the expected cash flow items, and the actual rate of interest.

The reasoning behind the formula is that the value of supporting assets is equal to the actual in force reserve, adjusted for the actual rate of interest earned. The second two items in the formula are items used to adjust the reserve for the actual rate of interest earned.

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PRACTICE GUIDELINE 199.03

ECONOMIC VALUATIONS

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1. INTRODUCTION

1.1 Application

- 1.1.1 This Practice Guideline applies to any Member performing an Economic Valuation of an Economic Asset.
- 1.1.2 This Practice Guideline does not apply to a Member:
 - (a) undertaking an assessment in accordance with a Professional Standard of the Institute;
 - (b) undertaking an assessment only of liabilities or prudential reserves in accordance with another Practice Guideline of the Institute;
 - (c) pricing products or services, or determining funding rates for liabilities; or
 - (d) placing a value on the assets of an Entity in accordance with any Professional Standard of the Institute (whether required to do so or not), where such work is being performed in conjunction with a corresponding valuation of the liabilities of the Entity.
- 1.1.3 Where a Member is asked to perform an Economic Valuation as a component part of a larger exercise, this Practice Guideline applies to the component part of the larger exercise for which the Member takes responsibility.
- 1.1.4 This Practice Guideline applies to an Economic Valuation made jointly by a Member and another person or firm. In such cases, the Member retains overall professional responsibility for the Economic Valuation, including any delegated component, and this Practice Guideline applies to the entire Economic Valuation. This does not preclude the Member from relying on the specific expertise of another professional (for example, tax expertise).

1.2 Classification

- 1.2.1 This Practice Guideline has been prepared in accordance with Council's Policy for Drafting and Developing Practice Guidelines. It must be applied in the context of the Institute's Code of Professional Conduct.
- 1.2.2 This Practice Guideline is not mandatory.
- 1.2.3 Nevertheless, if the Professional Services provided by a Member are covered to any extent by this Practice Guideline, a Member should consider explaining any significant departure from this Practice Guideline to the Principal, and document such explanation.



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1.3 Background

Economic valuations are carried out for many purposes, including but not limited to:

- (a) providing management information for an organisation;
- (b) contributing to the assessment of the value of a business (or part of a business) for the purpose of sale or acquisition, which would include the value of any employee benefits (for example, superannuation);
- (c) disclosure in the accounts of an organisation or elsewhere;
- (d) supporting a cost-benefit analysis of a project or opportunity;
- (e) supporting capital budgeting work;
- (f) supporting social, health or environmental impact studies and assessments;
- (g) as the basis of determining performance-related payments to employees;
- (h) capital raising and capital reconstruction; and
- (i) supporting market valuation of an Economic Asset.

1.4 Purpose

This Practice Guideline sets out the considerations that bear on the work involved in carrying out Economic Valuations of Economic Assets. It describes general principles and procedures for carrying out and reporting on the Economic Valuation which represent generally accepted practices and techniques.

1.5 Previous versions

This Practice Guideline replaces Guidance Note 552 (Economic Valuations) which was issued in July 2004.

1.6 Legislation and other requirements

1.6.1 Legislation and other requirements which may be relevant to the work covered by this Practice Guideline include:

- (a) the Corporations Act 2001 (Cth);
- (b) the Financial Services Reform Act 2002 (Cth);
- (c) taxation law;



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- (d) Australian Securities & Investments Commission regulations and practice notes; and
 - (e) accounting standards.
- 1.6.2 A reference to legislation or a legislative provision in this Practice Guideline includes any statutory modification, or substitution of that legislation or legislative provision and any subordinate legislation issued under that legislation or legislative provision.
- 1.6.3 If there is a conflict between this Practice Guideline and any legislation, then the legislation takes precedence, and best practice is to document any Material differences in the Member's Report. In this context, legislation includes regulations, prudential standards, subordinate standards, accounting standards, rules issued by government authorities, and standards issued by professional bodies which have the force of law.

2. COMMENCEMENT DATE

This Practice Guideline takes effect from 1 October 2011.

3. DEFINITIONS

- 3.1 In this Practice Guideline:

'Code' means the Code of Professional Conduct of the Institute.

'Economic Asset' means any resource, property, right or interest that can potentially generate future cashflows and/or value (positive or negative). This includes liabilities (contingent or otherwise) for one party which represent assets for another party.

'Economic Valuation' means the process by which an 'Economic Value' is assessed and its result reported.

'Economic Value' means the present value or cash equivalent at the valuation date (allowing for time and risk) of all the future cashflows and/or other measures of value that are expected to be derived from ownership or use of an Economic Asset for a specified purpose by a specified user.

'Member's Report' means a formal document conveying the results of the work performed to which this Practice Guideline applies, and includes transmission of such by electronic means.

- 3.2 Other capitalised terms in this Practice Guideline have the same meaning as set out in the Code.

- 3.3 A word that is derived from a defined word has a corresponding meaning.



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4. PURPOSE, USE AND SCOPE CONSIDERATIONS

4.1 Needs of the Principal

Before commencing an Economic Valuation, the Member should:

- (a) review the purpose and context of the Economic Valuation with the Principal; and
- (b) seek to understand the intended use(s) and user(s) of the valuation results and any constraints the intended use(s) and user(s) might impose on the Member in undertaking the Economic Valuation.

4.2 Scope of Economic Valuation

4.2.1 The Member, in seeking to understand the scope of the Economic Asset that is to be valued, should consider:

- (a) the components of the Economic Asset to be valued; for example, to what extent an Economic Valuation may make allowance for business which is yet to be transacted, goodwill or particular business units/products; and
- (b) the extent to which the Economic Valuation is to make allowance for the indirect impact of the use(s) of the Economic Asset on the value of other relevant assets in which the intended user(s) of the Member's Report have an interest (for example, synergy benefits, remediation costs and so forth).

4.2.2 Similarly, the Member should ascertain the Materiality limits that apply to the Economic Valuation, bearing in mind:

- (a) the quality of the data;
- (b) the intended use(s) of the Economic Valuation;
- (c) the degree of uncertainty; and
- (d) the sensitivity of the overall result to different assumptions.

4.2.3 The context in which an Economic Valuation is being performed by the Member will affect the degree of detail and precision involved. For example, the guidance given in this Practice Guideline would generally be applied differently in the context of a limited scope valuation as discussed in section 4.5. This is particularly relevant in respect of the guidance given on the selection of appropriate models and the reporting of the results of the Economic Valuation.



4.3 Nature of Economic Asset

The Member, in seeking to understand those aspects of the nature and behaviour of the Economic Asset which are relevant to the Economic Valuation, should become familiar with:

- (a) the financial drivers of the Economic Asset and its environment;
- (b) the accounting treatment used for the Economic Asset; and
- (c) relevant features of the industry(s) in which the Economic Asset operates.

4.4 Market value and fair value

- 4.4.1 Members may, from time to time, be asked to provide advice on the market value or fair value of an Economic Asset or on the Economic Value of an Economic Asset in the context of a project evaluation or wider economic appraisal.
- 4.4.2 A market value may differ significantly from an Economic Value, with many factors affecting the market value that are not necessarily encompassed within an Economic Value. These include, but are not limited to:
 - (a) the current state of markets, including supply and demand factors for both relevant Economic Assets and capital;
 - (b) the current sentiment of markets, including consumer and business confidence, and political and economic events and uncertainty; and
 - (c) transaction-specific factors, such as: transaction costs; the impact of a transaction on earnings ratios, earnings growth, balance sheet strength and the perception of the market of these; and the strategic rationale for a transaction.
- 4.4.3 Various accounting standard bodies have issued guidance on fair value, and it is a concept that continues to develop. The annexure to this Practice Guideline provides some relevant background material. In undertaking an Economic Valuation, the Member should consider whether that guidance is specifically or generally applicable. Many economic valuations that Members undertake would be Level 3 valuations under the accounting definitions of fair value (Annexure C). Some ratio methods could be Level 2 valuations.

4.5 Limited scope valuations

- 4.5.1 Members may be asked to provide limited scope Economic Valuations based on a limited analysis of the key drivers of the Economic Value, as rough indications of Economic Value.



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4.5.2 Where such limited scope Economic Valuations are carried out or approximations are used, the Member should:

- (a) confirm the limited scope of the Economic Valuation with the Principal; and
- (b) adequately disclose in the Member's Report the limitations of the methods, models and data used.

4.6 Responsibility for assumptions

4.6.1 The Member should take responsibility for the selection of all assumptions used in the Economic Valuation, other than those assumptions which are mandated by legislation or which are set by the Principal.

4.6.2 If there are assumptions for which the Member does not take responsibility, the Member should disclose those assumptions (together with any Material implication for the Economic Value of using those assumptions) in the Member's Report.

4.7 Responsibility for valuation results

The Member should:

- (a) satisfy himself or herself as to the Material accuracy of the results given the purpose, scope and proposed use(s) of the Economic Valuation; and
- (b) perform appropriate validation tests and reasonableness checks on the valuation result and key intermediate results.

5. VALUATION APPROACH

5.1 Valuation steps

The fundamental steps undertaken when performing an Economic Valuation are:

- (a) understand the purpose, use and scope of the Economic Valuation;
- (b) understand the Economic Asset;
- (c) select appropriate methods and models;
- (d) determine data requirements, research and analyse available data;
- (e) set the assumptions;
- (f) build, calibrate and test models;



- (g) calculate the results;
- (h) analyse the results; and
- (i) communicate the results.

5.2 Transparency

- 5.2.1 Generally accepted practice is for the models, methods and assumptions used for the Economic Valuation to be (as far as practical) transparent, enabling valuation results and sensitivities in the results to changes in particular assumptions to be understood by the intended user(s) of the Economic Valuation.
- 5.2.2 In selecting the method and models, the Member should be satisfied that the method and models chosen will, if appropriate data and assumptions are used, produce credible Economic Valuation results, given the operating environment of the Economic Asset being valued.

5.3 Allowing for uncertainty

- 5.3.1 Generally accepted practice is that:
 - (a) the valuation method(s) used by the Member allow for the impact of uncertainty in realising the projected cashflows on the Economic Value of the Economic Asset; and
 - (b) the Member satisfies himself or herself that the form of the allowance for uncertainty adopted is appropriate for the particular circumstances and consistent with the type of uncertainty involved. For example, if uncertainty grows the further out in time considered, it may be appropriate to allow for it in a discount rate. On the other hand, if it is concentrated in the short term or diminishes over time, then it may be more appropriate to allow explicitly for the range of possible cashflows and their associated probabilities.
- 5.3.2 The value and allowance for uncertainty may vary depending on whether, and the extent to which, the uncertainty can efficiently be diversified. Generally accepted practice is for the valuation method and assumptions to have regard to the implied value the market(s) place on diversifiable and non-diversifiable risk.
- 5.3.3 Where the assumptions contributing to the allowance made for uncertainty are set to be appropriate in aggregate, generally accepted practice is for the Member's Report to disclose that these assumptions will not necessarily give rise to appropriate allowance for uncertainty for a segment of the business.
- 5.3.4 When using more than one form of allowance for uncertainty, the Member should satisfy himself or herself that the allowance made avoids potential double counting or omission of significant sources of uncertainty.



In particular cases where there are two or more mutually exclusive outcomes, averaging results may be misleading and the Member should consider separately the outcomes of each scenario.

5.4 Dealing with options

- 5.4.1 In undertaking the Economic Valuation, the Member should satisfy himself or herself that appropriate allowance has been made for options or other sources of non-linear outcomes in the cashflows being modelled.
- 5.4.2 The Member is encouraged to make explicit allowance for options and non-linear outcomes when the impact of such outcomes is likely to be Material to the Economic Valuation result. This allowance could be achieved by using approaches such as option pricing techniques or stochastic modelling.

5.5 Common Economic Valuation methods

- 5.5.1 Common Economic Valuation methods likely to be used by Members include:
 - (a) ratio methods;
 - (b) risk premium methods (including discounted cashflows);
 - (c) risk neutral or certainty equivalent methods; and
 - (d) asset replication methods.

Key aspects of these methods are discussed in the balance of this Section 5.

- 5.5.2 The Member should satisfy himself or herself that the method(s) used to perform the Economic Valuation are appropriate for the particular circumstances. The method(s) used will usually depend on the size and/or Materiality of the Economic Asset, the complexity of the operations of the Economic Asset, the quality of data available, the intended use(s) of the Economic Valuation and the needs expressed by the Principal.

