THE INSTITUTE OF ACTUARIES OF AUSTRALIA
A.C.N. 000 423 656

GUIDANCE NOTE 258
VOLATILITY OF RESULTS UNDER ACTUARIAL STANDARD 1.01

APPLICATION

Appointed Actuaries of Life Insurance Companies.

LEGISLATION

This Guidance Note ("GN") provides supplementary guidance on the application of Actuarial Standard 1.01 "Valuation of Policy Liabilities" issued by the Life Insurance Actuarial Standards Board (LIASB), as updated, amended or replaced from time to time (referred to in this GN as "AS 1.01"). This GN is concerned with policy liability valuations that are to be published and provides guidance in certain circumstances which may give rise to potential volatility in profit results.

FIRST ISSUED

September 1999

CLASSIFICATION

While AS 1.01 is not a professional standard of the Institute of Actuaries of Australia, it is a legislative instrument in accordance with Section 101(3) of the Life Insurance Act (1995). This Guidance Note should not be read in any manner which would sanction departure from AS 1.01.

INDEX

1. PURPOSE

1.1 The purpose of this GN is to assist actuaries in the valuation of policy liabilities in certain circumstances which may give rise to potential volatility in profit results.

1.2 AS1.01 issued by the LIASB sets out the principles which must be followed in the valuation of policy liabilities for the purposes of the Life Insurance Act 1995. AS1.01 describes "projection" and "accumulation" approaches consistent with these principles.

1.3 Profits determined in accordance with AS1.01 may be quite volatile, for example because of volatile investment returns, or capitalisation or reversal of losses. However, application of a valuation methodology which is apparently consistent with AS1.01 may also result in volatility of results.

1.4 This GN describes some common situations which give rise to potential volatility of results and sets out a recommended treatment.

1.5 The following generic situations are addressed in this GN:

1.5.1. Changes in the present value of implicit or explicit Acquisition Expense Recovery Components (AERC).

1.5.2. Credit risk margin movements.

1.5.3. Capitalised experience impacts.

1.5.4. "Currency" movements.

1.6 In summary, the volatility arising under 1.5.1, 1.5.2 and 1.5.3 is considered to represent the appropriate outworking of the principles of AS1.01. However, the volatility under 1.5.4 is considered to be inconsistent with the principles of AS1.01, and a valuation approach is set out in this GN which should eliminate this volatility.

1.7 It is noted that the selection of discount rates can also be a source of significant profit volatility. The selection of discount rates is the subject of a separate guidance note to be issued after this GN.

2. VALUE OF ACQUISITION EXPENSE RECOVERY COMPONENTS

2.1 A policy liability calculated by a retrospective ("accumulation") method will incorporate an explicit reduction for the present value of future AERC.

2.2 A policy liability calculated by a prospective ("projection") method will incorporate an implicit reduction for the present value of future AERC.

2.3 Regardless of which valuation method is adopted, the effect of experience and/or changes in assumptions can produce apparently volatile profits. For example:

2.3.1 The future AERC on unit linked business may be a proportion of management fees, which are generally based on the value of units. If unit prices increase by more than the expected amount, the value of AERC will be higher than expected, leading to a higher profit.

2.3.2 The future AERC on stepped premium risk business often results in negative policy liabilities for this business. Higher than expected lapses will reduce this "asset", leading to a lower profit.

2.3.3 A change in discount rate may change the value of AERC, with immediate profit impact. This is particularly apparent for risk business.

2.3.4 A change in other assumptions **should not** change the value of AERC, although care must be taken in retrospective valuations to ensure that this result is achieved.

2.4 The above outcomes are all consistent with an "equity" view of AERC.

2.5 Under the equity view, any explicit or implicit AERC is regarded as an asset supporting part of the retained profits of the statutory fund. This asset having been "purchased" at policy acquisition for a value that did not exceed the relevant acquisition costs.

2.6 As part of the assets supporting the retained profits of the business, the AERC should be subject to market value returns. In the case of the unit linked example above, the AERC is invested in "units". If these significantly increase in value, then this should flow through to profits as part of the investment return on the retained profits.

2.7 Therefore, no adjustment is required to standard valuation methodology to allow for these "volatility" impacts. However, care needs to be taken that the discount rate selected is appropriate to the nature of the liabilities.

