Solvency II Own Funds Approach to Shareholder Value Reporting

June 2017

OVERVIEW

The arrival of Solvency II has had an impact on shareholder value reporting. The landscape is still evolving, but there has been some movement towards reporting a value linked to the level of Solvency II Own Funds.

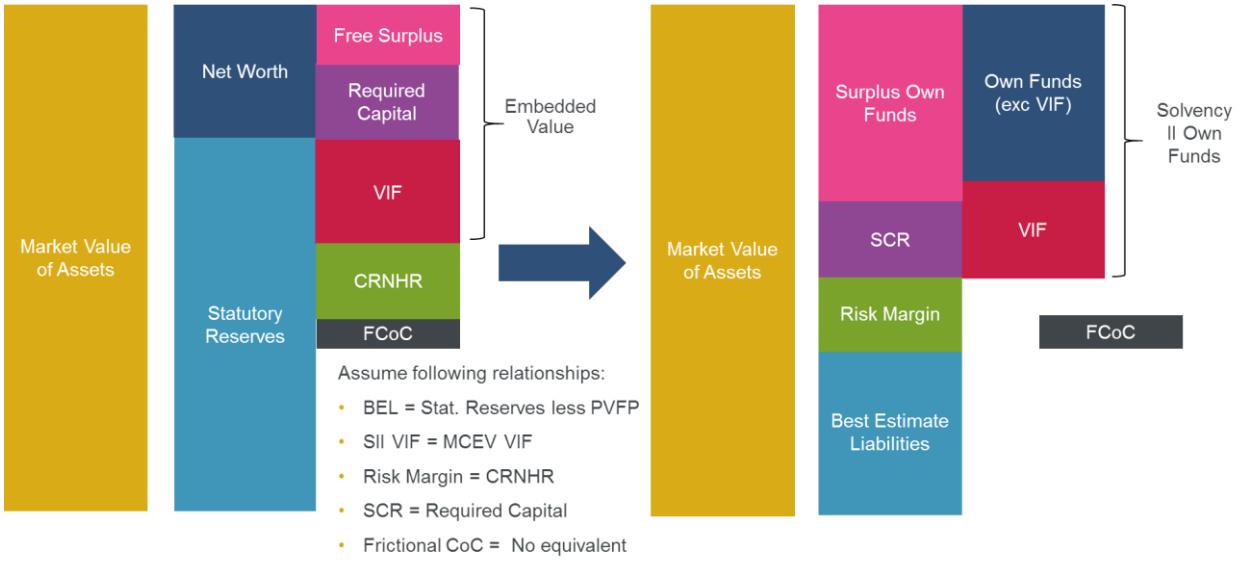
In this note we propose a reporting approach that links back to the Solvency II balance sheet and makes an allowance for items of value that may not be included within Solvency II calculations and disclosures. The approach appears to comply with the most recent European CFO Forum Market Consistent Embedded Value Principles[1,2] (**MCEV Principles**).

BACKGROUND

Historically, accounting measures of profit have not accurately reflected the value of insurance companies' existing business as the reserves held on an insurer's statutory balance sheet contained prudent margins that depress reported profits and shareholder value. However, the advent of Solvency II and movement to best estimate liabilities in public statutory reporting removes some of this effect. Expected future profit on business sold can now be recognised within the regulatory reserves, reducing new business strain[3] and potentially providing a more accurate reflection of the value of a firm's existing business.