5.6 Ratio methods

- 5.6.1 Commonly used ratio methods include:
 - (a) earnings ratios (for example, price earnings ratios);
 - (b) stock ratios (for example, percentage of funds under management); and
 - (c) flow ratios (for example, percentage of new business flows).



5.6.2 Ratio methods rely on:

- (a) a high level of stability and predictability in the ratio between the Economic Value and the value driver from past periods to future periods; and
- (b) an ability to derive multiples that adequately allow for growth and uncertainty.

5.6.3 Ratio methods are most useful:

- (a) for approximate valuations;
- (b) in circumstances where the Economic Asset is simple, has no asymmetry and the net cashflows flowing from it are expected to grow uniformly;
- (c) as a 'rule of thumb' check on the results of more sophisticated methods; and
- (d) to assist in the communication of Economic Valuation results.

5.6.4 Ratio methods are least useful:

- (a) where the Economic Asset or its operating environment have a complex nature;
- (b) where there is an asymmetry of potential outcomes; and
- (c) where variations in business mix can have a Material impact on the Economic Value.

5.6.5 When using a ratio method, the Member should:

- (a) consider the limitations inherent in the method and be satisfied that the ratio method chosen is appropriate given the scope of the Economic Valuation being performed;
- (b) be satisfied that any parameter on which the ratio method valuation is based is appropriate and is not unduly distorted as at the valuation date. For example, in applying a price earnings ratio, it would be usual to adjust earnings to a level that is considered maintainable; and
- (c) be satisfied that the ratio chosen is appropriate to the business characteristics and risk profile of the Economic Asset being valued.

5.7 Risk premium methods

5.7.1 Risk premium methods allow for market uncertainty through the interaction of a risk-adjusted discount rate, the expected earning rate on



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capital and the quantum of capital employed in the Economic Asset (in cases where capital is relevant).

5.7.2 The key advantages of risk premium methods are that such methods:

- (a) produce projected cashflows that align with real world cashflows and hence are relatively easy to understand and validate;
- (b) generally utilise well-established techniques and modelling practices;
- (c) facilitate analysis and explanation of the progression of value over time, particularly in the context of comparison of actual versus expected experience;
- (d) allow complex cashflows and interrelationships between cashflows to be reflected in the valuation model(s); and
- (e) facilitate roll-forward/roll-backward valuations and the projection of Economic Value at future or past dates.

5.7.3 When using a risk premium method, the Member should satisfy himself or herself that the overall allowance for uncertainty in the Economic Valuation:

- (a) is appropriate, given the characteristics of the Economic Asset being valued;
- (b) does not produce misleading Economic Valuation results. Misleading results can arise when changes in the risk profile of an Economic Asset are reflected in the projected future cashflows without appropriate adjustment to the risk discount rate; and
- (c) does not produce misleading results from projecting expected returns from an Economic Asset at a higher rate than the discount rate that is applied to those returns.

5.7.4 The Member should consider the appropriateness of applying risk premium methods in circumstances where:

- (a) Material mismatches exist between the liabilities and any assets supporting them;
- (b) Material mismatches exist between the drivers of revenues and the drivers of expenses; or
- (c) the potential cashflows being valued have an asymmetric distribution and the existence of this asymmetry could have a Material impact on prospective costs or benefits.



In these situations, selection of an appropriate single risk adjusted discount rate may be difficult.

5.8 Risk neutral or certainty equivalent methods

- 5.8.1 Risk neutral methods allow for market uncertainty in the probability distribution associated with cashflows. Certainty equivalent methods allow for market uncertainty by adjusting the cashflows. In either case, the discount rate used is a risk free rate.
- 5.8.2 Risk neutral methods are particularly applicable where investment or market related gearing exists, be it:
- (a) a Material mismatch between liabilities and backing assets (for example, guaranteed liabilities backed by equities);
 - (b) a Material mismatch between revenue and expenses (for example, where fee revenue is related to investment markets, but expenses are not); or
 - (c) for determining an appropriate charge for uncertainty in respect of individual segments of business with different characteristics.

5.8.3 These methods will not produce cashflow projections on a realistic basis. This means that projected cashflows will not be suitable for other purposes, such as business planning. It also means that the communication of the projection results to user(s) and the validation of the risk neutral cashflows may be challenging, as they will not necessarily reconcile to real world cashflows.

5.8.4 In applying these methods, the Member should satisfy himself or herself that the degree to which each cashflow is market-related can reasonably be ascertained or approximated and that the risk neutral probabilities or certainty equivalent cashflows are appropriate.

5.9 Asset replication methods

- 5.9.1 Asset replication methods can be usefully applied wherever a replicating asset, or basket of assets, can be found for projected individual cashflows or a group of cashflows of the Economic Asset. They may have particular application for assessing the value of market-related guarantees or options embedded within the Economic Asset.
- 5.9.2 In applying such methods, the Member should satisfy himself or herself that replicating assets appropriately reproduce the cashflows being valued and that all of the relevant valuation cashflows are either reproduced by the replicating assets or otherwise dealt with.
- 5.9.3 Asset replication methods can be difficult to apply in practice because of difficulty in locating well-traded market assets that have the duration and shape of the cashflows of the Economic Assets being valued.



5.10 Roll-forward/roll-backward valuations

- 5.10.1 In some circumstances, it may be appropriate to provide an Economic Valuation for a date different to that at which key data has been captured and detailed models produced. Such an Economic Valuation is commonly referred to as a roll-forward or roll-backward valuation.
- 5.10.2 Generally accepted practice is for the roll-forward/roll-backward method to be consistent with the use(s) to which the Economic Valuation will be put and with the overall Materiality requirements of the Economic Valuation.
- 5.10.3 Generally accepted practice is to make appropriate allowance for:
- (a) Material business experience and cashflows that have occurred over the roll-forward/roll-backward period, including:
 - (i) the time value of money over the roll-forward/roll-backward period;
 - (ii) differences between actual experience and the expected experience implied by the base Economic Valuation;
 - (iii) any release of value from, or injection of value into, the Economic Asset (for example, dividend payments or capital transfers) or Material contracts or guarantees entered into or cancelled during the period; and
 - (iv) changes to the environment in which the Economic Asset operates which were not anticipated in the base Economic Valuation and that would have a Material effect on the assumptions used to derive the Economic Value of the Economic Asset; and
 - (b) the impact of correlation effects between assumptions in determining any adjustments.

6. Models used to perform an Economic Valuation

6.1 Introduction

- 6.1.1 There are four major types of models commonly used by Members in undertaking Economic Valuation work:
- (a) *cashflow models*: a model of the future cashflows expected to be generated by the Economic Asset;
 - (b) *probability models*: a model of contingencies that affect the Economic Asset. These may include models of event occurrence,



claim incidence, contract termination and take-up of product features and options;

- (c) *economic models*: a model of the economic variables and their interrelationships that affect the Economic Asset. These typically include factors such as future investment earnings and rates of inflation; and
- (d) *risk allowance models*: a model used to generate the assumptions required to allow for the impact of uncertainty on the Economic Value.

6.1.2 The Economic Valuation of an Economic Asset may involve the use of a combination of models.

6.2 Choice of model

6.2.1 The Member should:

- (a) choose models for the Economic Valuation that are appropriate to the valuation being performed and the purpose(s) for which the results of the Economic Valuation will be used;
- (b) ensure that there is consistency between the economic framework in which the Economic Valuation is being performed and the models chosen;
- (c) understand the limitations of the models chosen for the Economic Valuation; and
- (d) use models that are consistent within themselves and with each other.

6.2.2 Where models are not consistent and this has the potential to Materially affect results, the Member should disclose the inconsistency in the Member's Report on the Economic Valuation.

6.3 Cashflow model

6.3.1 The Member should choose a cashflow model that appropriately:

- (a) reflects all Material cashflows and, in determining the cashflows to be modelled, the Member should consider the key drivers of the Economic Value of the Economic Asset; and
- (b) allows for options, guarantees or other asymmetric features of the cashflows, where these are Material to the Economic Valuation.

6.3.2 The Member should be satisfied that the cashflows taken into account when performing an Economic Valuation are consistent. In particular, generally accepted practice is to properly allow in the Economic



Valuation for benefits that are mutually exclusive, or which can only be realised by incurring additional costs.

- 6.3.3 The Member should use terminal values in the cashflow model chosen by him or her only where the Member is satisfied that this is appropriate taking into account the purpose of the Economic Valuation, the Materiality of the terminal value and the nature and reliability of future cashflow projections.
- 6.3.4 Generally accepted practice is that the cashflow model:
- projects cashflows over appropriate time intervals; and
 - allows for the timing of the cashflows within the chosen intervals with appropriate accuracy.

Time intervals should generally not exceed one year, although shorter intervals may be appropriate.

6.4 Probability model

- 6.4.1 Some of the cashflows being modelled may be contingent on the occurrence of particular events. This is particularly true for Economic Assets within the field of insurance.
- 6.4.2 In such situations, the Member should satisfy himself or herself that probability distributions or point estimates used in the models are reasonable and sufficiently accurate for the purpose of the Economic Valuation, paying particular attention to outcomes that may have a low probability of occurrence, but a high economic impact should they occur.
- 6.4.3 It may be appropriate to adopt a stochastic approach to modeling aspects of the experience, particularly where there is Material interaction or dependencies between components being modeled.
- 6.4.4 In undertaking stochastic modelling or simulations, the Member should:

- be satisfied that the underlying distributions assumed are reasonable; and
- perform a statistically significant number of simulations, particularly where uncertainty in the 'tail' of a distribution or process is being considered.

6.5 Economic model

- 6.5.1 Some of the cashflows in the cashflow model may be dependent on the value of certain economic variables. These typically include variables such as future investment earnings, rates of inflation and the impact of taxation, although other relevant influences on the Economic Asset may



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need to be modelled such as demographic, social, technological or environmental trends.

6.5.2 Where Material to the valuation result, generally accepted practice is for the economic model to appropriately reflect:

- (a) relationships and correlations between economic and other variables;
- (b) market volatility; and
- (c) the period over which cashflows Material to the Economic Valuation are expected to occur.

6.6 Risk allowance model

6.6.1 A range of models exist to allow for uncertainty within the Economic Valuation. These will often be particular to the valuation method chosen, for example:

- (a) Capital Asset Pricing Model (CAPM) or similar models for determining risk-adjusted discount rates;
- (b) state price deflator models for converting cashflows to the valuation date cash equivalent using 'real world' probabilities; and
- (c) explicit risk models for determining appropriate margins to apply to cashflows.

6.6.2 The Member should choose a risk allowance model which:

- (a) takes into account observed market data and relationships;
- (b) is consistent with the other models and assumptions used in the Economic Valuation;
- (c) is appropriate to the nature and extent of the uncertainty; and
- (d) is appropriate to the business characteristics of the Economic Asset.

7. DATA

7.1 Introduction

7.1.1 Key data regarding the operations and experience of the Economic Asset is likely to come from:

- (a) internal management reports;
- (b) interviews with management;



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- (c) administrative systems;
- (d) board reports;
- (e) financial statements; and
- (f) published industry data.

7.1.2 The data available and its quality will influence the choice of the method(s) and model(s) used for the Economic Valuation.

7.1.3 The Member should be mindful of possible distortions in the data arising from, for example:

- (a) recent acquisitions, disposals or mergers;
- (b) changes to systems, reports or classifications;
- (c) consolidation or segmentation across entities;
- (d) changes in the business or management of the Economic Asset;
- (e) market or competitive changes;
- (f) regulatory changes; or
- (g) random fluctuations.

Material distortions should be documented in the Member's Report.

7.2 Relevant data

Generally accepted practice is that:

- (a) all data used is relevant to the purpose of the Economic Valuation;
- (b) where relevant data is not available, the Member should explain the implications for the Economic Valuation in the Member's Report; and
- (c) if data was obtained at a date other than the valuation date, then the Member's Report should include a description of how the data was adjusted to reflect the expected position at the valuation date, together with commentary on the effect of any approximations involved.

7.3 Data reliance and review

7.3.1 Generally accepted practice is that a Member:

- (a) review the data obtained for reasonableness, internal consistency and completeness; and



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- (b) in doing so, consider whether distortions exist in the data and whether adjustments to the data are appropriate to eliminate possible distortions in the Economic Valuation or to allow for expected changes in future conditions under which the Economic Asset will be operating.
- 7.3.2 Where the Member uses sampling, the Member should use a sufficient number and distribution of samples such that the Economic Value will be fit for its intended use(s) given the nature, homogeneity and complexity of the Economic Asset.

