SETTING EMBEDDED VALUE ASSUMPTIONS FOR VITALITYHEALTH

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The business of VitalityHealth is dynamic: constantly changing external and internal factors impact on the expectations and value of every cohort of business. Unlike a Life insurer, contracts are not long term, but annually reviewable, which means that management decisions on premium rating and risk management could have a material impact on loss ratios, retention, revenue and new business in both the short and the long term. In addition, the market is competitive, and VitalityHealth needs to react to competitors' pricing actions.

In this context, it is challenging to set a reliable set of long term assumptions at a granular level for each cohort of business in respect of loss ratios, lapses and renewal increases, for all future durations. As circumstances change, and as management decisions have an impact on the performance of business cohorts, embedded value disclosure may be subject to volatile experience variations and frequent changes of assumptions, even if the overall profitability of the business remains relatively stable.

At the same time, whilst there are many challenges with applying embedded value methodologies to VitalityHealth's business, the questions that we need to answer with an embedded value calculation remain pertinent, namely

1. What is the overall value of the in-force business?; and
2. Given high upfront acquisition costs, how do we know that new business will generate sufficient profit over its lifetime to generate the required return?

These questions are relevant in the VitalityHealth context, as not every single policy lapses every year, and a significant number of policies remain on the books for many years, despite policies being annually reviewable. For these reasons, our view is that a long term perspective on business value and profitability remains both useful and valuable for VitalityHealth.

Margin x Annuity Factor as a basis for setting EV assumptions for the in-force book

The first question we want to answer is what the value of the in-force business is. We can do this by considering two questions:

1. What is the profit margin of the in-force policies?
2. How long do we expect to earn this margin, on average, from the in-force policies?

The assumption we set to answer the first question is called the Margin, and the assumption for the second question is the Annuity Factor. The Margin is measured in percentage terms, and the Annuity Factor is expressed as a number of years.

In the June 2018 EV, for the existing book of business, we assume a Margin of 14.1% after tax and cost of capital, and an Annuity Factor of 6.0 years.

The Annuity Factor is a discounted value, and the net result of premium increases, lapses and the risk discount rate. Conceptually, it is the discounted time that the average policy is expected to remain on the books. The Margin is the profit generated by that policy, as a percentage of in-force premium.

For the in-force book, the formula for calculating the Value of the In-Force book, or VIF, is then simply:

VIF = In-force premium x Margin x Annuity Factor

The Margin is the end-result of complex durational loss ratio curves, expenses, tax, cost of capital and premium levels. Similarly, the Annuity Factor assumes a certain level of premium increases and lapses for the entire book. In every year, some cohorts of business will outperform relative to expectations, and others will underperform. The overall Margin and Annuity Factor will benefit from this averaging effect across cohorts of business and as a result it will be more stable and more interpretable.

Variances against the Margin assumption may be regarded mainly as IFRS Cashflow (or NAV) variances.

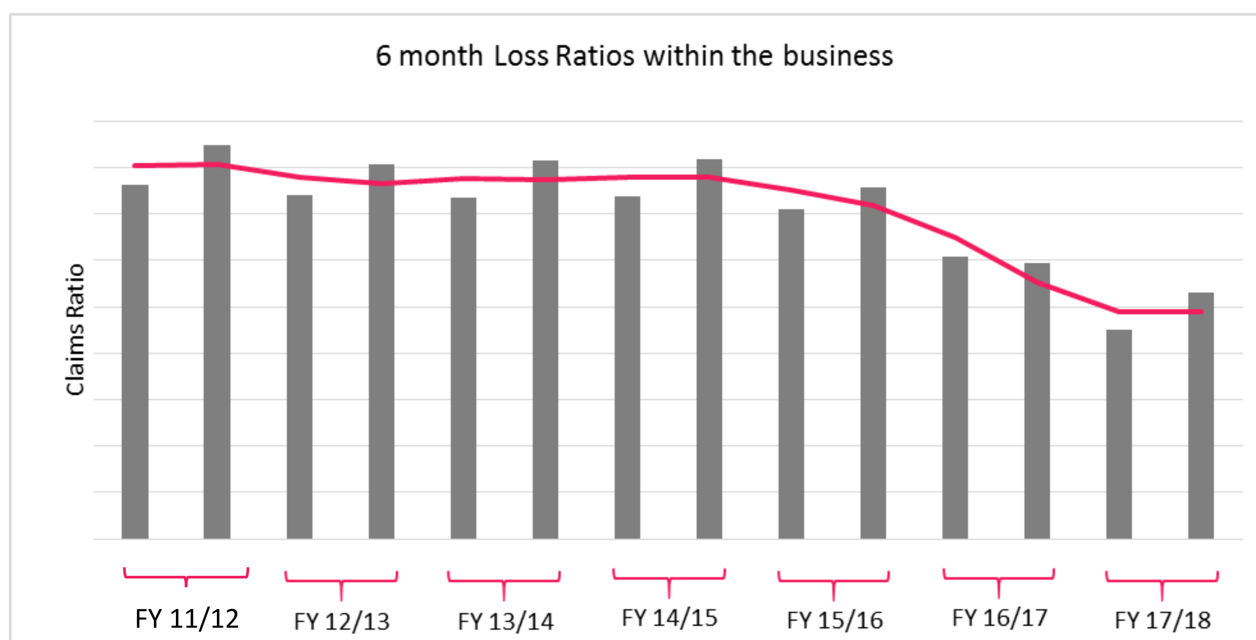
Variances against the Annuity Factor may be regarded mainly as VIF variances.