Given that this is the case, some participants in the European insurance industry have questioned the ongoing need for measures that attempt to value margins in the regulatory reserves and embedded value in particular. Over the last year the number of European firms disclosing an embedded value has reduced. 19 of the 32 European firms that were included in the year-end 2014 Milliman embedded value report published an embedded value at year-end 2016. One view is that the level of Solvency II Own Funds can be thought of as a market consistent

Figure 1: Equivalence between MCEV and Solvency II Own Funds



[1] CFO Forum Market Consistent Embedded Value Principles (April 2016) which provide a consistent basis for European insurers to prepare their Embedded Value reports. (http://www.cfoforum.nl/downloads/CFO-Forum_MCEV_Principles_and_Guidance_April_2016.pdf)

[2] Copyright© Stichting CFO Forum Foundation 2008

[3] New business strain occurs when the sale of new business leads to a worsening of a company's solvency position due to the need to set up reserves and pay initial outgoings such as expenses and commissions.

measure of the shareholder value of existing business. Figure 1 demonstrates how this may be the case under certain assumptions (which are noted in the figure)[4].

This potential equivalence of Solvency II and embedded value reporting has been strengthened in recent years by firms aligning many of their embedded value assumptions with those used for Solvency II reporting. Furthermore, in 2016, the CFO Forum amended its European Embedded Value Principles[5] (**EEV Principles**) and MCEV Principles which now permit a wider range of embedded reporting methodologies, including a "Solvency II based" approach.

A number of firms have moved to such an approach in recent years and, anecdotally, some firms have stated that they no longer use embedded value, opting for a method based on the Solvency II balance sheet instead. However, there is a possibility that such approaches do not accurately reflect the actual value of the insurance company's existing business as the relationships assumed in Figure 1 that underlie the equivalency between Solvency II Own Funds and embedded value may not hold. A primary objective of Solvency II is policyholder protection, which may mean that there are elements of prudence in some assumptions and methodologies compared to an economic view of the value of the companies' existing business. For example, this may be the case in the following areas:

- The application of contract boundaries under Solvency II;
- The Solvency II matching adjustment (its size and the lines of business to which it is and is not applied);
- The recognition of surplus assets in ring-fenced funds;
- The assumptions and methodologies underlying the calculation of the risk margin; and,
- The allowance for target levels of capital/capital buffers.

Therefore, it may be necessary to adjust the level of Solvency II Own Funds to arrive at an **Economic Value** of a firm's existing business. In this note we provide a derivation for such a metric (termed here the **Solvency II Adjusted Own Funds Approach**) and consider the issues and challenges that may arise.

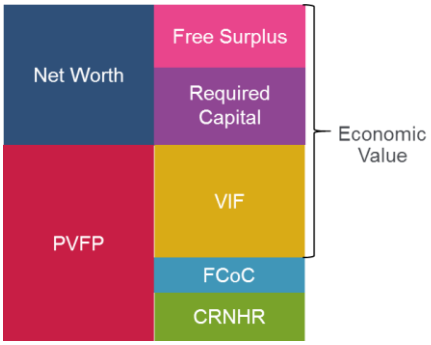
SOLVENCY II ADJUSTED OWN FUNDS APPROACH

In order to calculate the Economic Value of a firm's existing business, the following items need to be calculated (these are the same as those for a typical market consistent embedded value calculation):

- The Net Worth (**NW)** which can be split into Free Surplus (**FS**) and Required Capital (**RC**);
- The Value in Force (**VIF**) which is equal to:
  - The Present Value of Future Profits (**PVFP**) less;
  - The Frictional Cost of Capital (**FCoC**); and,
  - The Cost of Residual Non-Hedgeable Risks (**CRNHR**).

The Economic Value can then be calculated as shown in Figure 2.

Figure 2: Components of Economic Value



Compared to the level of Solvency II Own Funds, the Solvency II Adjusted Own Funds Approach aims to capture the following additional items that impact the value of existing business:

- The release of margins in the Solvency II Technical Provisions (**TPs**), which comprise the best-estimate liability (**BEL**) plus the Risk Margin (**RM**) minus the Transitional Measure on Technical Provisions (**TMTP**)[6];
- Differences in the valuation of assets, net of liabilities other than those for which the Technical Provisions are held (**MVA**);
- The cost of holding the target level of capital/capital buffer; and,
- Differences between the size of the RM and the sum of the FCoC and the CRNHR.