7.4 Consistency of data, methods and models

Generally accepted practice is that:

- (a) the data used to populate the chosen model(s) is consistent with the method(s) chosen and the design of the model(s) used for the Economic Valuation; and
- (b) if the data does not, or is insufficient to, support the use of a particular method or model, the Member should consider whether a more appropriate approach ought to be used.

8. SETTING ASSUMPTIONS

8.1 Choice of assumptions

- 8.1.1 There will often be a range of assumptions that the Member could determine as being acceptable for a particular Economic Valuation.
- 8.1.2 The Member should use a set of assumptions in the Economic Valuation that is:
- (a) internally consistent;
 - (b) free of intentional bias by the Member; and
 - (c) appropriate to the purpose, scope and proposed use(s) of the Economic Valuation.

Generally accepted practice is for Material correlations between assumptions to be appropriately reflected.

- 8.1.3 The Member is also encouraged to use assumptions that:
- (a) are explicit rather than implicit where these have a Material impact on the assessment of Economic Value;
 - (b) make allowance for expected future changes in the operating environment such as pricing cycles, experience improvements, margin squeeze, inflation and so forth;



- (c) take account of the recent operating experience of the Economic Asset, where this is available; and
- (d) are reflective of the key drivers of the value of the Economic Asset.

9. REPORTING

9.1 Professional requirements

- 9.1.1 Any reporting in respect of Professional Services must comply with the requirements laid down in clause 7 of the Code.
- 9.1.2 Members are encouraged to consider, if appropriate, the guidance provided in Practice Guideline 199.01 (Prescribed Actuarial Advice Reporting), as per clause 1.1.2 of that Practice Guideline.
- 9.1.3 The balance of this Section 9 provides additional guidance to Members on reporting with respect to the subject matter of this Practice Guideline. Ultimately, however, the appropriate level of disclosure is a matter of judgment and will depend on many factors, including:
 - (a) the complexity of the Economic Asset being valued;
 - (b) the scope of the assignment given to the Member; and
 - (c) the preferred communication style of the Principal and the intended user(s) of the Economic Valuation.

9.2 Purpose of the valuation

- 9.2.1 Where the Member believes the Economic Valuation might be used for purposes other than those intended, the Member should disclose any qualifications or limitations on the usage of the Economic Valuation. For example, where the result of an Economic Valuation could reasonably be construed to be a market value or fair value when this was not the intended purpose, the Member could include a statement to that effect in the Member's Report.
- 9.2.2 An Economic Valuation may be an element in determining a market value or fair value, or as part of a project evaluation. Where the Member prepares an Economic Valuation that may be expected to be used in that way, the Member should:
 - (a) where appropriate, ensure that the valuation technique and assumptions are consistent with the guidance provided for a Level 3 valuation within the fair value framework (refer Annexure C);
 - (b) take steps to ensure that any qualifications or limitations on the use of the Economic Value for that purpose are communicated to the Principal and disclosed in the Member's Report; and



- (c) note any Material factors which are not considerations in performing the Economic Valuation, but which are likely to be important in the work of which the Economic Valuation is a part (such as non-traded, non-cashflow costs and benefits or indirect costs and benefits).

9.3 Results and limitations

9.3.1 In some situations, the Member may consider it more appropriate to disclose a range in which the Economic Value may lie, rather than a single Economic Value. Where a range is disclosed, the Member should provide advice on how to interpret the range (for example, by explaining the factors that might be likely to result in an Economic Value towards the higher or lower end of the range).

9.3.2 The Member should consider whether to place any limitations on the distribution or use(s) of the Member's Report.

9.4 Analysing and portraying uncertainty

9.4.1 The Member should:

- (a) identify the Material elements of uncertainty in the Economic Valuation results; and
- (b) draw these to the attention of the Principal in the Member's Report.

9.4.2 Methods that might be used by the Member to convey the degree of uncertainty in the Economic Valuation include those discussed in the balance of this section 9.4 of this Practice Guideline.

9.4.3 Sensitivity testing

In undertaking sensitivity testing, the Member should:

- (a) choose sensitivities which focus on the assumptions which are most Material to the results, have high degrees of uncertainty and/or are likely to be of most interest to the Principal and intended user(s);
- (b) choose assumption variations that are reasonably likely without being extreme (unless variations in the 'tail' of a distribution or process are being considered);
- (c) if possible, vary each of the key assumptions so as to examine roughly equivalent confidence levels around each of those assumptions, or derive the required change in each key assumption for a given change in value;
- (d) have regard to non-symmetrical outcomes and cusp points;
- (e) treat correlated assumptions (for example, inflation, interest and lapses) consistently; and



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- (f) consider whether the results of stochastic modelling may be useful.

9.4.4 Scenario testing

In undertaking scenario testing, the Member should:

- (a) choose scenarios which are internally consistent;
- (b) choose scenarios which represent a range of operating conditions to which the Economic Asset could reasonably be expected to be exposed; and
- (c) include scenarios where any Material non-symmetrical features of the Economic Asset will be appropriately tested.

9.4.5 Stress testing

In undertaking stress testing, the Member should:

- (a) choose sets of conditions which appropriately examine the stress scenarios that are likely to be Material to the Economic Valuation or of interest to the Principal and intended user(s);
- (b) treat correlated assumptions appropriately; and
- (c) consider the extent to which the behaviour or management of the Economic Asset may change under conditions of stress.

9.5 Components of value

Where appropriate given the scope and intended use(s) of the Economic Valuation, generally accepted practice is for the component parts of the Economic Value to be separately disclosed. Depending on the Economic Asset and valuation method, the components considered might include:

- (a) future new business, separate from existing business;
- (b) lines of business;
- (c) net assets (however defined by the model);
- (d) market or customer segments;
- (e) distribution channels;
- (f) synergy benefits;
- (g) value of franking credits and other taxation effects; or
- (h) any other items (for example, guarantees or contracted rights) to which intended user(s) of the Economic Value may ascribe



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particular significance.

9.6 Analysis of change in value

- 9.6.1 Where a prior Economic Valuation exists and sufficient information concerning its composition and determination is available to the Member, the Member should analyse the change in Economic Value since the most recent valuation, unless the scope of the assignment explicitly excludes this task.
- 9.6.2 The analysis of change would generally identify:
- (a) the change in value expected since the prior valuation date using the method, data and assumptions that were applied in the prior valuation;
 - (b) the effect of changes in the valuation method;
 - (c) the effect of changes in the valuation model;
 - (d) the effect of changes in the valuation assumptions. Detail of the effect of the more Material individual assumption changes would usually be shown separately;
 - (e) the effect of operating experience during the period; and
 - (f) the effect of capital movements and dividends.



ANNEXURE: OTHER GUIDANCE ON FAIR VALUE AND ECONOMIC VALUATIONS

A. Overview

In recent years, the accounting standards bodies (International Accounting Standards Board ("IASB") and Financial Accounting Standards Board ("FASB")) have issued guidance on fair value. In the aftermath of the financial crisis of 2008/09, additional guidance has been provided on dealing with distressed or illiquid markets. The CFO Forum, a grouping of insurance chief financial officers, has provided guidance on economic valuations which is also relevant to Members' practice.

B. Accounting fair value - definition

- B.1 Fair value is a key concept in international accounting standards. In theory, if each asset and liability of a company's balance sheet could be determined using fair value principles, then the excess of assets over liabilities would represent the economic value of the entity. For a variety of practical concerns, this is not achieved under current accounting standards.
- B.2 Under the Statement of Financial Accounting Standards No 157 (Fair Value Measurements) issued by the FASB ("FAS 157"), "fair value" is defined as "the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date" under current market conditions.¹ The features of this definition are:
- (a) *exit price*: an estimate of the price to sell an asset or to transfer a liability. It is not the price to buy the asset or to incur the liability;²
 - (b) *market participant perspective*: a fair value measurement is a market-based measurement, not an entity-specific measurement. Therefore, a fair value measurement uses the assumptions market participants would use when pricing the asset or liability, including assumptions about risk;³
 - (c) *orderly transaction*: "[a]n orderly transaction is a transaction that assumes exposure to the market for a period prior to the measurement date to allow for marketing activities that are usual and customary for transactions involving such assets or liabilities; it

¹ FAS 157, clause 5 (at page FAS 157-6).

² FAS 157 at page FAS 157-2.

³ FAS 157 at pages FAS 157-2 to FAS 157-3.



is not a forced transaction (for example, a forced liquidation or distress sale);⁴ and

- (d) *timing of transaction:* the transaction to sell an asset or to transfer a liability occurs at the measurement date, taking into account market conditions at that date and the market's expectations about future economic events related to the asset or liability.

C. Accounting fair value – market inputs

Consistent with the market participant perspective of a fair value price, accounting standards⁵ place emphasis on the use of market inputs in estimating the fair value for an asset or liability. However, recognising that market inputs (including quoted prices, credit data, yield curve, etc) may not always be available or appropriate, the fair value framework uses a three level fair value hierarchy to reflect the level of judgment which may be involved in estimating fair values.⁶ Briefly:

- (a) Level 1 valuations use quoted prices in active markets for identical assets or liabilities, where the reporting entity must have access to that market. Information at this level is based on direct observations of transactions involving the identical assets or liabilities being valued, not assumptions;
- (b) Level 2 valuations are valuations based on market observable inputs. Information at this level is based on observable market data which is sufficiently applicable to the reported items to allow the fair values to be estimated. Examples of observable market inputs include: quoted prices for similar assets, interest rates, yield curve, credit spreads, prepayment speeds, etc; and
- (c) Level 3 valuations estimate fair value using a valuation technique and use significant assumptions or inputs which are based upon information that is not observable in the market and, therefore, necessitates the use of internal information. That is, the assumptions and inputs used are the reporting entity's own assumptions and inputs.

D. Accounting fair value - distressed and illiquid markets

- D.1 Situations in which there is little, if any, market activity for an Economic Asset at the measurement date may require that additional consideration be given to the valuation approach.

⁴ FAS 157, clause 7 (page FAS 157-7).

⁵ FAS 157.

⁶ Refer the discussion at FAS 157, clauses 22 to 31 (pages FAS 157-10 to FAS 157-12).



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D.2 Indicators that a market is dislocated include:

- (a) there are few recent transactions;
- (b) price quotations are not based on current information or vary substantially either over time or among market makers;
- (c) indexes that previously were highly correlated with the fair values of the asset or liability are demonstrably uncorrelated with recent indications of fair value for that asset or liability;
- (d) there is a significant increase in implied liquidity risk premiums, yields or performance indicators;
- (e) there is a wide bid-ask spread or significant increase in the bid-ask spread;
- (f) there is a significant decline or absence of a market for new issuances (that is, a primary market) for the asset or liability or similar assets or liabilities; and
- (g) little information is released publicly.

D.3 Such indications of dislocated markets may cause the Member to use more of the entity's own assumptions or historic market inputs, in preference to market inputs that may be distorted by the market dislocation.

E. CFO Forum

E.1 The CFO Forum is a grouping of mainly European-based chief financial officers. Further details are available on its website www.cfoforum.nl. In October 2009, the CFO Forum issued two papers entitled "Market Consistent Embedded Value Principles" and "Market Consistent Embedded Value Basis for Conclusions" which are available on its website.

E.2 Although these papers provide specific guidance to ensure consistency in the reporting of the embedded value, certain of the guidance is generally applicable to economic valuations. The following points in particular are worth noting, namely that:

- (a) the value of in force policies may be considered to consist of the present value of future profits, the time value of options and guarantees, frictional costs of invested assets and the cost of residual non-hedgeable risks;
- (b) stochastic methods are generally required to value options and guarantees;



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- (c) an economic valuation of a corporate structure should consider the frictional costs of investing assets in a corporate structure. These costs include tax costs and investment costs in excess of those that would be incurred if the assets were held directly by an investor;
- (d) the cost of hedgeable risks may be determined by valuing the associated hedges (effectively a Level 2 fair value method as defined by accounting standards); and
- (e) the cost of non-hedgeable risks be compared to the cost of holding additional capital to cover these risks. Little guidance is provided as to how these costs may be determined.