3. CREDIT RISK MARGIN MOVEMENTS

3.1 For a portfolio of assets and liabilities matched by duration and nature, one would expect a change in interest rates to have no profit impact. If the assets carry a credit risk, however, their market values may reflect a change in credit risk margins without necessarily resulting in a corresponding change in the liability value. This in turn may give rise to profit volatility.

3.2 Provided that the discount rate is appropriate to the nature of the liabilities, such volatility is not inappropriate and principally reflects a technical mismatch between assets and liabilities.

4. CAPITALISED EXPERIENCE IMPACTS

4.1 For many lines of business, certain types of experience may lead to an apparent capitalisation of profits or losses. For example:

4.1.1 Lower than expected discontinuances of annuity or disability payments (ie low mortality or termination rates) will increase the present value of future payments. If these payments are a profit carrier and the profit margin is maintained, then the reported profit in the current period will be further reduced by the present value of the "old" profit margin on these extra future payments.

4.1.2 Higher than expected lapses of stepped premium risk business lead to a write off of the associated value of AERC rather than a reduction in profit margins on the remaining in-force business.

4.2 In the first of the above examples it is recommended that no action be taken to adjust for this apparent effect. Action to respread the profit margins is not considered consistent with the principles of AS1.01.

4.3 The second example has already been discussed under section 2, where it was recommended no action be taken to remove this effect.

4.4 In both of these examples the apparent issue arises because the future benefit outgo and profit margin liabilities are funded by existing assets only. Any change in the profit margin liability represents an immediate change in the amount of net liability that

needs to be held rather than involving an off set against some future policy income such as premium income.

4.5 However, whether or not there is future policy income available to help fund the policy outflow does not change the nature of the profit margin liability. The profit margin liability effectively represents the margin that is available within the policy as sold, and which is earned as the services are provided over the life of the policy. A change in the profit margin level without changing the best estimate assumptions actually represents an acceleration/deferral of the release of profit inconsistent with the provision of services.

4.6 In general, no action on this issue appears to be warranted.

5 "CURRENCY" MOVEMENTS

5.1 For business valued prospectively, certain revenues and expenses may be in different "currencies". Examples include:

5.1.1 Investment management fee income has units as its currency, while maintenance expenses are expressed in dollars.

5.1.2 Products may be offered in a currency other than that in which they are administered (eg Hong Kong business written in US$ and administered in HK$).

5.2 If the profit carrier is denominated in only one of the currencies, a change in the relative value of the currencies (i.e. a change in the "exchange rate") may give rise to a capitalised impact on profit. Such an impact is considered to be inconsistent with the principles of AS1.01 as it gives rise to recognition of profit in advance of services and the receipt of related income.

5.3 An example is as follows:

Consider a unit linked portfolio with a management fee of 1% of funds under management (FUM) and expenses of $50 per policy p.a. (assumed equivalent to 0.5% FUM). The profit margin is 0.5% of FUM (or 50% of management fees).

If unit prices double, but expenses remain $50 per policy, they will now be worth only 0.25% FUM. Future profits thus increase to

0.75% FUM, but the profit margin component of the policy liability remains 0.5% FUM.

The result of this approach is that the present value of 0.25% FUM is capitalised into the current year's profit, rather than emerging as it is earned.

5.4 Two approaches will mitigate or eliminate this problem:

5.4.1 Operate two profit carriers, one in each relevant currency. Establish a negative profit margin on one carrier and a positive margin on the other, subject to the combined present value of profit margins being positive. Typically, for unit linked business, the negative profit carrier would be maintenance expenses and the margin would be 100%.

5.4.2 Treat the exchange rate as an assumption, with the change from the "old" to "new" rate to be introduced as part of the process of changing assumptions. For unit linked business, this would typically involve converting maintenance expenses to an equivalent percentage of funds under management on the basis of present values. In the above example, the policy liability would be calculated allowing for maintenance expenses at 0.5% FUM. In the change of assumptions process, the new exchange rate of $50 = 0.25% FUM would be allowed for, resulting in the profit margin increasing to 0.75% FUM.

END OF GUIDANCE NOTE