Setting the Margin and the Annuity Factor assumptions for the in-force book

We analysed historical data, and evaluated future expectations for the business. Assumptions are best estimate, but with due regard to the uncertainty. The intention is that both the Margin and the Annuity Factors are set in such a way that they can be maintained at current levels in the short to medium term, and that assumption changes would only be necessary if there are reasons to believe that the long term expectations, on any of these assumptions, should be different to what is assumed here.

The assumptions have been validated by reference to detailed analysis in each major book of business (Individual Direct, Individual Broker, SME Direct, SME Broker and Corporate) over the last 3 years, involving analysis of loss ratios, lapses and premium increases at each duration of each cohort of business.

Due to successful developments in tariff negotiations, risk management and pricing sophistication, the Margin has now settled at a level which is believed to be sustainable, driven mainly by a lower loss ratio (historic loss ratio development is shown below). Whilst a 14.1% margin has been assumed for the valuation as at June 2018, the business has outperformed this in the last financial year by roughly 2%, but a somewhat lower margin is regarded as appropriate for a long term assumption.



The valuation of new business

The second important question to answer is whether the profit generated from a tranche of new business is expected to be sufficient to cover upfront acquisition costs incurred in the first year, and achieve an acceptable return to shareholders over time.

At the time of calculating the embedded value for disclosure, we already know what the premiums, loss ratio, acquisition and servicing expenses and other costs were in the first year, for any tranche of first year business. It is therefore not necessary to make any assumptions in respect of the first year's experience. Typically, loss ratios are lower, lapses are higher, and acquisition costs are high, particularly for Individual business. Overall, any tranche of new business will have made an overall loss at the end of the first year as a result of acquisition costs. This has two consequences when combining first year cashflows with cashflows arising from other tranches:

1. It makes it hard to evaluate the actual profitability of the in-force book
2. It creates a false impression of low profitability in a growing book of business (and vice versa)

For this reason, it is important to also provide some information on the profitability of new business.

The assumption we make is that, after the first premium renewal, any new business tranche would generate the same profit, for the same duration, as the in-force book. In other words, on day 1 after the valuation date, it is assumed that the same Margin and Annuity Factor would apply to new business as to the in-force book, as discussed above.

Before making this assumption, we perform a check: we determine whether new business has a similar or better risk profile than the existing book. This is done based on the business mix in the 5 major categories of business, taking into account different expected underlying margins and lapse rates for each of these categories and also after evaluating the impact of different underwriting statuses and channels. If this check indicates that the new business tranche is expected to have at least the same or a better risk profile than the existing book, then the same Margin and Annuity Factor may be used to value the expected future cashflows arising from the new business tranche.

In other words, the formula for the Value of New Business is:

Value of New Business = First year result known at date of valuation
+ value of future cashflows from the date of the first renewal

where

First year result = First year earned premium – claims – running expenses and costs – acquisition costs

and

Value of future cashflows = Retained premium at the end of the financial year x Margin x Annuity factor

where the Margin and the Annuity Factor is the same as for the in-force book provided the new tranche of business has the same or better quality as the in-force book.