END OF PRACTICE GUIDELINE 199.03



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PROFESSIONAL STANDARD 200

ACTUARIAL ADVICE TO A LIFE INSURANCE COMPANY OR FRIENDLY SOCIETY

December 2010

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1. INTRODUCTION

1.1 Application

- 1.1.1 This Professional Standard applies to Appointed Actuaries of life insurance companies and friendly societies registered under the Act in the provision of advice as required by the regulatory regime. This Professional Standard also applies to Members who support the Appointed Actuary in providing such advice.
- 1.1.2 There are likely to be other matters or situations not directly referred to in this Professional Standard, whether or not referenced by the regulatory regime, in which the Member's advice will be sought or must be given to the management or the Board of the life insurance company or friendly society. In such circumstances, the Member must take account of the general considerations in this Professional Standard along with relevant provisions of the Code.
- 1.1.3 Work performed under this Professional Standard by an Appointed Actuary is Prescribed Actuarial Advice. Members' attention is directed towards the requirements of the Code in relation to Prescribed Actuarial Advice, as well as to Practice Guideline 199.01 (Prescribed Actuarial Advice Reporting).
- 1.1.4 While this Professional Standard is meant to provide direction on the application of the regulatory regime to the work of the Appointed Actuary, the Member must comply with the regulatory regime at all times and seek legal opinion if in doubt.

1.2 Classification

- 1.2.1 This Professional Standard has been prepared in accordance with the Institute's Policy for Drafting Professional Standards. This Professional Standard must be applied in the context of the Code.
- 1.2.2 This Professional Standard is binding on Members, in respect of all work covered by the Professional Standard.
- 1.2.3 Non-compliance with this Professional Standard by a Member engaged in work covered by the Professional Standard may constitute Actionable Conduct and may lead to penalties under the Institute's Disciplinary Scheme.
- 1.2.4 This Professional Standard in itself defines the requirements of the Institute in respect of all work covered by the Professional Standard. If a Member believes that the Professional Standard is ambiguous or for some other reason wishes to seek clarification of it, that Member may consult the Institute's Professional Standards Committee for guidance as to the interpretation of the Professional Standard. Apart from legislation or regulatory standards, no other document, advice or consultation (including



Practice Guidelines of the Institute) can be taken to modify or interpret the requirements of this Professional Standard.

- 1.2.5 Members who find that they cannot carry out the work in a manner that complies with this Professional Standard must decline to carry out the work, or terminate their agreement to do so.

1.3 Background

- 1.3.1 The Appointed Actuary is required, in respect of specific statutory duties under the regulatory regime, to provide the Entity or the 'directors of the Entity' with written advice. In doing so, the Appointed Actuary must bear in mind the principal object of the Act as stated in sub-section 3(1) thereof, namely "... to protect the interests of the owners and prospective owners of life insurance policies in a manner consistent with the continued development of a viable, competitive and innovative life insurance industry".
- 1.3.2 Members who, in the course of their employment or consulting contract, assist the Appointed Actuary of a registered life company or friendly society must bear in mind the basic objective of the Act and the position as noted in clause 1.3.1.

1.4 Purpose

- 1.4.1 The purpose of this Professional Standard is to set out the principles to be observed by Actuaries in providing advice that is consistent with, and contributes to, the sound financial conduct of life insurance or friendly society business.

1.5 Previous versions

- 1.5.1 This Professional Standard was first issued in June 1982 as Professional Standard "Life Insurance Companies: Financial Condition Investigations" and subsequently titled Professional Standard No 1.
- 1.5.2 In 1993, the Professional Standard was renumbered Professional Standard No 200 and, in the period to 2008, the Professional Standard underwent a number of revisions.
- 1.5.3 The latest revision takes into account the commencement of LPS 320 and other industry developments since 2008.

1.6 Legislation

- 1.6.1 The statutory requirements relating to the Appointed Actuary's advice to the Entity are specified in the regulatory regime. The relevant regulatory regime for the purposes of this Professional Standard is:
- (a) the Act;



- (b) the Life Insurance Regulations 1995 (Cth); and
- (c) APRA Standards.

1.6.2 The statutory requirements include, but are not limited to:

- ▶ **Product Advice:** before the Entity issues or modifies a policy, written advice about the proposed terms and conditions, the surrender basis and the unit pricing method. Advice on proposed reinsurance arrangements must also be received before such arrangements are entered into, modified or terminated (LPS 320);
- ▶ **Apportionments:** written advice to the directors regarding the appropriateness of the proposed apportionment of relevant income and outgoings (section 80 of the Act);
- ▶ **Financial Condition Investigations:** a written report to the Entity on the investigation into the financial condition of the Entity at the end of each financial year (or at other times as may be required) which is to include a valuation of the Entity's policy liabilities and an assessment of its solvency and capital adequacy position (LPS 320), and an assessment of the Entity's risk management framework (APRA Prudential Standard LPS 220 Risk Management); and
- ▶ **Distributions of Profit and Capital:** written advice to the directors on the likely consequences of a proposed distribution of retained profits or shareholders' capital (sections 62 and 63 of the Act).

1.6.3 If there is a difference between this Professional Standard and the applicable legislation, the legislation takes precedence. In this context, legislation includes regulations, prudential standards and subordinate standards and rules.

1.6.4 A reference to legislation or a legislative provision in this Standard includes any statutory modification, or substitution of that legislation or legislative provision and any subordinate legislation issued under that legislation or legislative provision.

1.7 Professional responsibilities

1.7.1 An Appointed Actuary has legal obligations to report certain matters, information or opinions to the Entity (including a director or officer of the Entity) or APRA (as relevantly set out in the Act). These obligations are referred to as "whistleblowing". The obligations, details about what must be reported, related powers and protections are provided in sections 98, 98A and 99 of the Act, paragraphs 79 and 80 of APRA Prudential Standard LPS 510 Governance and paragraphs 35 to 40 of APRA Prudential Standard LPS 520 Fit and Proper. These are onerous obligations and underline the importance of the Appointed Actuary acting independently and professionally in performing his or her duties. Members need to understand



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the obligations that apply to them in their circumstances. This may require Members to seek legal or other professional advice.

2. COMMENCEMENT DATE

This Professional Standard applies to any relevant advice or Report given to an Entity on or after 1 January 2011.

3. DEFINITIONS

3.1 In this Professional Standard:

'Act' means the Life Insurance Act 1995 (Cth).

'Appointed Actuary' means a Member holding an appointment by the Entity under section 93 of the Act.

'APRA' means the Australian Prudential Regulation Authority.

'APRA Standards' means the Prudential Rules, Prudential Standards, Prudential Practice Guidelines and Reporting Standards issued by APRA from time to time in accordance with the Act.

'Capital' or **'Capital Base'** means (unless otherwise specified) share capital, share premium, retained profits and subordinated debt approved for capital purposes by APRA.

'Code' means the Code of Professional Conduct of the Institute.

'Discretionary Investment Benefit' means any participating benefit or non-participating benefit where the benefit is increased to reflect the investment experience of the assets backing the benefit, and where the amount of the increase in the benefit to reflect the investment experience is either subject to averaging over time or at the discretion of the Entity. For the purposes of this definition, the allowance for a certain rate of investment return in determining the premiums for a benefit does not imply that the benefit reflects the investment experience of the assets backing the benefit.

'Entity' means the legal entity registered under the Act as the life insurance company, as the friendly society or otherwise, as the context requires. Reference in the Professional Standard to advice to the Entity includes advice to the board of directors of the Entity as the context requires under the regulatory regime.

'General Fund' means, in accordance with the APRA Standards, the shareholders fund in the context of the life insurance company (other than a friendly society) or the management fund in the context of a friendly society.



'LPS 320' means APRA Prudential Standard LPS 320 Actuarial and Related Matters.

'Material' means relevant to the Entity's circumstances and either important or essential in the opinion of the Member. For this purpose, 'Material' does not have the same meaning as in Australian accounting standards. 'Materiality' and 'Materially' have meanings consistent with 'Material'.

'Policy owner' means the owner of a life policy as defined in the Act, and includes reference to a member of a benefit fund of a friendly society as the context requires.

'Reasonable Benefits' – Under participating and Discretionary Investment Benefit policies either the premium or the benefits may be varied. This may enable an Entity to accept risks more confidently in the knowledge that adjustments can be made as experience unfolds. A purchaser of such a policy shares the risk to some extent and is entitled to be treated equitably in the light of that experience. The expression "reasonable benefits" is used in connection with such policies to describe benefits which fall within a range which could reasonably be held to recognise these features and all the matters described in clause 6.2 of this Professional Standard.

'Report' means a report or written advice prepared by a Member under this Professional Standard.

'Statutory Fund' means, as the context requires, the statutory fund or benefit fund (or approved benefit fund) of a life insurance company (that is a friendly society or otherwise), as defined under the Act.

- 3.2 A word that is derived from a defined word has a corresponding meaning.
- 3.3 Other capitalised terms used in this Professional Standard have the same meaning as set out in the Code.

4. MATERIALITY

- 4.1 The Member must take Materiality into account when performing work under this Professional Standard. In determining whether something is Material, the Member must take into account the purpose of the actuarial advice being given. Whether something is Material or not will always be a matter requiring the exercise of the Member's professional judgment.
- 4.2 If a Member has formed the opinion that a matter required to be considered under this Professional Standard is not Material to the actuarial advice in the circumstances, then:
 - (a) the Member must document that the matter is not Material and provide reasons for forming that opinion, but does not have to further consider that matter; and



- (b) if the matter is not relevant to the Entity's circumstances, the matter may be omitted from the applicable Report; or
- (c) if the matter is relevant to the Entity's circumstances, but is not Material because it is neither important nor essential in the Member's opinion, the Member must state in the applicable Report that the matter is not Material and provide reasons for such opinion.

5. OVERALL PRINCIPLES

5.1 Written advice

- 5.1.1 Written advice required by the regulatory regime must be clearly identified as such.
- 5.1.2 The Member must include with his or her advice the reasons for giving the advice, any conditions or limitations imposed on the use of that advice, and any significant commercial factors or risks to which the Entity and policy owners would be exposed. In particular, should the advice be over a major or controversial matter, then the Member must also indicate the consequences of following or not following the advice as appropriate.
- 5.1.3 Reference must be made to other documents, if any, that may have been relied upon in providing the advice. Where the Member relies on work undertaken by other Members, the Member must communicate this to the other Members, verifying the reasonableness of the investigations undertaken, and results obtained, by the other Members. Where the Member cannot form an opinion as to reasonableness, alternative analyses must be undertaken, documented and explained.
- 5.1.4 In providing written advice required by the regulatory regime, the Member will, except for financial condition investigations, not necessarily need to prepare a full formal Report, but must, at a minimum, prepare a statement which includes references to relevant supporting documents or files. The Member must make and keep sufficient and appropriate documentation about relevant matters to enable a formal Report to be prepared later if required.
- 5.1.5 Such modelling or other work that has been carried out in support of finalised advice must be adequately documented.
- 5.1.6 LPS 320 requires the Member's employer to retain working papers and other documentation in relation to an Entity's prudential requirements for a period of seven years. The Member must assist their employer by identifying the relevant supporting documents and files.



5.2 Matters for consideration

- 5.2.1 In carrying out his or her responsibilities, the Member must, among other things:
- (a) comply with the requirements of the regulatory regime;
 - (b) satisfy the Constitution or Articles of Association or other by-laws constituting the Entity;
 - (c) provide advice that aims to ensure, within the bounds of reasonable probability, the long term financial soundness of the life insurance business of the Entity;
 - (d) provide advice that seeks to achieve equity in the allocation and distribution of profits or benefits to participating policy owners in general, non-participating Discretionary Investment Benefit policy owners, between different groups of such policy owners, and to shareholders (refer to clause 8.2 of this Professional Standard); and
 - (e) comply with the relevant provisions of the Code.

Information requirements

- 5.2.2 The Member must ensure that the Entity is made aware that the responsibilities of an Appointed Actuary cannot be properly carried out unless it makes available adequate and relevant information. If necessary, the Entity's attention must be drawn to section 97 of the Act which gives certain powers to the Appointed Actuary in relation to access to Entity information in order to carry out his or her duties.

In this regard the needs of the Member must be specified and, if the appropriate information is not forthcoming, the Report or advice must be qualified or state the Actuary's inability to give advice as the case may be. Where relevant, the Appointed Actuary would then need to give consideration to invoking the provisions of section 98 of the Act.