[4] All acronyms used in the figure are defined in this note

[5] CFO Forum European Embedded Value Principles (April 2016) (http://www.cfoforum.nl/downloads/CFO-Forum_EEV_Principles_and_Guidance_April_2016.pdf)

[6] For simplicity this note uses the TMTP as this is the most common type of transitional relief applied by UK life assurers.

Details of the calculation for each of these components are given in the appendix to this note.

AREAS TO CONSIDER

The presentation under the Solvency II Adjusted Own Funds Approach provides a clear link between the Solvency II Own Funds and the Economic Value. If there are a number of margins contained in the TPs then more detailed information can be provided on the effect of removing them.

This presentation can be seen as an advantage as it may make it easier to explain the Economic Value results to senior management and external stakeholders. However, such an approach must be balanced against the need for additional model runs which may add to the time taken to complete the analysis. Other advantages of the use of this approach include:

- The approach appears to be in line with the revised MCEV Principles (though firms adopting such an approach will need confirm this with their auditors);
- The approach utilises many of the assumptions and systems used for Solvency II, and so will benefit from the applicable control framework and analysis of change framework; and,
- As the Economic Value is linked to the level of Solvency II Own Funds, the two measures may react in a similar fashion to changes in assumptions (such as the underlying market environment). This may make it easier to utilise hedging strategies or programmes that are suitable for both measures.

On the other hand, prior to Solvency II, embedded value was seen by many as an appropriate way to place a value on a firm's existing business as the release of margins within the regulatory reserves were a suitable proxy for the emergence of distributable profits. Recently, the pattern of the cash-flow profile has been included in supplementary value disclosures to help stakeholders and other parties to further understand the dynamics of the business and expected profit emergence. It may be the case that the release of any margins within the TPs under Solvency II does not provide a suitable proxy for distributable profits. In which case firms may wish to allow for such constraints within the calculation of the Economic Value.

Other factors to consider when adopting this approach include:

- Using the Solvency II Adjusted Own Funds Approach would not provide details on the expected cash-flow profile from the existing business (if made available, the profile will be of interest to analysts and investors);
- As the Economic Value will have been calculated using a market consistent methodology, the value may be more volatile than other (non-market consistent) approaches; and,
- Moving away from some of the prescribed methodologies and assumptions used for Solvency II to more subjective ones may cause both practical and communicational challenges.

The last point has implications for the implementation of the methodology. When updating a Solvency II assumption for the purposes of calculating an Economic Value, one of the first decisions is how far the approach used to derive the assumption should deviate from that used for Solvency II. For example, for a given block of business, some firms consider that the size of the Solvency II matching adjustment does not provide an economic view of the liquidity premium. In relation to deriving an economic view of the liquidity premium:

- should the Solvency II methodology be maintained and only the assumptions (such as those for the probability of asset default and cost of downgrade) be revised; or,
- should a different approach be used, such as that applied to calculate a liquidity premium under Individual Capital Assessments?

As the selected approach deviates further from the Solvency II one, the level of consistency with embedded value presented by other firms may be reduced. However, the level of Solvency II Own Funds should already provide a broadly consistent (imperfect) measure of value between firms. As long as the disclosures associated with the Economic Value provide sufficient detailed explanation of the differences, and relevant sensitivities are also provided, firms should not necessarily be tied to the Solvency II approaches and assumptions for the calculation of Economic Value.

Another area of particular focus may be the calculation of the CRNHR. The following adjustments may be considered to the RM:

Cost of capital rate: For the calculation of the RM the cost of capital is currently prescribed and fixed at 6% per annum. The cost of capital rate detailed in recent EV disclosures for CRNHR are typically lower than this (with many firms using a rate of between

3% and 4% per annum) with some firms also allowing the rate to vary from one year to the next.

Risks considered non-hedgeable: Different risks, and different run-off profiles may be included in the CRNHR.