Entity's business and operations

- 5.2.3 When providing advice in terms of this Professional Standard, the Member must consider all relevant items below and any other matters considered relevant:
- (a) the premium rates and charges on which existing business has been, and current new business is being, written;
 - (b) the nature, terms and conditions, and disclosures of the contracts in force and currently being sold with particular reference to all options and guarantees, and the scope for adjusting the terms and conditions in the light of emerging experience;



- (c) the existing investments, the continuing investment policy and a range of plausible future investment experience;
- (d) the business plans, in particular the expected volumes and net capital demands of sales;
- (e) the current and a range of plausible future experience of expenses and taxes;
- (f) the current and a range of plausible future experience in respect of the risk elements;
- (g) the current and a range of plausible future experience in respect of lapse and surrender rates;
- (h) the arrangements for reinsurance and other risk mitigation strategies and arrangements; and
- (i) the operational capability of the Entity to effectively administer the business.

Capital and financial soundness

- 5.2.4 In considering the ongoing financial soundness of the life insurance business of the Entity, the Member must also have regard to:
- (a) the extent of the Entity's capital, its position in the various statutory funds, the ability to transfer it between them, and additional capital which the Entity is able and willing to add in further support; and
 - (b) the need to preserve sufficient capital in the Entity for the ongoing support of the continuing business, both existing and new, especially taking account of the likely new business strain which may arise from the Entity's business plans.

- 5.2.5 An Entity may conduct business other than life insurance business external to the Entity's statutory funds. The ongoing financial soundness of the life insurance business depends, in some part, on the health of the Entity as a whole. The Member must also consider in general the effect other business the Entity conducts may have on its life insurance business.

Responsibility for advice given

- 5.2.6 While a Member may delegate certain tasks required under this Professional Standard, the Member nonetheless remains ultimately responsible for the advice provided.



6. PRODUCT AND REINSURANCE ADVICE

6.1 Principles of product and reinsurance advice

- 6.1.1 The following clauses set down those matters which the Member must address in providing advice on products and reinsurance. These matters may well go beyond the requirements of APRA Standards.
- 6.1.2 LPS 320 requires written advice from the Appointed Actuary to the Entity before a policy can be issued. The advice must cover proposed terms and conditions (which includes premium rates, fees and charges), surrender bases and unit pricing.
- 6.1.3 Written advice from the Appointed Actuary is also required when there are proposed modifications in terms and conditions, or when the Member recognises that there is a change in circumstances relating to a group of policies that has Material financial implications. When the Member considers that a proposed change in terms and conditions is not Material, the Appointed Actuary must advise the Entity of this view.
- 6.1.4 Where existing policies have terms and conditions which are subject to variation, then when providing advice on proposed new terms and conditions or changes to terms and conditions of similar policies, the Member must comment on the impact of those proposals on the business already issued.
- 6.1.5 With respect to the reference to 'company' in paragraphs 17 and 19 of LPS 320, the Member, by reference to the Board-approved policy required by paragraph 20, must clearly establish to whom in practice the advice must be directed.

6.2 Premium rates and charges

- 6.2.1 When providing advice on premium rates and charges, the Member must make a statement on their 'suitability' or 'adequacy' in terms of meeting corporate pricing standards, contributing to marginal and overhead expenses and return on financing capital. The statement of their suitability cannot be an absolute statement - it is inevitably a probability. The adequacy or otherwise of premium rates and charges cannot, therefore, be other than a matter of judgment. The required judgment must be based on the use of sound techniques and take into account the complex matters involved in contracts containing various options or guarantees.
- 6.2.2 In particular, apart from any general advice that the Member provides, if the premium rates and charges for a product are considered unsuitable or inadequate, the Member must state why that opinion is held and indicate the potential or likely financial consequences of their adoption by the Entity. The Member must indicate actions the Entity could take to counteract the potential risks.



Assumptions about future experience

- 6.2.3 The Member must be satisfied as to the suitability of all Material assumptions about the expected future experience.
- 6.2.4 In providing an opinion as to the likely future experience of new types of risk where no specific past experience is available, the Member must take into account such statistics relating to similar events or conditions as can be obtained and are considered relevant. The Member must comment on any limitations that apply to the terms and conditions of policies while experience is being gained. Where appropriate, and quite apart from any general monitoring that the Member undertakes for risks, the Member must specify that close monitoring of experience of new risks is required.
- 6.2.5 The various elements in the assumptions may have experienced volatility in the past and confidence about the likely future will vary according to that and other considerations. The Member must consider the degree of uncertainty in each of the assumptions and the potential effects of experience being relatively adverse. The Member must consider the Entity's capacity to finance such adverse experience.

Equity

- 6.2.6 In the case of a participating policy, a buyer will be entitled to a share of the profits made by the Entity during the life of the policy. In the case of a non-participating Discretionary Investment Benefit, a buyer pays premiums for benefits where one or more of the elements can be varied during the life of the policy at the discretion of the Entity. In both these cases, equity may be less of a consideration at the time the initial premium rates or benefits are established than it is when the experience emerges and the Member advises the Entity as to how the discretion should be exercised.
- 6.2.7 In the case of a non-participating policy, which has no provision for the terms to be varied, consideration of equity may have regard to the fact that potential buyers can choose whether to buy the product or a competing product based on the terms being offered.
- 6.2.8 In the cases outlined above, the Member, at the time of advising on the initial premium rates and benefits, must try to ensure that the maintenance of equity during the life of the policy will not present undue practical difficulty.

Finance

- 6.2.9 Benefits paid plus expenses incurred plus the required increase in reserves to be held in respect of the future liabilities may exceed premiums received in certain circumstances, for example, in the early years of a policy. Where this is the case, the Member must consider:
 - (a) the amount and incidence of the estimated required finance;



- (b) the capacity of the Entity to meet this requirement for finance and the source of this finance; and
- (c) any constraints which should be imposed on the volume of new business, the period for which it may be written, size of policy, or otherwise.

Tests of suitability

- 6.2.10 The Member will normally test the suitability of premium rates and charges by using 'profit testing' projection methods with all reasonable contingencies and the cost of capital taken into account. In using such methods the Member will normally test not only on the 'best estimate' view of future experience but also on a range of plausible variations from that best estimate. However there may be occasions when it is not necessary to adopt a 'profit testing' approach.
- 6.2.11 For each variation in the view of future experience, the Member will make a number of assumptions about items listed in clause 5.2.3 of this Professional Standard.
- 6.2.12 The range of matters to be taken into account when considering suitability may well vary with the particular circumstances. In each case, the Member must be in a position to justify any decision to limit the range of the scenarios tested.

6.3 Other policy terms and conditions

- 6.3.1 The Member advising an Entity on the structure of a life insurance product must consider all policy terms and conditions, not just the adequacy or otherwise of premium rates and charges. The Member must give advice on the financial impact or risks of the proposed policy definitions, any guarantees and options, and any other matter the Member considers relevant.
- 6.3.2 The Member must satisfy himself or herself that the documentation and promotional material related to the product and prepared by the Entity is consistent with the terms and conditions of the policy.

6.4 Surrender basis

- 6.4.1 LPS 320 requires the Appointed Actuary to provide advice on the proposed basis for determining the surrender values, if applicable.
- 6.4.2 When reporting on the surrender value basis for a life insurance product, the Member must consider the impact the proposed basis would have on the solvency of the Entity. Whilst it may be appropriate or unavoidable to incur losses on some surrenders, the Entity must be advised if surrenders could cause serious loss. If the surrender value basis is guaranteed, the extent of this guarantee and its possible financial effect must be commented upon.



- 6.4.3 The Member, when providing advice on a surrender value basis, must consider equity between surrendering and continuing policy owners, and practical implementation issues, as well as the requirements of any APRA Standards applicable.

6.5 Unit pricing

- 6.5.1 If policies provide benefits by reference to units, LPS 320 requires that an Entity must not issue policies of a particular kind unless the Appointed Actuary has provided written advice on the proposed means by which unit values are determined.
- 6.5.2 The Member must comment on the extent to which the unit pricing system determines a unit price so that new, continuing and terminating policy owners are treated equitably and in accordance with policy terms and conditions.
- 6.5.3 The Member must comment on the robustness of the unit pricing approach and system.
- 6.5.4 The Member must comment on the discretions that the Entity has in determining unit prices and on the equity and the manner in which the Entity proposes to exercise those discretions.

6.6 Reinsurance arrangements

- 6.6.1 LPS 320 requires that an Entity must not enter into, modify or terminate a reinsurance arrangement unless the Appointed Actuary has provided written advice on the likely consequences of taking such action.
- 6.6.2 When commenting on the reinsurance arrangements, the Member must consider the issues listed above in clause 5.2.3 where relevant, and the financial impact of the proposed reinsurance and retention limits.
- 6.6.3 The Member must comment on the circumstances under which the reinsurance arrangements, in his or her judgment, could become inappropriate.

6.7 Commission

- 6.7.1 The Member must have regard to all expenses when advising on product terms and conditions. The Member must provide advice on the financial risks that the commission terms may impose and on the appropriateness of the proposed commission arrangements (including the total commission allowed for in the pricing of a product).
- 6.7.2 Consideration must be given to the recoverability of commission in the case of early termination of policies. If appropriate, the risks associated with a high level of policy termination, and a subsequent failure to realise the assumed recoverability of commission, must be highlighted.



7. APPORTIONMENTS

7.1 Principles of apportionments

- 7.1.1 A number of items must be apportioned between different accounts of an Entity. The Act requires that the Board of the Entity receive written advice from the Appointed Actuary before an apportionment is made in the accounts of the Entity.
- 7.1.2 Sections 78 and 79 of the Act require an Entity to apportion income and outgoings relating to the mixed business of two or more statutory funds, classes, categories or sub-categories of business. Section 80 of the Act requires that any apportionment be made on an equitable basis and according to generally accepted accounting principles. The Appointed Actuary must provide written advice as to whether the apportionment is appropriate.
- 7.1.3 In preparing the advice, the Appointed Actuary must give consideration to the nature of the item being apportioned and the business to which it relates to ensure that apportionments to a statutory fund relate to the business of the fund.
- 7.1.4 As well as the requirement of the Act, further apportionments may be required for taxation purposes or for determining assumptions for calculating policy liabilities or premium rates.
- 7.1.5 As well as the requirements of the various laws, the Member must also consider the following principles:
 - (a) promoting the financial soundness of the Entity;
 - (b) promoting the meaningful disclosure of the conduct of the business of the statutory fund;
 - (c) consistency of treatment between reporting periods; and
 - (d) the equitable treatment between policy owners and shareholders.

7.2 Equity

Equity of the apportionment is a matter of judgment for the Member after considering all relevant factors. The Member must consider the following factors:

- (a) the relationship between the nature of the item and the conduct of the business of the statutory fund or account to which it is allocated;
- (b) the objectivity of the basis. Where practical the basis should result in consistent treatment from one period to the next and avoid significant changes in basis resulting from differences in opinion of the person



making the apportionment. Objectivity does not prevent a method from being adjusted over time to meet changing circumstances where appropriate;

- (c) the magnitude of the effect of the item being apportioned on the statutory fund or account. For example, it would be inequitable to apportion audit fees equally amongst funds where some funds are very small and require little audit work;
- (d) Materiality. It is acceptable for a simplistic basis to be used for apportionment of small items where the financial effect on any statutory fund or account is not Material; and
- (e) the existence of discretionary or participating business, and the impact that the proposed apportionment between such business and other non-participating business would have on the implicit allocation of income and expenditure between policy owners and shareholders.

7.3 Intergroup apportionments and outsourcing

- 7.3.1 Intergroup apportionments may occur because the Entity is a part of a group of companies sharing the same resources. While these are outside the scope of section 80 of the Act, the Member's written advice must consider whether the net result of such apportionments to the Entity and to statutory funds are reasonable and commercial for the services received or provided. In this context, the Member must keep in mind the provisions of section 30(d) of the Act.
- 7.3.2 Outsourcing to intergroup companies represents another area where attention is required by the Member to ensure section 30(d) of the Act is not breached. This commonly includes investment management, distribution and data processing.
- 7.3.3 In general, the Member must be satisfied that the outsourcing arrangements are on reasonable and commercial terms. In this regard, the Member is also reminded of the requirements of section 98 of the Act.

7.4 Expenses

- 7.4.1 A major item to be apportioned will be expenses. Where expenses relate to a specific fund, class, category or sub category, they must be allocated directly. Indirect expenses must be allocated on an objective basis using the principles outlined above.
- 7.4.2 The level of detail involved in the apportionment process will vary depending on the financial systems available to produce results.
- 7.4.3 Expenses must also be split between acquisition and maintenance for determination of assumptions for calculation of policy liabilities and an assessment of the solvency and capital adequacy requirements. The split between acquisition and maintenance has a direct effect on the



reported profit of the Entity and particular attention must be paid to it. Consistency of treatment from year to year is particularly important to avoid distortion of results.

7.5 Investment income

Where separate assets are maintained for particular blocks of business, then investment income relating to those assets must be allocated directly. Where separate assets are not maintained, then investment income must be allocated allowing for cash flows and assets invested unless the associated policy documents require otherwise.

7.6 Taxation

- 7.6.1 In many cases, it is not possible to charge tax directly to a statutory fund or component of the fund and apportionments must be made. The tax treatment of expense deductions in particular can present difficulties when allocating tax liabilities.
- 7.6.2 The apportionment basis for taxation must be clearly specified and make allowances for the method of taxing investment income in funds with more than one class of business, treatment of expense deductions and imputation credits. Where imputation credits earned by one block of business are passed on to other blocks of business or shareholders, this must be done on a consistent basis.

8. FINANCIAL CONDITION INVESTIGATIONS

8.1 Principles of financial condition investigations

- 8.1.1 The following clauses set down those matters which the Member must address in examining and reporting on the financial condition of an Entity. They may well go beyond the requirements of the regulatory regime.
- 8.1.2 LPS 320 requires the Appointed Actuary to provide advice on the financial condition of the Entity including an assessment of the Entity's solvency and capital adequacy position.
- 8.1.3 The Member must consider the solvency and capital adequacy position of the Entity over both the short and long term and must comment on the Entity's continuing ability to deal equitably between policy owners and, where applicable, shareholders.
- 8.1.4 The Member must advise on the financial impact of plausible and adverse scenarios on the solvency and capital adequacy position of the Entity.
- 8.1.5 The Member's investigation would normally be on an open-to-new business basis (other than in the case of an assessment of the solvency



requirement), however, the Member must also consider the possibility that the Entity might be closed to new business.

In particular, the Member must consider the liabilities and reserves, the corresponding assets, and their inter-relationship. In the event that the Member considers that there is a significant possibility that the Entity may breach its capital adequacy requirement, or the Entity may be unable to provide Reasonable Benefits to its policy owners, the Member must recommend a course of action for the Entity to adopt.

- 8.1.6 In examining and reporting on the financial condition of the Entity in terms of this Professional Standard, the Member must give consideration to Materiality in relation to the Entity.

8.2 Data quality

- 8.2.1 The Member must state what processes and procedures have been adopted to test or establish the quality of, and to minimise potential inaccuracies in, the data used in carrying out the investigation.
- 8.2.2 The Member must comment on any of the operations or systems that are likely to have an impact upon the accuracy of the data. Where necessary, the risks involved because of any data inaccuracy must be quantified and appropriate liability provisions and capital reserves established in accordance with the APRA Standards.

8.3 Experience analysis

- 8.3.1 The Member must identify and comment upon any Material and significant features or trends in the Entity's recent experience, over a period of at least three previous years, to the extent that such experience exists.
- 8.3.2 In relation to any Material experience items, deviations of actual experience from the expected experience of the Entity over the last period since the previous balance date must also be discussed, including an assessment of the reasons for these deviations.
- 8.3.3 The financial condition Report must include comments on steps taken, or proposed to be taken, by the Board or senior management of the Entity to address any areas of adverse experience.

8.4 Assets

- 8.4.1 Subject to any statutory regulations, the responsibility for investment policy rests with the directors of the Entity. However, the Member must decide whether, in his or her judgment, the investment policy pursued by the directors is, or could become, inappropriate having regard to the nature and term of the Entity's liabilities. The Member must, in the financial condition Report to the Entity, advise what constraints on investment policy he or she regards as necessary to protect policy owners.



8.4.2 The financial condition of an Entity depends fundamentally on the relationship between the nature and term of the assets and the corresponding liabilities. In considering this relationship, the Member must assess and report on the financial consequences of:

- (a) the mismatching of assets and liabilities;
- (b) any guarantees and options (including surrender) available under policies and the likely effect of the exercise of these options on the Entity;
- (c) the marketability/liquidity of the assets in circumstances when they may be called upon to meet policy proceeds, especially when exercised under a guarantee or option;
- (d) any asset default/credit risks; and
- (e) any financial derivative exposures held.

8.4.3 The Member must also report and comment on:

- (a) the inadmissible assets (for capital purposes) of each statutory fund;
- (b) the mix of assets by sector type for each statutory fund; and
- (c) the mix of assets by quality (level of security),

having regard to the nature and term of the liabilities.

The Member must comment on the reserves to cover any of the above and must comment on whether or not those reserves have been determined in accordance with the requirements of the APRA Standards.

8.4.4 As in the case of investment policy, the responsibility for the values to be placed on the assets in the Entity's balance sheet rests with the directors. The Member must consider and comment on the methods by which those values have been obtained and their appropriateness for the purpose of his or her investigation. The Member must comment on any significant changes in the method of valuation of the assets. Where the Member considers that the values are unsuitable in any respect, reasons must be given and an appropriate liability adjustment and capital reserve established in accordance with the APRA Standards.

8.5 Policy liabilities

8.5.1 The Member must review the Material risks reflected in the policy and other liabilities of the Entity and discuss the principal means by which those risks are managed and/or controlled. This analysis must, *inter alia*, address exposure to large claims, claims variation and potential liability "shock" events (for example, catastrophes), liability options or guarantees, claims



run-off management, expense risks and risks associated with other experience items.

- 8.5.2 The Member must value the policy liabilities in accordance with the APRA Standards.
- 8.5.3 The Member must discuss the financial significance of changes in assumptions made since the previous valuation and the reason(s) why the changes were made.
- 8.5.4 The Member must provide an analysis of the emerging profits that identifies the key drivers of the emerging profit over the year and the ramifications for future potential profit results. Where the Entity has Material participating business, a corresponding analysis must be produced in respect of policy owner profit emergence.

8.6 Solvency and capital adequacy

- 8.6.1 The Member must assess the solvency and capital adequacy requirements of each statutory fund in accordance with the APRA Standards. The Member must also assess the management capital requirement of the General Fund.
- 8.6.2 The Member must make appropriate provisions for reserves to meet adverse contingencies that have been identified and are not specified in the method of calculation of the solvency, capital adequacy and management capital requirements as prescribed in the APRA Standards.

In respect of each such contingency, the Member must:

- (a) describe the contingency and explain the purpose of making a provision;
- (b) describe how the amount of the provision has been determined; and
- (c) identify where these provisions are held.

- 8.6.3 The Member must advise, not only on the solvency and capital adequacy position of the Entity over the past year and as at the date of the valuation, but also on the Entity's continuing ability to remain solvent and capital adequate.

- 8.6.4 When advising on the Entity's ability to remain solvent and capital adequate, the Member must review and comment on:
 - (a) the management of capital resources in excess of capital adequacy;
 - (b) the sensitivity of capital levels to adverse experience;
 - (c) the level of capital needed as excess over the capital adequacy requirement; and



- (d) the sources and availability of future capital.
- 8.6.5 Where the Member's projections, including new business, reveal that a deficit against the capital adequacy requirement may result under reasonable adverse assumptions (or where such a deficiency currently exists), the Member must comment on:
 - (a) the reasons for the deficiency; and
 - (b) the proposed management actions to eliminate the deficiency, and the likely effect of these actions.
- 8.6.6 The regulatory regime requires an Entity to comply with the solvency standard, capital adequacy standard and management capital standard at all times. The Member must comment on the level of, and reasons for, any breaches of the capital adequacy requirement during the past year and the subsequent actions that were taken by the Entity.

8.7 Premium rates and charges

The Member must provide an opinion as to whether the premium rates and fees charged by the Entity are, or could become, unsuitable. If a review of premium rates is recommended, it need not be completed as a part of a financial condition Report.

8.8 Reinsurance

- 8.8.1 The Member must examine and report on the Entity's existing reinsurance arrangements, including both risk related and financial support arrangements.
- 8.8.2 The Member must describe in general terms all arrangements in-force, their purpose, and comment on the adequacy, effectiveness and administration of the arrangements. The description must include the identity of the reinsurer, the nature of cover and the circumstances, if any, under which the reinsurer can terminate the arrangement for in-force business.
- 8.8.3 The Member must comment if, in his or her judgment, any reinsurance arrangements undertaken by the Entity are, or could become, inappropriate.

8.9 Business risks

- 8.9.1 The Member must comment on the effectiveness of the Entity's controls and procedures surrounding the unit pricing processes and other processes that determine benefits payable to policy owners and premiums, fees and charges payable by policy owners.
- 8.9.2 The Member must comment on the likely consequences and financial impact in the event of a failure in these controls and procedures.



- 8.9.3 The Member must consider, in the circumstances of the particular Entity being advised, whether comment needs to be made upon the more general business or legal risks that the Entity faces (such as dishonesty, fraud, disasters, compliance) and which could impact the financial security of the policy owners, and how well the Entity is managing such risks.

8.10 Risk management framework

The Member must include an assessment of the suitability and adequacy of the risk management framework as part of the financial condition Report.

8.11 New business assumptions

- 8.11.1 The Member must satisfy himself or herself of the reasonableness of the new business assumptions underlying the Entity's business plans.
- 8.11.2 The Member must consider whether, for the purposes of satisfying actuarial standards, modifications must be made to those assumptions.

8.12 Information and data

- 8.12.1 The Member must summarise in the financial condition Report all Material information relied upon in preparing the Report.
- 8.12.2 Material data discrepancies that cannot be resolved with the Entity must be outlined in the Report, together with the consequent limitations of the Report.
- 8.12.3 The degree to which the Member relies upon information, including data, policies and reports provided by the Entity, or upon testing of the data or other information by the Entity's auditor or other third parties, must be explained in the Report, together with an assessment of the consequent limitations of the Report.
- 8.12.4 Where the Member relies on work carried out by other Members, the Member must be satisfied as to the suitability of the work. Where the Member is not satisfied, alternative analyses must be undertaken and explained in the Report.
- 8.12.5 Where the Entity does not provide adequate and timely access to information (including data and reports) and staff, as required by the Member, and the information cannot otherwise be practically obtained, the Member may omit from the Report analysis that is dependent on that information, but must provide:
- (a) an explanation as to why it has been omitted;
 - (b) details of any assumptions made as a result of the information limitations; and



- (c) an assessment of the consequent limitations of the Report.
- 8.12.6 Where the Member places reliance upon others to provide any information required, and this information is limited or not forthcoming, the Member must state this in the Report, together with an assessment of the consequent limitations of the Report.

8.13 Material risks

- 8.13.1 The Member must set out in the financial condition Report:
 - (a) any Material risks and issues identified during the investigation that are associated with the actuarial assumptions used in the investigation; and
 - (b) any Material risks that directly relate to the ongoing management of the Entity,

and must include a discussion of these Material risks.

- 8.13.2 Where:

- (a) the Member identifies that a Material risk in clause 8.13.1 has potential adverse implications for the Entity's overall financial condition; and
- (b) in the Member's opinion, action (or further action) should be taken or considered by the Entity to mitigate the risk,

then the financial condition Report must include the Member's recommendations as to the action (or further action) that should be taken or considered by the Entity to mitigate the relevant risk. It would be sufficient for the Member to recommend that the Entity considers seeking further advice regarding management of the relevant risk.

8.14 Recommendations

This Professional Standard requires the Member to include certain matters and may require the Member to make recommendations in the financial condition Report. The Member must also comment on the extent to which the Entity has addressed recommendations provided in the previous Report (if any).

9. DISTRIBUTIONS OF PROFITS AND CAPITAL

9.1 Principles of distributions

- 9.1.1 The directors are responsible for deciding the distribution of retained profits and shareholders' capital after receiving written advice from the Appointed Actuary as required by the regulatory regime. In addition,



Entity by-laws and benefit fund rules may impose additional constraints on the distribution and/or requirements on the Member.

- 9.1.2 Advising as to likely consequences of a distribution of retained profits, surplus or shareholders' capital is complex and requires considered judgment. The legal and professional framework within which the Member must exercise this judgment is set out in Section 4 of this Professional Standard.
- 9.1.3 The written advice as to the likely consequences of the distribution of retained profits or shareholders' capital must give the reasons upon which the advice is based and must also report on the short term outlook for future distributions to policy owners and transfers between statutory funds and shareholders' funds. Significant trends in profit or the capital adequacy or solvency position must be interpreted and the impact of any subordinated debt must be considered.
- 9.1.4 In advising in relation to overseas business, the Member must also consider the relevant overseas regulatory requirements.