The allowance for tax: When calculating the RM, the Solvency II requirements specify that no allowance should be made for the loss absorbing capacity of deferred taxes. In contrast, it may be possible to make such an allowance within the calculation of the CRNHR to reflect the change in tax that would be payable should one of the covered risks crystallise.

Diversification between risks: For example, diversification constraints due to the existence of ring-fenced fenced funds may be reconsidered.

Discount rates: It may be possible to include an allowance for a liquidity premium within the discount rate used to calculate the CRNHR, if it is appropriate. Under Solvency II, only the prescribed risk-free rates can be used.

SUMMARY

The approach described in the appendix to this note may be of use for firms reporting under Solvency II wishing to provide further information to the market on the value of any "margins" in the Solvency II balance sheet. It could also be of use for other firms that, while not wanting to disclose Economic Value publicly, are looking for a suitable metric for internal performance review and monitoring.

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TECHNICAL APPENDIX

Net Worth (NW):

NW = The market value of assets, net of liabilities other than those for which Technical Provisions (TPs) are held (MVA'),
less
TPs

Within this calculation the market value of assets and the value of other liabilities (**MVA'**) may differ from the corresponding value on the Solvency II balance sheet (**MVA**). Deferred tax assets/liabilities will need to be updated to reflect differences between MVA and MVA'.

Required Capital (RC):

RC = Solvency Capital Requirement x target solvency ratio

As per the EEV Principles and the MCEV Principles, the RC should include "*amounts required to meet internal objectives*" which can include any target capital buffers.

Present Value of Future Profits (PVFP):

The PVFP will be equal to the present value of the projected best estimate cash-flows (including tax) expected to emerge from the existing business, including the release of the TPs. Any frictional costs of assets backing the TPs should also be included, such as investment management expenses and tax.

The best-estimate cash-flows will include the expected (risk-adjusted[7]) investment income on assets backing the TPs which may differ from that assumed under Solvency II. To be market consistent valuation, the same risk-adjusted rates should be used as the discount rate within the calculation of the present value of the cash-flows.

The best-estimate estimate cash-flows need not equal those used for the Solvency II balance sheet. For example, a different allowance (or removal) of contract boundaries may be possible.

In fact, a simplified approach can be used. Instead of projecting the expected best-estimate cash-flows, a revised best estimate liability (**BEL'**) can be calculated in a similar fashion to the Solvency II BEL, but using the assumptions and methodologies determined for the purposes of calculating the Economic Value. The formula for PVFP then becomes:

PVFP = (BEL – BEL')
plus
(RM – TMTP)

Deferred tax assets/liabilities will need to be updated to reflect the difference between BEL and BEL' and tax adjustments will need to be made on the release of RM and TMTP.

Frictional Cost of Capital (FCoC):

The FCoC should capture the costs of items such as tax and investment management expenses on assets backing the RC. The investment return and discount rate assumptions should be consistent and may contain an allowance for a liquidity premium, if this is relevant.

Cost of Residual Non-Hedgeable Risks (CRNHR):

A similar methodology to that used for the calculation of the RM can be applied and adjustments made for any areas of the RM calculation which are not viewed as economic. To relate the FCoC and CRNHR back to the Solvency II balance sheet, it is also possible to set the sum of the FCoC and CRNHR to a percentage of the RM, with the percentage (say, **X%**) being based on an annual (or perhaps more frequent) detailed calculation.

Solvency II Adjusted Own Funds Formula:

Bringing together all of these elements, the following formula for Economic Value can be obtained:

Economic Value[8]
= NW + PVFP – FCoC – CRNHR
= (MVA' – TPs) Adjusted for tax
+ (BEL – BEL' + RM – TMTP) Adjusted for tax
– X%RM
= Solvency II Own Funds
+ (MVA' – MVA) Adjusted for tax
+ (BEL – BEL') Adjusted for tax
+ (RM – TMTP) Adjusted for tax
– X%RM

[7] Risk free plus an allowance for a liquidity premium where appropriate.

[8] The time value of options and guarantees is assumed to be included in the calculation of BEL and BEL'