9.2 Equity

- 9.2.1 There is no universally agreed definition of equity and a decision about it can only be a matter of judgment. In making this judgment, the Member must give consideration to:
 - (a) the sources of the profit disclosed, the relative contribution to it by the different groups of policy owners and by the shareholders, and the release of capital previously committed to support existing business;
 - (b) the relative risks taken by the participating and Discretionary Investment Benefit policy owners in paying premiums for benefits either of which may be varied, by profits being retained on their behalf, and by the shareholders in contributing capital;
 - (c) the need to maintain the overall viability of the Entity for existing and future policy owners; and
 - (d) prevailing practices within the actuarial profession.
- 9.2.2 Likewise, a decision about Reasonable Benefits for the different groups of participating and Discretionary Investment Benefit policy owners can only be a matter of judgment. In making this judgment, the Member must give consideration to each of the following (and the inter-relationships between them):
 - (a) the terms and conditions including the premium rates, options and guarantees on which the policies were issued;
 - (b) the information conveyed by the Entity to the policy owners in connection with the sale and subsequently;



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- (c) the experience of the Entity, subsequent to the issue of the policies, in relation to each of the elements relevant to the policy such as mortality, morbidity, the return on investments, tax and expenses of administration, lapse and surrender experience;
- (d) the Entity's past practices; and
- (e) the need, if any, for each policy to make a contribution, from the profit it generates, to the Entity's capital base in recompense for, and appropriate to, the support it may have received from the capital base and the Entity generally.

END OF PROFESSIONAL STANDARD 200



Prudential Standard LPS 320

Actuarial and Related Matters

Objectives and key requirements of this Prudential Standard

This Prudential Standard sets out the requirements for the roles and responsibilities of an Appointed Actuary.

The Appointed Actuary is responsible for providing impartial advice in relation to the life company's operations, financial condition, capital base, prescribed capital amount and policy liabilities. It is the ultimate responsibility of the Board of a life company to enable its Appointed Actuary to undertake his or her responsibilities.

The key requirements of this Prudential Standard are:

- the Appointed Actuary must provide an assessment of the overall financial condition of the life company on an annual basis. In particular, the Appointed Actuary must prepare a Financial Condition Report and provide this report to the company;
- a life company must submit the Financial Condition Report to APRA;
- the Appointed Actuary must provide advice to the life company on the methodology for calculating the prescribed capital amount, the capital base and the policy liabilities of the company and each of its funds;
- the Appointed Actuary must calculate values for the prescribed capital amount, the capital base and the policy liabilities of the life company and each of its funds on an annual basis and must advise these amounts in the Financial Condition Report;
- the Appointed Actuary may also be required to provide advice to the life company on certain life policies and reinsurance arrangements; and
- the Appointed Actuary may be required to conduct a special purpose review and provide a report to APRA and the life company.

Authority

1. This Prudential Standard is made under paragraph 230A(1)(a) of the *Life Insurance Act 1995* (the Act).

Application

2. This Prudential Standard applies to all life companies including **friendly societies** (together referred to as **life companies**) registered under the Act.¹
3. This Prudential Standard includes requirements that apply to all actuaries appointed under the Act. These requirements are functions of an actuary for the purposes of subsection 97(1) of the Act.
4. This Prudential Standard applies to life companies from 1 January 2013.

Interpretation

5. Terms that are defined in *Prudential Standard LPS 001 Definitions* appear in bold the first time they are used in this Prudential Standard.
6. Unless otherwise indicated:
 - (a) the term **statutory fund** will be used to refer to a statutory fund of a life company other than a friendly society, or a benefit fund of a friendly society, as relevant;
 - (b) the term **general fund** will be used to refer to the shareholders' fund of a life company other than a friendly society, or the management fund of a friendly society, as relevant; and
 - (c) the term 'fund' will be used to refer to a statutory fund or a general fund, as relevant.

Obligation of a life company to appoint an actuary

7. Under the Act, a life company must appoint an actuary (**Appointed Actuary**).²
8. A life company must ensure that its Appointed Actuary:
 - (a) satisfies the eligibility criteria in *Prudential Standard CPS 520 Fit and Proper* (CPS 520) applicable to an Appointed Actuary; and
 - (b) is a fit and proper person in accordance with the life company's fit and proper policy as required by CPS 520, including those requirements that apply specifically to the Appointed Actuary.

¹ Refer to subsection 21(1) of the Act.

² Refer to subsection 93(1) of the Act.

9. A life company must ensure that its Appointed Actuary has access to all relevant data, information, reports and staff of the life company (and must take all reasonable steps to ensure access to contractors of the life company) that its Appointed Actuary reasonably believes are necessary to fulfil his or her responsibilities.³ This will include access to the life company's **Board**⁴, Board Audit Committee and internal auditors as required.
10. A life company must ensure that its Appointed Actuary is fully informed of all **prudential requirements** applicable to the life company. In addition, the life company must ensure that the Appointed Actuary is provided with any other information APRA has provided to the life company that may assist the Appointed Actuary in fulfilling his or her role and responsibilities under this Prudential Standard.

Financial Condition Report

11. A life company must arrange for its Appointed Actuary to:
 - (a) investigate the financial condition as at the end of the financial year of the company of:
 - (i) each of its statutory funds;
 - (ii) the general fund; and
 - (iii) the company as a whole; and
 - (b) give the company a written report of the results of the investigation.
12. The investigation required under paragraph 11 must be carried out with regard to all the prudential requirements applicable to the life company and include:
 - (a) advice to the life company regarding the valuation of the life company's policy liabilities, and the calculation of the **capital base** and **prescribed capital amount** as described in paragraph 22;
 - (b) an assessment of whether, over the financial year concerned, the life company has had in place systems and processes to ensure that the payment of surrender values results in payment of at least the amount calculated under *Prudential Standard LPS 360 Termination Values, Minimum Surrender Values and Paid-up Values* and that the requirements in respect of paid-up values have been complied with⁵;
 - (c) an assessment of the cost of any investment performance guarantees within the meaning of *Prudential Standard LPS 370 Cost of Investment Performance Guarantees* and whether the life company has complied

³ Note that under subsection 97(2) of the Act a life company must make any arrangements necessary to enable the actuary to perform these functions.

⁴ Or, in the case of an **Eligible Foreign Life Insurance Company**, the Compliance Committee.

⁵ Note that the Appointed Actuary is also required to give advice on the determination of surrender values as part of the advice on policies required in paragraph 24(a).

with that Prudential Standard in respect of each relevant statutory fund during the financial year concerned;

- (d) an assessment, in relation to:
 - (i) each statutory fund;
 - (ii) the general fund; and
 - (iii) the life company as a wholeof the extent to which the life company has complied, during the financial year concerned, with:
 - (iv) the requirements of the **capital adequacy standards**; and
 - (v) any directions⁶ or conditions of registration⁷ applicable to the life company under the Act;
 - (e) an assessment of the life company's **Internal Capital Adequacy Assessment Process**; and
 - (f) an assessment of the suitability and adequacy of the risk management framework as required under *Prudential Standard LPS 220 Risk Management*.
13. To avoid doubt, if the life company is an **Eligible Foreign Life Insurance Company**, the investigation need not cover the financial condition of the company to the extent that the financial condition relates to life insurance business carried on outside Australia by the company.⁸
14. Nothing in this Prudential Standard prevents a life company from having its Appointed Actuary also investigate the financial condition of the company as at a time other than the end of a financial year.
15. A company must not make public the results of an investigation referred to in paragraph 14 unless:
- (a) the investigation has been conducted in the manner in which an annual actuarial investigation is required to be conducted; and
 - (b) the Appointed Actuary has given the company a written report of the results of the investigation.

⁶ Refer to part 10A of the Act.

⁷ Refer to section 22 of the Act.

⁸ Refer to section 16ZE of the Act.

16. APRA may, by written notice given to a life company, require the life company to arrange for its Appointed Actuary to carry out an investigation of the financial condition of the company as at a time other than the end of a financial year. In this case:
 - (a) the investigation must be conducted in the manner in which an annual actuarial investigation is required to be conducted; and
 - (b) the life company must arrange for the Appointed Actuary to give the company a written report of the results of the investigation.
17. A life company must give to APRA a copy of a **Financial Condition Report** (FCR) prepared under this Prudential Standard within three months after the end of the period to which the report relates. In exceptional cases, a life company may apply to APRA to extend the time within which this report is to be provided to APRA.
18. In preparing an FCR, an Appointed Actuary must have regard to relevant professional standards issued by the Institute of Actuaries of Australia, to the extent that they are not inconsistent with the requirements of this Prudential Standard.

Advice on calculating the capital base, prescribed capital amount and policy liabilities

19. Under the capital adequacy standards, responsibility for calculating the capital base and prescribed capital amount for a statutory fund, general fund or life company rests with the life company and its Board.
20. Under *Prudential Standard LPS 340 Valuation of Policy Liabilities*, a life company is responsible for calculating the value of its policy liabilities.
21. Reporting to APRA under the *Financial Sector (Collection of Data) Act 2001* must be made in accordance with a methodology which has been the subject of advice provided by the Appointed Actuary. The methodology must be documented, with a copy provided to APRA on request along with explanation of any areas in which the methodology materially departs from that advised by the Appointed Actuary.
22. A life company must arrange for its Appointed Actuary to calculate values for the policy liabilities, capital base and prescribed capital amount of the life company and each of its funds as at the end of every financial year and advise these amounts in the FCR. The Appointed Actuary must document in the FCR details of the calculation processes and the assumptions used in determining the amounts.
23. If the life company adopts a value for the policy liabilities, capital base or prescribed capital amount that differs materially from the amounts advised by the Appointed Actuary, the life company must provide APRA with a written

explanation of the differences on or before the day that the life company's annual regulatory financial statements are required to be submitted to APRA.

Actuarial advice regarding policies and reinsurance

24. A life company must not issue or modify a policy unless either⁹:
 - (a) the Appointed Actuary has given written advice about:
 - (i) the proposed terms and conditions on which it is to be issued or modified;
 - (ii) the proposed basis on which the surrender value is to be determined;
 - (iii) if the policy provides for benefits to be calculated by reference to units, the proposed means by which the unit values are to be determined;
 - (iv) if the life company is a friendly society, the proposed **approved benefit fund** rules or modification of the benefit fund rules, and whether the benefit fund rules will result in unfairness to any prospective or existing members of the benefit fund; and
 - (v) if the life company is a friendly society, any change to the investment management or strategy of an approved benefit fund beyond that disclosed in the approved benefit fund rules; or
 - (b) the proposed modification is assessed by the life company as not being material under the written policy approved by the Board for the purposes of paragraph 27 and the Appointed Actuary has been advised of the proposed modification and advises the life company that the modification is not material.
25. The Appointed Actuary's written advice may relate to a number of policies of a similar kind.
26. A life company must not enter into, modify or terminate a reinsurance arrangement unless the Appointed Actuary has given the company written advice as to the likely consequences of taking such action.

⁹ 'Policy' includes a life policy (section 9 of the Act), a sinking fund policy (referred to in section 11 of the Act) and a policy issued in respect of business declared to be life insurance business under section 12A or section 12B of the Act. For friendly societies 'policy' has the same meaning as in section 16F of the Act. Note that friendly societies also have obligations under *Prudential Standard LPS 700 Friendly Society Benefit Funds* to submit this advice to APRA.

27. A life company must have a written policy, approved by the Board, which:
 - (a) sets out the situations where the Appointed Actuary's written advice may relate to more than one life policy under paragraph 25;
 - (b) enables the life company to decide whether any proposed modification to a policy is material or not for the purposes of paragraph 24(b), taking into account the likely impact of the modification on policy owners and the financial position of the life company; and
 - (c) sets out who must consider the advice under paragraph 24 or 26 and, in particular, the situations where the advice must be considered by the Board.

Special purpose review

28. When requested to do so in writing by APRA, a life company must arrange for its Appointed Actuary to:
 - (a) undertake a special purpose review of matters set out in writing by APRA relating to the life company's operations, risk management or financial affairs; and
 - (b) prepare a report in respect of that review.
29. A special purpose review may be conducted by an actuary other than the actuary appointed under paragraph 7 but only where this is agreed to by APRA and the actuary satisfies the criteria set out in paragraph 8.
30. The review must be completed in accordance with any relevant professional standards and guidance notes (as appropriate to the nature of the special purpose review), to the extent that they are not inconsistent with the requirements of this Prudential Standard. Where APRA considers, having regard to the nature of the life company's operations and the purpose of the special purpose review, that the review should not be completed in accordance with those professional standards and guidance notes, APRA may advise the life company in writing that an alternative standard must be used (which is not inconsistent with the requirements of this Prudential Standard and the Act).
31. The cost of a special purpose review will be borne by the life company.
32. The actuary must submit the final report to APRA and the life company simultaneously within three months of the review being commissioned, or such other period as APRA agrees.

Obligation to report to APRA under the Act

33. The Act specifies certain circumstances where Appointed Actuaries are required to report to APRA where a life company or its directors may have

contravened the Act or any other law and the contravention may significantly prejudice the interests of the owners of policies issued by the life company.¹⁰

34. Where a report is made to APRA, the Appointed Actuary should not disclose this to the life company if the Appointed Actuary:
 - (a) considers that by doing so the interests of policy owners may be jeopardised; or
 - (b) has lost confidence in or mistrusts the Board or senior management of the life company.

General requirements

35. APRA liaison with an Appointed Actuary will normally be conducted under tripartite arrangements involving APRA, the life company and the Appointed Actuary. Notwithstanding the tripartite relationship, APRA and an Appointed Actuary may meet, at any time, on a bilateral basis at the request of either party.
36. All working papers and other documentation of an Appointed Actuary or an actuary appointed under paragraph 29, in relation to prudential requirements of the life company, must be retained by the actuary's employer where the actuary is externally appointed, or by the life company where the actuary is employed by the life company, for a period of seven years. The person whose responsibility it is to hold the working papers must provide the working papers and other documentation to APRA where requested to do so in writing by APRA.
37. Persons involved in the provision of information should note that it is a serious offence under subsections 137.1 and 137.2 of the *Criminal Code 1995* to provide, whether directly or indirectly, false or misleading documents to a Commonwealth entity such as APRA.

Adjustments and exclusions

38. APRA may, by notice in writing to a life company, adjust or exclude a specific requirement in this Prudential Standard in relation to that life company.

Determinations made under previous prudential standards

39. An exercise of APRA's discretion (such as an approval, waiver or direction) under a previous version of this Prudential Standard continues to have effect as though exercised pursuant to a corresponding power (if any) exercisable by APRA under this Prudential Standard.

¹⁰ Refer to subsection 98(2) of the Act.



| APRA

Prudential Practice Guide

LPG 260 – Conflicts of Interest under Section 48

March 2007

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About this guide

The *Life Insurance Act 1995* (the Act) sets out requirements for life company directors in relation to the priority to be accorded to the interests of statutory fund policy owners.¹ This prudential practice guide assists life companies in complying with those requirements in relation to conflicts of interest and, more generally, outlines APRA's views on conflicts of interest.

Subject to the requirements of the Act, life companies have the flexibility to manage conflicts of interest in the way most suited to achieving their business objectives.

Not all of the practices or examples outlined in this prudential practice guide will be relevant for every life company and some aspects may vary depending upon the size, complexity and risk profile of the life company.

¹ A reference to a life company in this PPG should be taken to include a reference to a friendly society, unless otherwise indicated.

General information

1. The principal object of the Act is to protect the interests of the owners and prospective owners of life insurance policies in a manner consistent with the continued development of a viable, competitive and innovative life insurance industry. In that context, APRA recognises that it is in the interests of both shareholders and policy owners that life companies are profitable, ensuring their viability and competitiveness.
2. Section 48 of the Act imposes a duty on directors of a life company to give priority to the interests of policy owners referable to a statutory fund of that life company where those interests conflict with the interests of shareholders. This duty is in addition to the general duties of directors under the *Corporations Act 2001* (the *Corporations Act*) and is significantly more stringent.
3. Each director individually owes this duty to policy owners and prospective policy owners of policies referable to a statutory fund. The duty is owed to the interests of those policy owners as a group and is not limited to owners of participating policies. A director may be personally liable to compensate a life company for losses resulting from a breach of the s. 48 duty by that director.
4. Policy owners cannot waive their right to have their interests given priority under s. 48 nor can life company directors avoid their s. 48 obligations by disclosing to the policy owners that shareholder interests will be given priority. Directors must give priority to the interests of policy owners of a statutory fund regardless of the potential benefit to shareholders.
5. Directors will need to carefully consider how to give priority under s. 48 when the policy owner is a related company (for example, if the policy owner is a related RSE licensee). The requirements of s. 48 still apply in relation to such policy owners but these relationships may give rise to additional conflicts of interest.

Policy owner risk appetite

6. The policy owners referable to the various statutory funds of a life company may have different risk appetites from those of shareholders. This will typically be driven by the different incentives faced by policy owners and shareholders – specifically, the extent to which policy owners and shareholders stand to either gain or lose as a result of risks incurred by the life company.
7. It is up to the directors of a life company to infer the risk appetite of the policy owners referable to the statutory funds of that life company and act accordingly.² Where the directors consider that policy owners of a particular statutory fund have a different risk appetite from that of shareholders, s. 48 of the Act will be relevant to decision-making as potential conflicts of interest may arise.

Examples of circumstances where there are potential conflicts of interest

8. This section lists a number of circumstances in which there may be conflicts of interest. This list is not intended to be exhaustive. It sets out some factors which may need to be considered by life company directors. The question of whether a conflict exists is always one for the individual judgement of directors. In many of the examples, there may be benefits to policy owners which offset the detriment to their interests. Directors will need to make a full assessment of the impacts of a proposal on policy owners, including both direct and indirect impacts, in order to satisfy themselves that they have fulfilled their duties under s. 48.
9. Under s. 78 and 79 of the Act, income or outgoings need to be apportioned in certain circumstances. Section 80 of the Act requires that such apportionment be equitable and

² The Product Disclosure Statements for the relevant statutory fund life contracts will be relevant in this regard.

- be subject to the Board of the life company first receiving the appointed actuary's written advice. In considering the actuary's advice, and in subsequently confirming the basis of apportionment, the requirements of s.48 will be relevant where the apportionment indirectly apportions the income or outgoings between the interests of shareholders and policy owners.
10. This will particularly be the case where the apportioned amount relates to participating business. For example, allocation of an expense to the participating business of the company indirectly results in that expense being substantially borne by policy owners, whereas an allocation to other business would be borne by shareholders. The directors need to satisfy themselves that the equity and appropriateness of the apportionment basis in such cases is suitably objective or well justified.
 11. The apportionment of investment income will typically be linked to the allocation of the interest of the business segments in the underlying asset giving rise to that income. Section 48 considerations may arise if:
 - (a) the underlying asset is supporting both retained profits and policy liabilities; or
 - (b) the benefits to policy owners, under one or more of the business segments having an interest in the asset, are dependent on the performance of the asset.
 12. In this context, policy owners' interests are not confined to participating business or policy owners' retained profits, but may arise in respect of investment linked or non-participating investment account business as well. For example, implicit apportionment of income between policy owners' and shareholders' interests may arise on the allocation of an underlying asset between policy liabilities and shareholders' retained profits in relation to investment linked business. The same might also apply to the apportionment of tax or other outgoings in such circumstances whereby it might be absorbed in unit prices if allocated to policy liabilities, but incurred by shareholders if allocated to retained profits.
 13. Potential conflicts may also arise within the management of participating business where, for example:
 - (a) the investment profile of the business is altered as part of the capital management strategy. Consideration needs to be given to whether the profit sharing arrangements remain appropriate in such circumstances. If shareholders' interests were to be enhanced by a reduction in the provision of shareholder capital, with no change to the shareholders' share of profit, consideration would need to be given to whether that enhancement was at the expense of policy owners.
 - (b) distribution of policy owners' retained profits is deferred for a substantial period of time, particularly in circumstances where significant lines of participating business are now closed to new business. Consideration needs to be given to whether the use of such retained profits to provide capital support in the interim is potentially favouring shareholders' interests over those of policy owners, and how such retained profits might be best utilised while satisfying the requirements of s. 48 of the Act.
 14. Potential conflicts of interest may arise when a life company is considering the transfer of assets from one statutory fund to another, for example, for capital management purposes (which would be primarily to the benefit of shareholders) if policy owner interests are not duly considered. This consideration would ordinarily involve ensuring that the transfer is made on an arm's length basis – at a price and under conditions consistent with those available in the market.³
 15. Where a life company purchases a block of investments and allocates them to different statutory funds and/or to the management fund or general fund, conflicts of interest can arise if there is potential for selective allocation of investments to the benefit of shareholder interests over policy owner interests. The directors of a life company would typically ensure that processes are in place to ensure that allocations of investments give the required priority to policy owner interests. These issues are particularly relevant where consideration is given to retrospective allocations and transfers of assets.

³ Note also subsection 45(2) of the Life Act.

16. Similarly, investment transactions with related parties can result in conflicts of interest. Section 48 would be relevant when directors are determining the terms and conditions under which such transactions would be undertaken. A life company would typically conduct investment transactions with related parties on an arm's length basis.
17. In relation to outsourced arrangements into which a life company may enter with related parties, s. 48 will be relevant in a number of ways:
 - (a) if the related party service provider is performing unsatisfactorily, the directors of the life company may need to have regard to s. 48 as they formulate their response. It is not likely to be reasonable under s. 48 to continue the arrangement without taking steps to ensure the problem is rectified. This may reach a point where directors would end the outsourced arrangement if the problems are not ultimately rectified. Directors would ordinarily give consideration to ensuring that they contract with related parties on terms that allow them to take action to comply with s. 48 in the circumstances outlined above;
 - (b) in circumstances where the costs of the outsourcing agreement will be borne by the policy owners (in whole or part) the directors of a life company would typically take steps to ensure that those costs are broadly in line with those available in the market. Section 48 would be relevant where life company directors are considering entering into an agreement that includes concessional conditions for a related party without counterbalancing benefits. Concessions such as these tend to favour the interests of shareholders over those of policy owners; and
- (c) where the administration of participating business is outsourced to a related party on fixed terms the potential benefits from future efficiencies would shift from policy owners to shareholders, along with the associated risks. There is a possibility that the relationship between costs and benefits for the policy owners may not, on balance, be in their interests.
18. Directors may reasonably take the view that policy owners intended that their funds would be invested in, or controlled by, related parties where it was clear that this would be the case at the point policy owners contracted with the life company. Many life companies operate under group structures where various components of the service to policy owners are undertaken by different group entities. In these circumstances, it may be reasonable to assume that policy owners were aware that outsourcing with related parties would take place and made an informed decision to enter into the policy contract. This does not, however, release the life company from its obligation to manage and monitor the outsourced arrangement.
19. Where the life company becomes aware that an error has occurred which has affected policy owner interests, the directors would need to have regard to s. 48 in making decisions on how to correct the error. APRA would ordinarily expect that the directors would initially consider policy owner interests, rather than firstly acting to minimise shareholder exposure at the expense of policy owners. Directors would therefore act, initially, on the basis that policy owners should be compensated for adverse impacts of the error. It may become apparent, after due consideration, that compensation is not necessary, but this would not be the presumption in the first instance.

Managing conflicts of interest⁴

20. It is impossible for the directors of a life company to avoid all conflicts of interest. There is a natural tension between the interests of policy owners and those of shareholders. Good practice is for a life company to properly manage conflicts as they arise.
21. To this end, a life company would typically have procedures in place to identify decisions which involve a conflict of interest. A prudent director may wish to be satisfied that there are systems and processes in place to ensure that all conflicts of interest within the scope of s. 48 are identified and properly managed. In some cases this will necessarily involve the conflict being brought to the attention of the Board of directors. It may also be appropriate to seek relevant independent expert advice such as legal or actuarial advice to ensure that directors are fully informed of their obligations and can gain a level of comfort that the nature of the interests has been properly characterised.
22. Directors of a life company would typically cause to be produced clear records of discussions leading to a decision where a conflict of interest is involved. These records would show the factors taken into account by the directors in reaching the decision and would aid the directors in demonstrating compliance with the Act when necessary.

⁴ LPG 510 Governance provides guidance to directors on how to comply with their duties under the Corporations Act 2001. LPG 510 Governance states that where directors have a material personal interest in a matter, they should not be present while that matter is being discussed at a meeting nor vote on the matter.



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